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FARM AND DAIRY

AND

RURAL HOME

PETERBORO, ONT.

DECEMBER 21

1911.



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A Great Fair at Guelph

Never since the Guelph Winter Fair was first inaugurated have the exhibits been so numerous or of such high quality, as they were at the fair held last week. And never before has the public showed such an interest in the fair. The attendance exceeded all records. At times it was almost impossible to move around in the fair buildings. The hotels in the city were full before the fair even started and the reception committee had difficulty in finding sleeping accommodation for the visitors.

The buildings have been greatly extended since the last Winter Fair, a large new horse barn being placed to the south of the tracks. But even with this additional room there was difficulty in housing the exhibits. If the fair is to continue to grow in the future as it has in the last few years, the buildings will have to be greatly extended before another year.

The new buildings to the south of the Grand Trunk Railway tracks are not looked on with favor by the horsemen who were obliged to house their stock there. Being separated from the rest of the exhibits visitors do not readily find their way to the new department and the exhibitors therefore had not the same opportunity for advertising their stock and for making sales.

DAIRY CATTLE

The centre of interest for dairymen visiting the Fair was the dairy cattle stable. Old exhibitors and fair goers were unanimous in their decision that never before in the history of the fair have the dairy cattle entries been of such uniform high quality. Again the exhibitors were cramped for lack of room and five animals had to be housed in another part of the building. The most pleasing feature of the dairy test was the large number of new exhibitors of both Ayrshires and Holsteins.

BEEF CATTLE

Although of uniformly high quality the number of beef cattle entries was decidedly below last year, perhaps 25 per cent. less. The fact that the Toronto Fat Stock Show came before the Guelph Winter Fair seriously interfered with the success of the latter. One breeder stated that he had left 17 head in Toronto that he had intended for Guelph. The addition of the horse classes to the fair has also tended to detract from the value of the fair from the beef man's standpoint.

In both pure bred and grade classes, Shorthorn blood strongly predominated. Among the exhibitors were Jas. Leask, Greenbank; John Brown & Sons, Galt; J. Watt & Sons, Salford; Geo. Amos & Sons, Moffatt, and several others. One of the strongest classes was for heifers, one year and under two. There were 12 entries. The winner was Queen Mildred, a blocky well fleshed, low set heifer, owned by Peter Stewart, Everton. The championship for best steer went to Joe Dandy, the second best steer at the Chicago exhibition. He is owned by Jos. Stone, Sainfield, Ont.

Aberdeen Angus cattle were shown by James Bowman, Guelph, and Herefords by L. O. Clifford, of Oshawa, Henry Reid, Mimosa, and H. D. Smith, Hamilton. Guelph had a numerous class and of unusually good quality.

HOBBS

The horse classes are rapidly assuming the place of first importance at the Guelph Winter Fair. The entries this year in every class were much more numerous than last and the general complaint was "not enough room." Clydesdales predominated some of the principal exhibitors being Graham and Renfrew, Bedford Park; Smith and Richardson, Columbus; T. Hassard, Markham, and J. A. Boag & Son, Queensville.

"B-dand," a stallion owned by Gra-

ham and Renfrew, was awarded the grand championship over Hyacinthus, exhibited by Smith and Richardson. So close was the competition that the two judges could not agree, and a referee had to be called in. Smith and Richardson captured the championship for Clydesdale mare and Canadian bred stallion. A very fine Canadian bred mare was shown by A. G. Gormly of Unionville. This mare was Smith and Richardson's imported "Iron Duchess," a close run for the female championship.

Porter Bros., of Appleby, were the largest exhibitors of Shires and got the most of the prize money. John Gardhouse & Sons also had a few on hand and secured the male championship.

The show of light horses was a record breaker. Hackneys predominated, but there was also a good showing of thoroughbreds, standard breeds and ponies.

SHEEP

There were nearly 500 sheep on exhibition, many of them being Chicago winners. All of the leading breeds were well represented, and there was scarcely an inferior animal in the building. J. Lloyd Jones of the Chicago champion, was again grand champion wether at Guelph. The Drummond Cup, donated for the best five lambs, was won by Peter Arkell, Teeswater, with his Oxford.

Quebec province was represented by a string of Southdowns shown by the Drummond estate. The Huntley Wood farm at Baconfield, Que., also had an exhibit. As usual, John Campbell was strong in Shropshires.

SWINE

Yorkshires, Tamworths and Berkshires were all strongly represented in the swine classes. Yorkshires made the largest exhibit. J. E. Brethour, of Burford, and James Featherstone, of Streetsville, being the largest winners. Tamworths attracted particular attention because of the uniform high quality of the exhibits. Charles Curry, Morrison, A. A. Colvill, Newmarket, being the largest winners. A nice string of Berkshires were shown by J. S. Cowan, Donagay.

POULTRY

Over 50 different breeds of poultry were on exhibition on the second floor of the Fair Building. The utility breeds, such as Rocks, Orpingtons and Wyandottes, predominated. The heavy meat breeds, such as Brahmas and Cochins, were also a larger showing than usual, and these heavy breeds seem to be gaining in popularity, with fanciers at least.

The show of dressed poultry was particularly attractive. The boxes of the Fair Bazaar for shipment were particularly good, the birds being packed in most attractive style. The pairs of Barred Rock cockerels was a splendid class. Turkeys only were shown in number of exhibits, and probably in quality as well. An educational exhibit was made by the Poultry Department of the Ontario Agricultural College, at which were exhibited small models of houses, feeders, hoppers and so forth, and information given on poultry problems.

SEEDS

In spite of the dry weather last year the seed exhibit was one of the best yet. Some of the oats were a little immature; otherwise their worst defect was that the varieties were somewhat mixed. Corn also was a little soft in some cases. The potato exhibit was the best ever seen in Guelph, several of the awards going to Win. McChesney of Peterboro, and New Ontario. The Ontario Corn Growers' Association and the Canadian Seed Growers' Association had fine exhibits. The exhibit in connection with the standing Field Crops Competition

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FARM AND DAIRY & RURAL HOME

Vol. XXX.

FOR WEEK ENDING DECEMBER 21, 1911

No. 51

A TALK ON THE PRODUCTION OF RED CLOVER AND ALSIKE SEED IN ONTARIO*

Dr. M. O. Malte, Seed Division, Ottawa

Clover Seed a Money Making Farm Crop—Advantages of Using Home Grown Seed—How to Develop a Hardier and Non-winter Killing Strain of Red Clover—Any Farmer can do it.

ALTHOUGH Red Clover and Alsike are grown to a considerable extent in Ontario, yet one can scarcely say that the production of the seed of these two kinds of clover is yet executed in the most rational manner. Only a comparatively small number of farmers grow Red Clover and Alsike with the specific purpose of producing seed. As Mr. T. G. Raynor, Seed Inspector of the Department of Agriculture, Ottawa, has expressed it: "The majority who produce seed from time to time look upon the clover crop as a sort of present that comes to them should the season prove favorable to the formation of seed." There is, however, no doubt that the subordinate profit from clover seed could be turned over into a fixed income if clover were grown more rationally for seed than is now the case.

At the MacDonald College Farm, where clover seed has been produced during a number of years, it has proved to be a money maker of high standing. This year, for instance, the return from nine acres is 1270 lbs. of seed, and from another field of 15 acres, 1506 lbs. This makes a total of 2776 lbs. on 24 acres, or about 115 lbs. of Red Clover seed to the acre. With clover selling at 20 cts. a lb., the average return from clover seed is about \$23.00 per acre. And, in addition to this, the value of the first cutting of hay is considerable.

I take the liberty to quote the following figures from the Journal of Agriculture and Horticulture, Quebec, showing the return from 65 acres of Red Clover at the MacDonald College Farm: 203 1/2 tons of hay, at \$10.00 a ton, \$2,035; 23 tons, 720 lbs. of second cutting on 24 acres, allowed to grow for seed, hay after threshing at \$5.00, \$116.80; 2,776 lbs. clover seed from 24 acres, 50 cts. a lb., \$565.90; net returns, \$2,707. These figures do not need any further explanation. They simply show that there is considerable money in making the growing of clover seed a real business.

For the successful growing of clover, be it for seed or for hay, some rather important things

must be taken into consideration. I shall not here deal with such things as belong to practical farming, that is the quality of soil, its proper cultivation, etc. I shall only touch upon one of these things in passing.

WHY WAS CLOVER KILLED LAST SEASON?

The clovers suffered severely this year in some counties from unfavorable conditions in early spring. When I visited Prince Edward County early in May I had an opportunity of making some observations on the damage done. It was very interesting indeed, because the way in which the clover had suffered indicated the way it

does not like too much water in the ground; it grows best on upland soil. If the field in which clover is grown is low lying, and if the superfluous water is not in some way given an opportunity to leak out, it will certainly weaken the clover plants considerably. Supposing that other unfavorable conditions, such as alternate frost and thaw set in, what will be the result? Simply that the clover plants, already weakened, will be killed to a greater or less extent.

GOOD DRAINAGE THE CURE

The way to avoid this partial killing of the clover will be to drain the fields properly where they are not naturally drained, and the cost of draining, which perhaps in some parts of Ontario might seem rather expensive, will in a very short time be more than equalled, not only by an increase of the returns from the clover field, but also from wheat and other farm crops.

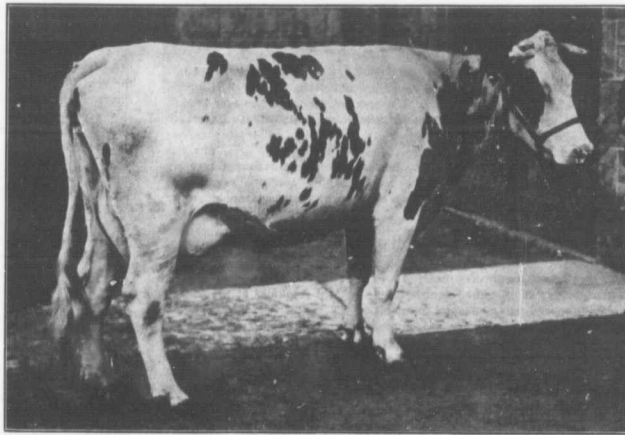
This year has also been a very exceptional one during the summer months, and the season has been very unfavorable for the securing of clover seed. It is estimated that the amount of seed produced this year is about one-quarter to two-fifths of the average production. This means that there should be a considerable import next year to fill the regular demand for seed.

It must be pointed out that there is always a danger in introducing seed of foreign origin. I shall not speak in this connection of the possibilities of introducing foreign weeds through the medium of clover seed. There are enough of those already in Canada. There is another risk in the import of foreign seed, because

of the fact that countries from where the supply of clover seed after a year like this very likely should be taken, have a climate very different to that of Canada. Take, for instance, the Chilian Red Clover or the English Red Clover; what would be the effect on the Red Clover crop the next two years if Chilian and English Red Clover seed were imported to any extent?

There have been made several experiments to find out how Chilian clover, or generally speaking clover from a southern climate would behave in northern countries, and they all point in the same direction, namely, that the return from the southern seed will be very poor. It might perhaps be of interest to know that Chilian clover invariably, and English clover very often, is killed by the winter in southern Sweden, although the winter there by no means can be compared with the win-

(Concluded on page 4)



The Winner in the Dairy Test at Guelph

Olive Schulling Posch, the Holstein cow that captured the championship as a dairy producer at Guelph last week, is possessed of excellent dairy conformation. Note the deep body and well shaped udder. This cow is a producer and she shows it. She made the splendid score of 272.78 points and won in competition with the strongest classes ever seen at the Ontario Winter Fair. —Photo by an editor of Farm and Dairy.

prevent similar damage in future. Red Clover as well as Alfalfa was to a great extent killed, either during the winter or in early spring. When I say that it was killed to a great extent, I do not mean that some fields were killed, others not. Practically every field had some patches in which the clover plants were either entirely killed or badly damaged. This fact that the clover was injured in patches seems to indicate that the reason for the damage done has nothing to do with the quality of the clover itself. The reason must be sought elsewhere.

It was interesting to observe that the injured patches were always situated in some small depressions of the field, that is, where water had accumulated and remained stagnant. And I think this is the explanation of the matter. Red Clover

*Extract from an address at the Guelph Winter Fair last week.

FARMERS ARE NOT RECEIVING THEIR SHARE OF THE WEALTH THEY PRODUCE

NUMBER 4.

MOST of us farmers—especially those of us on only fair to poor land—are like a horse in a treadmill: We work hard but have little to show for our labor beyond the fact that we are making a living. The stifle, however, does not end here. Just as the horse thrashes out grain which people take and use for their purposes, giving the horse only enough for its absolute needs, so we—and the laboring classes in our cities—also—by our productive labor, are creating millions of dollars of wealth yearly that flows steadily and quickly into the pockets of other classes in the community. That is why, although the rural population of Ontario is steadily declining, and slums are springing up in our cities, millionaires and multi-millionaires are being created in Canada by the score. Within a few years we will have people in Canada—as there are in the States—who will count their wealth by the hundred million. When this comes to pass the population of our farms will be still more sparse—in spite of what may be done by the government to build better roads, improve country schools, or establish demonstration farms—and the slums in our cities will be larger and harder to deal with. When we understand how most of the great fortunes of the day have been and are being made we will know why farming is not more profitable and why slum conditions are a growing evil in our cities. The two evils are due to the same cause.

WE ARE PRODUCING GREAT WEALTH

The trouble is not caused by our not producing enough wealth. We are producing more wealth to-day than ever before in the history of the world. Mr. Holmer, of the United States Department of Agriculture, in the year book of that department for 1899, points out that between the years 1855 and 1894 the time required to be given in human labor to produce one bushel of corn declined on an average from four hours and 34 minutes to 41 minutes, and the cost of the human labor from 35½ cents to 10½ cents. In wheat the reduction in labor was from three hours to 10 minutes, and the cost of the labor from 17½ cents to 3 1-3 cents. Between 1860 and 1894 the labor required for the production of a ton of hay was reduced from 35½ hours to 11 hours and 34 minutes, and the cost of labor per ton from \$3.06 to \$1.29. In 1899 the calculation made with respect to the reduction in the cost of labor for the production of seven crops in that year over the old-time methods of production in the fifties and sixties, showed it to have been \$681,000,000 for one year. Even this enormous saving, however, is only a fraction of the savings in production that have been effected. The sailing vessel has given place to the immense leviathans propelled by steam. The stage coach has been replaced by the modern steam cars; labor in our factories and mills that used to be performed by hand, is now done by machines that in some cases accomplish as much in a day as was formerly done by 40, 50 or 100 men. Every new invention of this character has enormously reduced the cost of production and increased the wealth of the country. They have made possible the great fortunes we see to-day, the greatest the world has ever known. But who will say that we farmers have received our share in dollars and cents of the increased wealth thus created? It is true that we do not have to perform as hard manual labor as our fathers and grandfathers did—and that means a great deal to us as we all know—but who has got the increased wealth that modern machinery and other inventions and improvements now enables us to produce each year? We are not getting it. If we were, farming would be vastly more profitable than it ever was before and we would not have any problem of rural depopulation to contend with. The laboring classes in our cities are not receiving it for in spite of their labor unions and strikes they are having as grim, yes, an even grimmer, fight with the dread spectre of want than they did 50 years ago. Even the much abused middlemen, with but very few exceptions, have not received any of it, as they, too, in the vast majority of cases, find it hard each year to make ends meet. This increased wealth has practically all flowed into the hands of the monopolistic classes, who because they have gained control of the natural resources of the continent, including our great mines, timber limits and water powers, as well as of our transportation systems, and other public utilities, and who by means of combines, are able to exact toll from us farmers—and from the laboring classes in the cities—practically as they please. This they do by advancing the price of practically everything we buy or use. Have you ever noticed that the moment the country has a few prosperous years and we begin to do well, up goes the price of everything we buy, especially land rents and land values in our cities, until the period of prosperity is soon followed by one of depression and hard times? It is then especially that thousands of farmers—generally those of us who are on the poorer lands, where the pinch is first felt—are forced off our lands. It is then also that the slums in our cities grow in extent and in misery.

THE GREAT PROBLEM

In spite of what our college professors and government officials tell us, the greatest problem that confronts us farmers to-day is not how can we produce more off our farms but how are we to retain our just share of the wealth that we do create, after we create it? When we solve this problem, farming will become so profitable we will soon devise for ourselves means of increasing the productiveness of our farms.

During the next few months we purpose explaining clearly how most great fortunes are made, and how we farmers are systematically despoiled of much of the wealth we produce. You can help this fight—for within a few years it is certain to develop into a fight, of ballots at least, between the masses and the wealthy monopolistic classes,—by following this series of articles carefully and by telling your brother farmers, who may not be taking Farm and Dairy, about them. The views we intend to present will be largely new to most farmers, and will approach this subject from a different standpoint than we have ever seen it presented in any farm paper. Watch also for the farmers' policy we will finally recommend.

A Talk on the Production of Clover Seed

(Continued from page 3)

ter in most of the clover producing parts of Ontario. It is much milder.

But we do not need to go over to Europe to find out how Chilean and English Red Clover should stand the Canadian winter. There was a con-

siderable import of Chilean Red Clover seed in the province of Quebec in the year 1905, and I have been assured by Mr. J. Cote, Dominion Seed Inspector of Ottawa, that the clover crop the year after the import of Chilean seed was a very poor one. The Chilean seed, no matter how it germinated, was quite unable to withstand the

Quebec winter. If we desire a steady production of clover in Canada we must seek to produce the seed in Canada and thus be independent of importations from other countries.

Is it possible to improve our home-grown clover in such a way as to safeguard a fairly good crop even in such an unfavorable season as the last one? To declare, without any restriction, that such an improvement is possible, would be to admit that the weather conditions are of only secondary importance for the outcome of the clover crop. But this of course is not my meaning. What I believe is this: There exists in Canada very good possibilities of making the clover crop partly independent of outer conditions, especially of the injuries effected by frost. I think it is possible to improve the average quality of the Red Clover in such a way that it might suffer less from exceptionally unfavorable conditions than it does at present.

SAVE SEED FROM HARDY PLANTS

Let me explain how I think it possible to obtain such a superior clover. Supposing that we have grown this year Red Clover or Alsike for seed, and that 75 per cent. of the plants in our clover field were killed by frost. Would it pay to keep the remaining 25 per cent. for seed? I think it would. It would not pay this year, that is true, but it would pay next year and the following years.

If 25 per cent. of the plants in our clover field survive, we must come to the conclusion that they survive because they are the stronger ones, and because they are able to withstand severe conditions. We have here strong clover that has come through the winter without being killed, and which, generally speaking, can develop in spite of unfavorable climatic conditions. Did we save the seed from this 25 per cent. of this clover field, the result would be surprisingly good. For if we save this seed, we might expect to get a progeny of the same superior quality as the plants from which the seed was taken, at any rate better than the 75 per cent. of the plants that were killed, just as we expect to get better offspring from a strong and sound bull than from a weak and sickly one.

NATURE'S SELECTION

If we save the seed from plants surviving in spite of outer unfavorable conditions, we simply follow the same principles of selection that have been practiced to such great advantage by the Canadian Seed Growers' Association. The only essential difference is this, that while the selection of superior types of cereals by members of the C. S. G. A. is performed by skillful and trained men, the selection of superior types of clover is performed by nature herself.

Is it really possible to get any practical results from such a selection? We have the actual proof of it here in Canada. Mr. T. G. RAYNOR has informed me that Mr. McDONALD, of Cape Breton, N. S., has followed this method of taking seed from surviving plants during a number of years, and that the result is that he has now a strain of Red Clover which is perfectly hardy, which stands any of the winter hardships without any injury, and which shows a remarkable tendency to be perennial.

ANY FARMER CAN BREED HARDY CLOVER

Any farmer can obtain similar results simply by taking his supply of seed from his own farm. To grow clover for seed rationally does thus not only mean, as I have tried to show from the figures taken from the report from the MacDonald College Farm this year, that there is a lot of direct money in the growing of clover seed. It also means that the farmer when growing his own seed improves at the very same time his own clover crop, without any extra expense at all.

I think, therefore, that the encouragement of the growing of clover for seed in Ontario is one of the best means to improve the average quality and increase the average value of the hay crop

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The Feeding Value of Alfalfa Hay*

Prof. Geo. E. Day, O.A.C., Guelph

Alfalfa hay, like all other kinds of hay, varies considerably in composition, depending upon the stages at which it is cut and the weather which prevails during the time of curing. A few showers of rain will materially detract from the value of the crop. The hay may be seriously damaged by rain or other cause, however, and still retain a high feeding value as compared with other classes of hay.

To get an idea of the relative value of alfalfa hay, it may be well to compare it with a well known concentrated food, such as wheat bran. The following tables show the composition of alfalfa and wheat bran, and the digestible nutrients of these two foods. These figures have been taken from Henry's "Feeds and Feeding," and while some samples of alfalfa hay would show a lower feeding value than the figures quoted here would denote, at the same time other samples might show even a higher percentage of digestible nutrients.

PERCENTAGE COMPOSITION OF ALFALFA

	Crude Protein	Fibre	Nitrogen-Free Extract	Fat
Bran.....	15.4	9.0	83.9	4.9
Alfalfa Hay.....	16.3	27.1	39.2	2.4

PERCENTAGE DIGESTIBLE NUTRIENTS

	Crude Protein	Carbohydrates	Fat
Bran.....	11.9	42.0	2.5
Alfalfa Hay.....	11.7	40.9	1.9

It will be noticed that under "composition," the carbohydrates have been separated into fibre and nitrogen-free extract. The fibre of a food is the most difficult to digest, and consequently is lower in value than the nitrogen and total protein. If we take the total carbohydrates and total protein, it will be seen that the alfalfa shows higher percentages of these constituents than bran. The presence of the much larger amount of fibre in alfalfa tends to decrease its relative value, and perhaps it would scarcely be safe to say that average alfalfa hay is equal to bran in feeding value, though it approaches bran very closely.

Under digestible nutrients, we find that alfalfa falls off somewhat compared with bran, though it approaches it very closely.

PROOF BY EXPERIMENTAL WORK

It is impossible in a short paper to review much of the experimental work with alfalfa, but it will be necessary to cite a few cases in order to demonstrate the high value of this crop. At the present time we have some work in progress in our dairy stable and though this work is not complete it has proceeded far enough to enable us to make comparisons.

Up to November 18th we were feeding our dairy herd mixed hay, straw, silage and a meal ration which we believed necessary in order to maintain a reasonable flow of milk. The meal ration varied in individual cases, as the tables that follow show. On November 19th we changed the bulky ration to alfalfa hay and silage and, as the tables show, we made a very material cut in the amount of meal.

DETAILS OF THE EXPERIMENT

The alfalfa feeding covers a period of three weeks, and is called Period 2 in the tables. For comparison we are using the days preceding November 19th, namely, from November 1st to 18th, which we call Period 1. The tables show the length of time the cow had been milking previous to November 1st, her average daily milk yield from November 1st to 18th, inclusive (which we call Period 1), and her average daily milk yield from November 19th to December 9th, which we call Period 2, and which covers the period of alfalfa feeding.

Group 1, which follows, is made up of five of our larger Holstein cows. These cows were comparatively fresh and were giving a fairly heavy

flow of milk and consequently were receiving what we call a full meal ration. It will be noticed that during Period 1 they were receiving four and one-half pounds of bran, three pounds cottonseed meal and one-half pound oil cake, or a total of eight pounds of meal per day. During Period 2 the meal ration is cut down to three pounds of cottonseed meal, the balance of the ration being made up of alfalfa and silage. The following table shows the results obtained under the change:

GROUP I. HOLSTEINS					
Cow No.	Days since calving	Period I, Nov. 1 to 18	Average milk per cow per day, lbs.	Period II, Nov. 19 to Dec. 9	Average milk per cow per day, lbs.
142	18	Mixed hay, 17 lbs. Straw, 4 lbs. Silage, 25 lbs. Bran, 4.5 lbs. Cottonseed meal, 3 lbs. Oil cake, 0.5 lb.	45.6	Alfalfa hay, 25.5 lbs. Silage, 35 lbs. Cottonseed meal, 3 lbs.	47.1
109	50	"	35.5	"	31.
76	120	"	38.6	"	30.2
143	140	"	40.4	"	40.4
141	31	"	39.2	"	38.0



And Still There is a Labor Problem!

The cause of the scarcity of labor in rural sections lies deeper than in lack of social opportunities, as is sometimes suggested. Mr. J. W. Richardson, Haldimand Co., Ont., who erected the neat cottages here shown for his men, still has a labor problem. Farmers are not generally able to offer workmen equal inducements with city employers. This is because, as explained by the series of articles now running in Farm and Dairy, the economic laws of our country are working against the farmer.—Photo by an editor of Farm and Dairy.

Referring to the table, we find that one cow actually increased during the second period. Another cow gave exactly the same daily milk yield, while the remaining three decreased very slightly, the decrease being not more than the normal decrease due to advancing lactation. This group, therefore, shows that the alfalfa is capable of maintaining the milk flow in fairly heavy producers under a very light meal ration.

ADDITIONAL EVIDENCE

Group 2 also comprises Holstein cows, but they were somewhat lighter cows than those in Group 1, and some of them had been milking for a long period. It will be noted that the rations fed these cows varied considerably. Nos. 119 and 159 were getting the same rations as the cows in Group 1, but the other cows were receiving less meal during Period 1.

In the second period, cow No. 111 is of especial interest. This cow, it will be noticed, had been milking for a long time and was not giving a large amount of milk. During the second period she was fed no meal, yet during this period of three weeks she maintained her milk flow quite as well as during the period when she received a moderate amount of meal, making a slight allowance for natural decrease due to advancement of lactation. Three of these cows gave practically the same amount of milk a day during both periods, and the remaining two have held their own, affording further evidence of the effectiveness of alfalfa hay. The following table shows details of Group 2:

GROUP II. HOLSTEINS					
Cow No.	Days since calving	Period I, Nov. 1 to 18	Average milk per cow per day, lbs.	Period II, Nov. 19 to Dec. 9	Average milk per cow per day, lbs.
111	34	Mixed hay, 17 lbs. Straw, 4 lbs. Silage, 25 lbs. Bran, 2.5 lbs. Cottonseed meal, 1.5 lbs. Oil cake, 0.5 lb.	18.8	Alfalfa hay, 25 lbs. Silage, 35 lbs. No meal.	17.2
86	157	Roughage as above. Bran, 2.5 lbs. Cottonseed meal, 2 lbs.	29.2	Roughage as above. Cottonseed meal, 3 lbs.	27.3
119	127	Roughage as above. Bran, 4.5 lbs. Cottonseed meal, 3 lbs. Oil cake, 0.5 lb.	34.1	"	34.5
150	38	"	29.0	"	29.5
130	365	Roughage as above. Bran, 2.0 lbs. Cottonseed meal, 2 lbs.	28.1	Roughage as above. Cottonseed meal, 2 lbs.	30.2

Group 3 was made up of Jerseys which, owing to their smaller size, took a somewhat lighter ration. The table which follows shows results of the change in feed:

GROUP III.—JERSEYS

Cow No.	Days since calving	Period I, Nov. 1 to 18	Average milk per cow per day, lbs.	Period II, Nov. 19 to Dec. 9	Average milk per cow per day, lbs.
131	280	Mixed hay, 15.5 lbs. Straw, 4 lbs. Silage, 25 lbs. Bran, 1.5 lbs. Cottonseed meal, 1.5 lbs.	15	Alfalfa hay, 22 lbs. Silage, 25 lbs. No meal.	12.
130	203	"	14.0	"	14.1
128	138	Roughage as above. Bran, 2.0 lbs. Cottonseed meal, 1.5 lbs.	25.8	Roughage as above. Cottonseed meal, 1 lb.	25.5
123	40	Oil cake, 0.5 lb. Roughage as above. Bran, 2.0 lbs. Cottonseed meal, 1.5 lbs.	21.1	"	19.1
132	180	Roughage as above. Bran, 2.0 lbs. Cottonseed meal, 1.5 lbs. Oil cake, 0.5 lb.	22.6	"	21.

It will be noticed that two of these cows received no meal during the second period, and the other three received only one pound per day during the second period, yet every cow has maintained her milk flow in a normal manner, and one of them actually increased. Group 3, therefore, fully corroborates the results of the two preceding groups.

According to investigations of American experiment stations, the normal monthly decrease in the milk flow varies from 5.8 to 12.3 per cent., depending mainly upon the length of time the cow has been milking, the smaller shrinkage occurring in fresh cows and the larger in cows that have been milking for nine or 10 months.

If we examine our results, therefore, in the light of these figures, it will be found that in no case has the decrease (where decreases have occurred) exceeded what might be expected under normal circumstances when a cow is receiving a sufficient quantity of food.

NOT NECESSARY TO FEED MEAL

It is a well known fact that some successful dairymen do not feed any meal to their cows when they are feeding alfalfa hay of good quality. Our results would indicate that their practice is quite justifiable, especially with cows giving only a moderate amount of milk. In order to hold a large producer up to her milk flow it would be necessary to feed a meal ration; but in the case of cows giving less than 40 lbs. of milk a day, it is questionable whether the feeding of a meal ration would be found profitable when first-class alfalfa hay is fed. The possibilities of alfalfa as a means of saving meal will be seen to be very great.

As I stated in the beginning, it is impossible to give anything like a comprehensive survey of the experimental work in feeding alfalfa, but the examples given serve as illustrations of the high value of this important crop, and so far as I know wherever alfalfa has been used with judgment the results have been remarkably satisfactory.

*Extract from an address at the Guelph Winter Fair last week.

FARM MANAGEMENT

Weed Seeds in Manure

I am constantly met in agricultural papers with the statement that it is best to haul manure, as it is dropped. This may have some advantages, but how about the living weed seeds that are sure to be in the manure? I think they must lie in a heated pile of manure to destroy their life. Take sorrel and lamb quarter seeds. I find these hard to kill. What is to be done to destroy the seed in the manure?—J. A. H.

The problem of weed destruction in manure is one which has received considerable attention, but is at yet unsolved, for the reason that the destruction of weed seeds by heating, or practically any treatment of manure that can be thought of as possible of being put into operation, costs more than the manure is worth, or so decreases the value of the manure as to make its application after such treatment almost useless.

The common practice of allowing manure to heat with a view to the destruction of weed seeds results in a loss of anywhere from 40 to 60 and even 75 per cent of its fertilizing value.

Our practice here is to haul manure as it is made and apply on the surface so that the weed seeds, if any occur, have a chance to germinate shortly after being scattered on the soil in the manure, or as soon as growing conditions maintain, and so are got rid of by early cultivation. This plan is, of course, practicable and advisable only in the case of such crops as are cultivated—roots, potatoes, corn and garden crops—or in the case of early harvested crops, such as red clover and alfalfa. In one case the weeds are destroyed, in the other case the

great majority are smothered out, or cut with the hay just at that stage when they might possibly be of some value for feeding purposes and when they are almost always so immature as to be quite certain not to leave any ripe seeds for future infestation of land.

After studying all methods known, or that could be heard of here, it was concluded that the best plan was to spread manure broadcast as it came from the stable, excepting in the case of very hilly ground, when it was found valuable to put in small piles during the winter and spread in the spring after the heaviest rains had fallen or melting snow disappeared.—J. H. G.

Cooperative Dairy Company

With a possible capitalization of \$75,000, Dr. C. A. Publow is at present putting through the largest proposition affecting dairy interests that Prince Edward county has ever known. It is the forming of the Farmers' Cooperative Dairy Company. It is aimed to include all the factories in the county. Already a large number of the cheese factories have joined with the proposed company, amongst the number being two of the largest in the county, Bloomfield and Cherry Valley. There will be no watered stock in the new company, all the profits will go to the people who are producing the milk, in proportion to the amount of milk sent.

This is the plan followed by the dairymen of Denmark, who are acknowledged to be leaders of the world in cooperative dairy work. The company is to be composed entirely of milk producers; no outside capital is to be connected with the company in any way. So far the plan has been accepted most favorably by all factories where meetings have been held.

Toronto Fat Stock Show

Few shows have so quickly established themselves in favor with breeders and exhibitors as has the Toronto Fat Stock Show. The first show held last year was a great success. The second annual show, held in Toronto Monday and Tuesday of last week, was even more successful. The number of exhibitors and animals exhibited showed a satisfying increase, and, in addition to the classes of last year, a poultry show was added. Wet weather marred the attendance at this show, as well as the fact that the show is not yet well known to fair goers. In a few years, however, this show bids fair to rank as one of the most popular in Ontario.

The interest at this show centred in the championship steer. Mr. Jas. Leask, of Greenbank, secured first place on a grade Shorthorn between one and two years old. Competition was close between this steer and a pure bred also owned by Mr. Leask. The grade won out in that it was smoother and firmer fleeced, and was noticeably better covered over the shoulder. Both animals were of the low dock, blocky, fine harding sort. This steer was after the show sold to the Whaley, Royce Company, of Toronto, for 50 cts. a pound, and was donated by them to the Children's Hospital of Toronto.

SOME OF THE EXHIBITORS

In the pure bred classes, Shorthorns predominated, the principal exhibitors being Jas. Leask, John Brown and Son, Galt; W. G. Pettit and Son, Freeman; and J. Black, Belwood. The exhibit of grades was very large, some of the best awards on individual animals going to Jas. Leask; J. Slope, Saintfield; W. R. Durnin, Lucknow; Pritchard Bros., Fergus; and Hugh McGregor, Brucefield. Car load lots were shown by Robson and Fried, Washington; J. Black, Belwood; Wm.

Pridham, Mitchell, and numerous others. Most of the car load lots, particularly those belonging to the breeders mentioned, were uniform in size and quality, and showed good fitting. A few of the car lots, however, were not in good condition, owing to the scarcity of feed in the country.

The exhibit of sheep was good, being much in advance of last year in number and quality of entries. For pens of three, some of the largest winners of prize money were John Huston, Chatham; G. F. Jackson, Port Stanley; A. Hales, Guelph; and R. Winters, Seaford. In classes for car lots of 50, the same exhibitors secured the best of the awards.

A SPLENDID EXHIBIT

The most attractive feature of the swine exhibit was the car load lot of 50 bacon hogs exhibited by O'Keefe and Drew, Chatham. These hogs were all pure bred Tamworths, and of splendid Latham type. Other winners in the swine class were G. H. Graham, Udon; J. Black, Belwood; and A. Hales, Guelph.

The object of this show is to demonstrate to producers and shippers of market cattle, sheep and swine just it pays to breed the right kind of stock. The two shows already held have been a success, judging them from this view point, and the show must soon rank as one of the best educational exhibitions in Canada.

There is a serious shortage of milk in Winnipeg. If prices continue to go up farmers will find that there is more money in milk than in wheat.

The Lambton Fruit Growers' Co-operative Association report a most profitable season. Their output this year shows a great increase over former years, and the association has grown to be one of the best mediums for advertising the county Lambton has ever had.



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The Feeders' Corner

The Feeders' Corner is for the use of our subscribers. Any interested are invited to ask questions, or send items of interest. All questions will receive prompt attention.

Can Corn be Fed to Horses?

Our oat crop this year was light, both in yield and in weight per bushel. In order to make it heavy enough for good horse feed, we have been adding wheat. Would it be more economical to sell the wheat and buy corn? Can corn be fed with good results to hard working horses?

A. E. Simcoe, Co., Ont.
Corn of itself is not a first class food for hard working horses, but fed in combination with oats, the ration is cheaper than oats alone or oats and wheat and equally efficient. The main requirement of the working horse is a food that will supply lots of energy, is rich in carbo-hydrates and fat. Corn contains 66.7 per cent. of digestible carbo-hydrates and 4.3 per cent. of fat. Oats contain only 47.3 per cent. of carbo-hydrates and 4.2 per cent. of fat. It will be seen, therefore, that corn is the ideal grain for

digestible nutrients in 100 pounds of feed are given:

Feed	Protein	Carbo-hydrates	Fat
Corn	7.0	66.7	4.3
Gluten meal	25.8	43.3	11.0
Gluten feed	20.4	48.4	9.9
Wheat bran	12.9	30.2	2.7
Brewers' grains	15.7	36.3	5.1
Linseed meal	29.3	32.7	7.0
Cotton seed meal	37.2	16.9	12.0

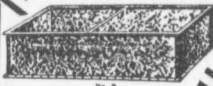
gluten meal and gluten feed, it will be noticed, are the richest in protein, and, generally speaking, are the cheapest feeds with which to balance up a ration consisting largely of corn ensilage. Gluten meal is to be preferred to gluten feed, as, in the long run, it is cheaper and has no equal for forcing milk production. These grains, however, are very rich and heavy, and should be fed in combination with other lighter meals, such as wheat bran, not more than one part of the heavy meals being fed to two or three parts of bran. Good brewers' grains are fairly rich in protein, and make a cheap food where they can be obtained. Some cows, however, will not eat this grain. We would suggest that for cows freshening this fall and giving 30 to

Our Veterinary Adviser

WEAK KNEES—Two-year-old colt is going badly on his knees. What can I do for him?—S. L. Peel Co., Ont.
No doubt he is congenitally weak in his knees. Applications do no good. Keep him in a box stall with a level floor and feed everything off the floor. If you cannot give him a box stall, stand in a single stall with level floor. Avoid a floor higher in front than behind. Feed so that he will have to get his head down to the floor to reach his food. This will tend to strengthen the knees, but no doubt he will always be somewhat weak in these joints.

LEGS SWELL—Mare's three legs swell when in the stable. Exercise dissipates the swellings, but they reappear during the night. There are signs of cracking in front of hock—Sub.
Give her a purgative of 10 drams aloes and two drams ginger. Follow up with three drams nitrate of potash twice daily for a week. Apply oxide of zinc ointment to front of hock. Give regular exercise after action of the purgative.

Steel Tanks that Won't Bust

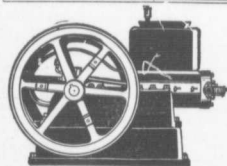


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An Ayrshire Basis of the Profit-Making Kind

Albee of Kilmow, the pure bred Ayrshire cow here illustrated, produced on the day in which the photo was taken 58 lbs. of milk in two milkings. As may be seen she is of the strong, rugged type with good feeding capacity and strong constitution. This cow is owned by A. S. Turner and Son, Wentworth Co., Ont.

—Photo by an editor of Farm and Dairy.

supplying energy cheaply and efficiently.

Corn of itself, however, is deficient in protein, and we would suggest that a ration made up of equal parts of corn and oats by weight would be cheap, and at the same time would keep the horses in just as good condition for doing their work as the more expensive feeds.

Not Satisfied with Ensilage

Last winter was the first year that I have fed ensilage. The ensilage was well matured and well cured, but when fed in combination with hay the returns in milk production were not what I expected. Can you suggest any reason why the ensilage was not satisfactory? How may the trouble be remedied?—J. C. Wentworth Co., Ont.

The poor results that are sometimes obtained from feeding ensilage are not the fault of the ensilage but are due to a lack of a proper understanding of the composition of the feed. Cows that are fed on corn ensilage and mixed hay are receiving a superabundance of carbo-hydrates, but are starving for protein. Milk contains a large percentage of protein and in feeding cows, particularly fresh cows, the limitations of ensilage should be taken into account and the rations properly balanced with some protein rich feed, such as alfalfa hay, or stock concentrates as oatmeal, cotton seed meal, bran, etc. A study of the following table will show where ensilage is weak and just how protein may be supplied to the ration by the use of concentrates. In the table the

The Winter's Work.—The sowing and reaping and marketing of crops is only part of the duty of the farmer who would also be a good citizen and get the best out of life for himself and his family. A good citizen must take an active and intelligent interest in the affairs of the school district, the municipality, the province, the Dominion and the Empire. And to do this we must study and learn; and then agitate and teach. The western farmers have made a good beginning in the work of education, so the coming winter should be a time of such useful activity. The absence of present conditions are apparent, and if the farmers and the Empire, and to remove them, they can accomplish a useful good for themselves and for future generations.—Grain Growers' Guide.

Strong evidence of the importance of giving hogs variety in their ration was noted in the improvement effected by adding alfalfa or skim milk to the ration.

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HORTICULTURE

Orchard Progress in Simcoe Co.

R. A. Thomas, Simcoe Co., Ont.
Our Cooperative Fruit Growers' Association, which extends over a large part of Simcoe County, has interested itself in orchard improvement with very marked results. Until our association organized practically no work was done in orchard improvement in our district except in demonstration orchards.

A number of our members and some who have not as yet united with our association have been caring for their orchards for some years, but this year the amount expended in orchard improvements has been beyond all expectations. The fruit in our cedar-rod orchards has been of splendid quality and in fruit size even in unsprayed orchards has been pretty clean.

CULTIVATION OF FIRST IMPORTANCE

While cultivation has been neglected the crop has been a failure, both in size of apples and in quantity. The work in our county has shown conclusively, in my opinion, that where cultivation is neglected the crop is very inferior, no matter what amount of care be put on the orchards in spraying, fertilizing and so forth.

Our own members this year used more than two carloads of commercial sprays, besides a large amount of home-made mixtures. In this immediate locality we understand that there has been a large quantity of spraying material used in addition to this. The number of spraying machines has of course been increased in proportion.

MORE TREES WILL BE PLANTED

The planting of new orchards will be thoroughly discussed during the winter, and a large number of our members have already expressed their intention of planting out large areas of orchard.

The past season has been an undoubted success from the standpoint of improved orchard practice, and next year promises to be as much in advance of this year as this year was an improvement on previous years. In the northern section of Ontario is undoubtedly one of the best districts in Canada for producing good quality fruit, and next year we hope to have a bigger crop of first class fruit that has ever been produced before in our district.

Twenty Acres of Duches

We are thinking of planting an apple orchard of about 20 acres. We ask your advice re varieties, care, etc. Would it be a profitable investment to plant say 20 acres Duches apple or say 10 acres set apart with Duches in between, and in the course of 15 or 20 years cut out the Duches and allow the Spy to grow?—C. B. Wentworth Co., Ont.

The only objection there would be to the planting of 20 acres of Northern Spy with Duches as a filler is that the Northern Spy requires some other variety blooming at the same time in the immediate vicinity, otherwise it will not be able to set fruit. The Duches would not be satisfactory for that purpose, for the reason that it blooms at too early a date. I would suggest that you make use of some other standard winter sort, but

am not altogether certain whether Baldwin or Greening would be satisfactory in your section. You will be able to decide regarding that point. If Baldwin thrives in your locality, I would suggest planting every third and fourth row of that variety. This would not reduce the size of Duches or any other small growing, early blooming variety as a filler, and would facilitate the setting of fruit on both the Baldwin and the Spy.

I judge that you would have no difficulty in disposing of a crop of Duches which would be produced on this acreage, but if you care to prolong the season you might grow other varieties, such as Wealthy or Wagner.

There seems to be a rather extensive planting of Duches going on over the province at the present time. It is hardly likely, however, that the production of first-class Duches will be over done. It is well to bear in mind, however, that practically large quantities of early fruit of this class, the market facilities and the quality of the market must be of the best. There is, of course, no possibility of over-production of first class fruit to stand over winter varieties.—Prof. J. W. Crow, O.A.C., Guelph, Ont.

Pointers on Pruning

The larger the wounds that are exposed to the weather when pruning the greater is the danger of disease germs getting in them. The preferable time to prune is in May, though most of us prefer to do it in March. Sometimes the whole shape of a tree can be changed by means of water sprouts. These water sprouts should not be cut off if they can be made use of. Water sprouts are reduced by spring pruning.

POULTRY YARD

The Machinery of Management

The most important power in the management of poultry is the mental power of the manager. He sometimes is told that farm machinery will be developed to such a point that farmers will not need to do any manual labor. In fact, one paper has predicted in a joking way that all we will have to do is sit in the shade and press keys while electricity will perform all the operations on the farm. We cannot just make out how even electricity can be harnessed so that it will run an incubator and keep the temperature right, keep chickens from smothering to death in the brooder. Even if it were possible, however, the greatest necessity of all would be the kind of machinery that the poultry man kept running in the upper part of his head.

The machinery of management is the power most needed in the running of the poultry business of to-day. Where this machinery is in running order we find the hens laying in winter when eggs are marketed guaranteed fresh. Sensible, sanitary, open air houses are used and disease is hardly ever known. Hopper feeding, which reduces the labor of feeding to a minimum and at the same time produces eggs and adds flesh most economically, will be practiced instead of the expensive system of wet mashers and frequent feeding. Eggs will be marketed guaranteed fresh. Four or five middle men will not be allowed to take a profit.

There are cramping machines, feed mixers, incubators, brooders and many other machines that tend to increase the poultryman's work and increase his profits. But unless the machinery of management is running properly all other machinery in the poultry department will soon be useless. Mental power controls all other powers.

Have you forgotten to renew your subscription to Farm and Dairy?

A Woman's Cure for Blackhead

Fitter, Farm and Dairy.—I want to tell you how I cured my turkeys of blackhead. I lost a hen turkey early in the spring and nine big pouls in mid-June. I tried all the usual remedies without effect. About two months ago two young turkeys took the disease. The droppings were like thin mustard and their heads turned black.

One was so bad that I gave it nearly a teaspoon of laudanum to put it out of its misery. A few hours later, to my surprise, it was walking around us lively as possible, and wanting something to eat. I fed it oatmeal porridge with a little pepper. I then gave the other turkey that was not so bad a few drops in some water, and kept them both on a light diet of bread soaked in milk and squeezed dry. I gave them a few more doses of laudanum, decreasing the dose every time as the droppings got more natural. There has been no return of the disease, so think I may call it a cure.—Mrs. J. C. Smith, York Co., Ont.

Fowls Have Diarrhoea

My Plymouth Rock fowls have digestive troubles. The droppings are yellowish; the combs have turned dark. The birds have fresh faeces and no mucus and wheats, with a little blackhead. The chickens were the most affected.—J. G. Peeterboro Co., Ont.

The symptoms described are those of acute diarrhoea, and also very much like those of hen cholera. I advise your subscriber to send a few butts back bird to Dr. C. H. Higgins, Bacteriologist, Veterinary Laboratory, Central Experimental Farm, Ottawa. Dr. Higgins will examine the bird and tell you whether he has detected the nature of the ailment. Meanwhile your correspondent might give his birds a reliable condition powder as a preventive of the possibility of the disease being hen cholera. It is important that the bird should be immediately examined.—A. G. Gilbert, Poultry Manager, C.E.F., Ottawa.

About Indian Runner Ducks

I would like to see something about Indian Runner ducks in Farm and Dairy. Do they lay as many eggs as hens? How about their housing and feeding?—Mrs. C. P. Huron Co., Ont.

Indian Runner ducks will probably lay as many eggs as hens, but I doubt if the eggs are saleable, and I further doubt if they would lay as well in winter as hens. I suppose duck eggs could be sold at a price. Ducks require an open shed, but not so open that the snow could blow in, and the floor must be dry.

The feed must have a high percentage of meat scrap in it. A good mixture for the raising of one-third of each of the following: low grade flour, bran and corn meal, with from 15 per cent to 25 per cent beef scrap. This is a good meat for night and morning, whole corn and wheat should be given at noon; this feeding is for the poultry man who wants eggs. He might also add 10 per cent pulsed alfalfa hay.—Prof. W. R. Graham, O.A.C., Guelph.

Poultry Pointers

Wet or damp floors are usually associated with crop and liver trouble. The best place for a sick hen is in a room by herself with plenty of water to drink and nothing to eat until she begins to act as if she wants it.

Rock salt is dangerous in the poultry yard. Particles may be mistaken by the hen for pieces of rock taken by the hen for food. If not fatal, results are certainly bad.

To keep in good health it is said a hen requires almost seven times the amount of fresh air, in proportion to its size, as does the horse, for the necessity of good ventilation, and the evils of overcrowding.

PERFECT

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Dairy Cattle at Guelph

The exhibit of dairy cattle at the Ontario Winter Fair held at Guelph last week was in several respects the most successful dairy test ever conducted at that fair. The average production of the cows under test was higher. The entries were of more uniform type, there not being a poor cow in the dairy stable. It will be noted on looking over the table on this page that the younger cows came out well in production. Those in the sections for more mature cattle, Ayrshires and Holsteins were strongly represented. Jerseys were missing, this year there was only one.

A pleasing feature of the exhibit was the number of new exhibitors. In the Holstein classes Edmund Laidlaw & Sons, W. A. Bailey, Big Wood, L. H. Lipsit and W. H. Cherry made their first entries in the dairy test this year, and all came well up in those classes in which they had entries. E. Laidlaw & Sons capturing first money in two sections.

In the Ayrshire classes also were five new exhibitors—R. H. Nees, Hector Gordon, A. S. Turner & Sons, Wm. Thorn and D. T. Nees. In fact, Mr. N. Dymont of Hamilton was the only old exhibitor present, he securing two firsts and a fourth. The Quebec men, who here made their first advent at the Guelph Winter Fair, did well in competition with the Ontario Ayrshires, R. H. Nees capturing first on cows under 48 months. There was some speculation as to the placing that Mr. Nees would secure with Barcheskie Lucky Girl, the champion in the dairy test at Ottawa last year. This cow, however, was too fresh, having been in milk 10 days only. During the test she milked 40 lbs. of 3.5 per cent. milk a day. Immediately at the conclusion of the test she went up to 60 lbs. on less feed. Mr. Nees stated that he had never known Barcheskie Lucky Girl to test less than 4.2 per cent. fat.

The championship cow, Olive Schulling Poesch, owned by Jas. Rettie, Norwich, as may be seen by the illustration on page three, is possessed of a strong, deep body, great constitution and a splendid, well shaped udder. The second prize Holstein was also owned by an old exhibitor, A. E. Hulst of Norwich. A report of the records of all cattle winning prize money is given on this page.

MAPLE SUGAR MAKERS. The Lightning Evaporator is not only the easiest one made but the most profitable. It holds more prizes, medals and diplomas for quality of syrup it makes than all the other makes put together. Write for catalogue, it is free and gives lots of information.

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FURS. A Pair of Pure Breds will be given you free in return for only \$100.00. Write for our Free Catalogue to Farm and Dairy, each taken at only \$1.00 a year. Tell us what variety you would like. FARM AND DAIRY, Peterboro, Ont.

"More room" was the general complaint of the dairymen. Every stall in the dairy stable was occupied and several animals had to be accommodated in another part of the building. Had the Jerseys been represented as they probably will be another year the cramped quarters would have been even a more serious drawback than they were. At the close of the fair the dairymen were most waited on Secretary Westervelt and requested that more room be provided before the fair of next year.

The Holsteins which have particular cause for complaint as to lack of room, as they offered to put up all the prize money for another class of cattle, heifers under 26 months. The Fair Board refused to consider the

great need now is for better accommodations for exhibitors at the buildings and for visitors in the city. The public have shown that they appreciate the fair run only on educational lines.

Much of the success of the Winter Fair in this and previous years has been due to the efforts of the secretary, Mr. A. P. Westervelt. The fair management showed their appreciation of his services by presenting him with a purse of \$300 in gold at the close of the fair.

Dairy Thoughts

When the cow is dry is one of the most important periods in her existence as a milk producer. She should

The Dairy Test at the Ontario Winter Fair, Guelph.

Table with columns: HOLSTEINS-Cow, 48 Months and Over; Per cent Fat; Lbs. not fat; Solids not fat; Total pts. Includes entries for 1st-Jas. Rettie, Norwich; 2nd-A. E. Hulst, Norwich; 3rd-M. E. Hulet, Springfield; 4th-H. F. Patterson, Alford; 5th-R. J. Kelly, Tillsonburg; 6th-M. L. Halsey, Springfield; 7th-L. H. Lipsit, Stratford; 8th-E. Laidlaw & Sons, Aylmer West; 9th-E. Laidlaw & Sons, Aylmer W.; 10th-E. Laidlaw & Sons, Aylmer W.; 11th-E. Laidlaw & Sons, Aylmer W.; 12th-E. Laidlaw & Sons, Aylmer W.; 13th-E. Laidlaw & Sons, Aylmer W.; 14th-E. Laidlaw & Sons, Aylmer W.; 15th-E. Laidlaw & Sons, Aylmer W.

Table with columns: AYRSHIRES-Cow, 48 Months and Over; Per cent Fat; Lbs. not fat; Solids not fat; Total pts. Includes entries for 1st-N. Dymont, Hamilton; 2nd-A. S. Turner & Sons; 3rd-R. H. Nees, Norwich; 4th-Hector Gordon, Norwich; 5th-Hector Gordon, Norwich; 6th-Hector Gordon, Norwich; 7th-Hector Gordon, Norwich; 8th-Hector Gordon, Norwich; 9th-Hector Gordon, Norwich; 10th-Hector Gordon, Norwich; 11th-Hector Gordon, Norwich; 12th-Hector Gordon, Norwich; 13th-Hector Gordon, Norwich; 14th-Hector Gordon, Norwich; 15th-Hector Gordon, Norwich.

Table with columns: Heifer, Under 36 Months; Per cent Fat; Lbs. not fat; Solids not fat; Total pts. Includes entries for 1st-N. Dymont, Hamilton; 2nd-N. Dymont, Hamilton; 3rd-N. Dymont, Hamilton; 4th-N. Dymont, Hamilton; 5th-N. Dymont, Hamilton; 6th-N. Dymont, Hamilton; 7th-N. Dymont, Hamilton; 8th-N. Dymont, Hamilton; 9th-N. Dymont, Hamilton; 10th-N. Dymont, Hamilton; 11th-N. Dymont, Hamilton; 12th-N. Dymont, Hamilton; 13th-N. Dymont, Hamilton; 14th-N. Dymont, Hamilton; 15th-N. Dymont, Hamilton.

Table with columns: SHORTHORNS-Cow, 36 Months and Under 48; Per cent Fat; Lbs. not fat; Solids not fat; Total pts. Includes entries for 2nd-D. A. Graham, Waukesha; 1st-E. R. Nees, Howick; 3rd-E. R. Nees, Howick; 4th-E. R. Nees, Howick; 5th-E. R. Nees, Howick; 6th-E. R. Nees, Howick; 7th-E. R. Nees, Howick; 8th-E. R. Nees, Howick; 9th-E. R. Nees, Howick; 10th-E. R. Nees, Howick; 11th-E. R. Nees, Howick; 12th-E. R. Nees, Howick; 13th-E. R. Nees, Howick; 14th-E. R. Nees, Howick; 15th-E. R. Nees, Howick.

Table with columns: GRADIES-Cow, 48 Months and Over; Per cent Fat; Lbs. not fat; Solids not fat; Total pts. Includes entries for 1st-E. R. Nees, Howick; 2nd-E. R. Nees, Howick; 3rd-E. R. Nees, Howick; 4th-E. R. Nees, Howick; 5th-E. R. Nees, Howick; 6th-E. R. Nees, Howick; 7th-E. R. Nees, Howick; 8th-E. R. Nees, Howick; 9th-E. R. Nees, Howick; 10th-E. R. Nees, Howick; 11th-E. R. Nees, Howick; 12th-E. R. Nees, Howick; 13th-E. R. Nees, Howick; 14th-E. R. Nees, Howick; 15th-E. R. Nees, Howick.

proposition, giving as one of their reasons that the dairy quarters were small enough as they was. More room has to be found for almost all classes at the Guelph Winter Fair, but the necessity for additional accommodation will be more keenly felt by the dairy men than by any other class of exhibitors.

A Great Fair at Guelph

(Continued from page 2) was very good considering the weather conditions of the past summer. The record breaking attendance at the fair showed how completely the Winter Fair idea had captured the public. There is every reason to believe that the fair will continue to grow in popularity with both exhibitors and the general public. The

then be well fed on nutritious food and prepared for the next period of lactation. Turning her to the straw stack will not do.

Before cattle go into winter quarters the stables should be thoroughly cleaned, disinfected and put in a sanitary condition.

It is better to be sure than sorry, and to this end it is well to test all cattle for tuberculosis.

Correction.—In the December 7th issue of Farm and Dairy it was incorrectly stated that Eileen, an Ayrshire cow owned by G. D. Mode, Vankele Hill, had broken the world's record for butter fat production. This record is held by Nethalim Brownie, an American cow, whose record is 18,110 lbs. of milk and 890.91 lbs. of butter fat.

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FARM AND DAIRY

AND RURAL HOME

Published by The Rural Publishing Company, Limited.

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The paid subscriptions to Farm and Dairy exceed 18,000. The actual circulation of each issue, including copies of the paper sent subscribers at no charge, varies from 11,000 to 12,000. Subscriptions are accepted at less than the full subscription rates. Thus our mailing lists do not contain any dead circulation.

Sworn detailed statements of the circulation of the publication are distributed by counties and provinces, will be mailed free on request.

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We want the readers of Farm and Dairy to feel that they can deal with our advertisers with our assurance of our advertisers' reliability. The idea of our columns only the most reliable advertisers. Should any subscriber have cause to be dissatisfied with our advertisers, he receives from any of our advertisers, we will investigate the matter thoroughly. Should we find reason to believe that any of our advertisers are unreliable, even in the slightest degree, we will discontinue immediately the publication of their advertisements. Should the circumstances warrant, we will expose them through the columns of the paper. This we will not only protect our readers, but our reputable advertisers as well. In order to be entitled to the benefits of our Protective Policy, you need only to include in all letters to advertisers the words "Farm and Dairy" within one date any unsatisfactory transaction, with proofs thereof, and within one month from the date the advertisement appears, in order to take advantage of the guarantee. We do not undertake to adjust trifling differences between readers and responsible advertisers.

FARM AND DAIRY

PETERBORO, ONT.

A STATESMANLIKE UTTERANCE

"On the other hand, the vast accumulation of wealth in the hands of a few men contrasts with the possibility that great national resources may pass into the hands of an oligarchy of wealth, and may be used for the oppression rather than for the benefit of the people. We in Canada are not insensible to this danger, and in this, as in other respects, we hope to profit by your experience."—Hon. R. L. Borden, before Canadian Club, New York City.

It is encouraging to hear such a statement by the premier of Canada. One of the chief reasons for the high prices in Canada including the depopulation of rural districts, is due to the fact that most of our natural resources, such as our timber lands, coal and iron mines and water powers, have passed under the control of private individuals and companies, who because these are necessities are able to charge the common people of the country excessive prices for their use. This is one of the explanations

of the fact that during the past twenty-five years millionaires have been springing up all over Canada, while the lot of the common people has not improved.

Premier Borden will have his hands full defending our remaining natural resources from those who desire to gain their control. An intelligent public interest in this question will do much to strengthen his hands. It is a matter that is of great importance to the farmers of Canada, but unfortunately many of us do not seem to realize how important it is, nor how much the fact that we have not got a larger balance in the bank at the end of each year is due to our neglect of these matters in the past.

SOIL FERTILITY AND LEGUMES

It is a mistake to believe that the growing of such leguminous crops as alfalfa, clover, peas, and so forth will increase soil fertility. We have heard so much of the beneficial effects of these legumes on the soil that many of us are coming to believe that all that is necessary to ensure continued productivity is to have one of these crops on the land every three or four years.

The growth of alfalfa or clover does not increase the fertility of the soil, but depletes it very seriously, and it continued for many years will leave us an unproductive soil. The idea that legumes enrich the soil probably comes from the fact that in many instances in our experience our soils have produced larger crops following leguminous than following non-leguminous crops. This is due to the fact that alfalfa (and other legumes to a less extent) extends its roots many feet into the ground, utilizing fertility not reached by the roots of other plants. Alfalfa also leaves the soil in good physical condition. But this deep rooting property of alfalfa leads in time to even greater impoverishment of the soil than through other crops, as the subsoil as well as the surface soil is being robbed of its fertility.

The enriching of the soil through the growth of legumes does not come so much from the actual growing of legumes on the soil as in the feeding of them to farm stock and returning the manure to the soil. The nitrogen that the legumes extract from the air is almost all found in the stems and leaves of the hay. So with the mineral ingredients that are extracted from the subsoil. These are returned to the soil as manure, and its productivity is thus increased.

Let us grow leguminous crops as extensively as our rotation will permit, but let us also return the fertility thus obtained to the soil by feeding the legumes on the farm.

England and Germany were on the verge of war. And yet the common people in the Empire, the men who would have to pay the bills and spill the blood had such a war been declared, had nothing whatever to say about it. Is there not something wrong with a system of administration that makes such a condition of affairs possible?

CHANGE INSPECTION METHODS

A matter of great importance to the fruit growing industry in Canada and one that should be taken up at the coming Dominion Conference of fruit growers is the matter of a change in the Act relating to the official inspection of apples packed for sale. This matter was thoroughly discussed at the annual meeting of the Ontario Fruit Growers' Association held in Toronto recently, and they unanimously passed a resolution requesting that sufficient inspectors be appointed to make it possible to inspect fruit at point of shipment.

Our present system of inspection is good so far as it goes, but it does not go far enough. It practically leaves the shipper at the mercy of unscrupulous commission men. Were the apples inspected by a Government official before they had left the hands of the grower this difficulty would be overcome. The fruit growers do not ask that the Government stand the full expense of this inspection. They are willing to meet at least a part of the expense themselves.

Some of the objections raised to inspection at points of shipment are that it would require a great number of inspectors, that where several growers are contributing to a carload, proper inspection would not be possible, and the expense would be so great that growers themselves would soon begin to object. The question, however, is too important a one to let stand as it is at present, and a thorough discussion of the subject at the coming conference would bring to light much information that would be of value in the formulating of legislation later on.

Further evidence of the increasing popularity of dairy cattle over beef cattle is to be found in a recent editorial in the Breeders' Gazette.

Further Evidence from that editorial reads as follows:

"All doubts about a beef cattle shortage have been dispelled by the census report that the decrease in numbers in the last ten years has been 6.8 per cent. Horses, mules, and dairy cattle increased to a much greater extent than any class of meat producing animal. We cannot escape the conclusion that the production of meat producing animals, particularly beef cattle, has not kept pace with other branches of the live stock industry." The same condition prevails in Canada. The dairy cow is a more efficient producer of human food than is the beef animal. Therefore she must increase while the latter must decrease.

In a recent issue of Farm and Dairy we claimed that in the Canadian parliament, in that there are in it 76 lawyers and only 36

Farmers in farmer members, is not truly representative of the Canadian people. A

contemporary journal ridicules the idea of farmers in parliament, claiming that the House of Commons is a place for lawyers and that the presence of lawyers there in large numbers is necessary for the proper formulating of the law. A few lawyers in the Commons may be a convenience

for the proper phrasing of parliamentary acts, but, further than that, their usefulness is no greater than that of any other class of men. Their ideas on economics are not sounder, their standards of honesty are no higher. A comparatively few lawyers can perform the function for which their training fits them just as well as the large number that are now there. The Dominion House should truly represent the interests of all classes in Canada, and that it cannot do when the largest class of all, the farmers, are so poorly represented.

In reality there is no such thing as a laborer. To do the work of the world we have only men and women.

We have become so accustomed to the Labor Question

speaking of the "hired help" class that some of us have almost lost sight of the fact that "A man's a man for a' that," and that when dealing with our hired help we are dealing with men and women like unto ourselves. Their services in value to us increase in exact ratio as we eliminate the feeling of servitude. A smile, a strong clasp of the hand, and open and fair dealing between employer and hiring will straighten out many of the kinks in our labor question.

The Nature of Our Laws

(The Grain Growers' Guide)

Every intelligent man in Canada knows that the chief legislation on our behalf is done by a few men in the interest of the people. The door of opportunity is partially closed to 95 per cent. of the population by laws enacted for the few. We have seen several governments, so-called. Therefore these laws prevail by the consent of the people. These laws are skillfully designed to make an unequal distribution of wealth. They operate to the end that the greater part of the wealth created by all the people is gathered in by a few. This is no mere theory. It is an indisputable fact. Every man knows it by keeping the people divided against themselves by appeals to prejudice or passion, Special Privilege remains continually in the ascendant.

Suppose that a masked highwayman stood at the door of every store in the land, at every railway depot, at every market place, in every quarter section of land, and every town lot, and took the pocket of a revolver to every man, woman and child to drop into his hat in cash the equal of 25 per cent. of their purchases or sales. How long would it be before the Liberal and Conservative parties were leveled with unerring precision. Every man pays the tribute, no matter whether he is a Conservative or a Liberal. And it is just because so many men are tied to party that this relentless highwayman is allowed to stalk through the land. If just for five years all the men in the country ever belonged to a political party and would remember only that they were being plundered, the scene would change.

No matter under which of the old political parties a man allows himself to be fooled, it costs him just as much. Every great reform has originated with the people and it will always be so. Let us have our eyes turned to our government for relief until popular opinion is strong enough to compel action. Politicians always take care that they hear something from the West, and hear it plainly.

The firm which most men... Continence... advertisements... voted to... fine in... HIS P... ANNUA... and dairy... He can... wanted... cannot g... he want... our men... editorial

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VIII

The Publicity Manager of the firm which each year spends the most money of any firm on this Continent—in the world, in fact—advertising in agricultural publications, and especially those devoted to dairying, called at our office in Peterboro two weeks ago.

HIS FIRM SPENDS \$250,000 ANNUALLY advertising in farm and dairy publications alone.

He came to get some facts. He wanted information such as one cannot get or give by mail. And he wanted to get acquainted with our men in Farm and Dairy's editorial department.

An extended experience has taught this man the wisdom of offering the inside of publishing offices. The information he gets in this way saves his firm much waste.

For instance, one publishing house he called on recently has been claiming a circulation of 45,000. Personal, "John-on-the-spot" investigation showed them to have only 6,000.

The enormous sum this firm spends goes for general publicity. They never advertise a mail order proposition. Direct sales traced to keyed advertisements are not sought by this firm. Therefore, they need to KNOW WHAT CIRCULATION A PAPER HAS, WHERE THE CIRCULATIONS AND HOW IT IS GOTTEN.

The object of this firm is to make the name of their machine and its merits so familiar among dairy farmers, and others who may become dairy farmers, that knowing of this superior machine they will, when they come to need one, buy this particular machine in preference to all others.

THIS ADVERTISING IS PROFITABLE—IMMENSELY PROFITABLE—else this firm would have stopped advertising years ago. They would not continue to pour out \$250,000 a year into advertising unless it brought results—unless it brought paying results.

These people have spent a considerable sum with Farm and Dairy. Ever since this paper started as a dairy paper THEY HAVE ADVERTISED IN EVERY ISSUE. For the past four years they have used a quarter page each week.

We appreciated having their representative come to see us. He appreciated the information we gave him and secured our rates for occasional page and half page advertisements.

We would like to have you come to see us. We have nothing to hide. Our business is wide open for your personal inspection and if you'll come and visit us at Peterboro you'll soon discover why Farm and Dairy is

"A Paper Farmers Swear By"

Creamery Department

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

Enthusiastic Creamery Meeting

The lively discussions and large attendance that distinguished the annual meeting of the creamery men of Western Ontario, held at the Guelph Dairy School on Thursday, December 14th, is but an indication of the progress that is being made by the creamery industry in Western Ontario. This annual creamery meeting has always been a success; the attendance and interest shown this year was even greater than at similar meetings in former years. Mr. W. Waddell, president of the Western Ontario Dairy-men's Association, presided.

Professor Dean welcomed the cheese makers and briefly reviewed some of the past season's work. The creamery men expressed regret that Mr. Fred Dean, who has for years been one of the most able creamery instructors in Ontario, has decided to resign his position. It was pleasing intelligence, however, to hear that Mr. Mack Robertson, a former dairy instructor, will take Mr. Dean's place.

BUTTER MAKE HAS INCREASED
The report of the Chief Dairy Instructor, Mr. Frank Hens, showed an increase of 1,758,000 lbs. of butter in the make of this year, and an increase of 4,000 in the number of patrons sending cream to the creameries. As a result of the educational work carried on among patrons, the average test of cream has been raised one per cent. Mr. Hens emphasized the necessity of more instructors if the patrons are to be reached directly. Only 37 patrons were visited last year. The great improvement that is needed in our butter, he said, is more uniform salting. Another deficiency noted during the year was the high temperature in creamery cold storages, the average being 46 1-2 degrees.

How to secure more uniformity in salting was the subject of an earnest discussion by the creamery men. It was agreed that while it was difficult to absolutely control the salting, most of the non-uniformity was due to the maker guessing rather than weighing first, the cream put in the churn, and then the salt used. Mr. Fred Dean said that he knew of one maker who used a pail of salt whether he had a vat or lit a vat of cream.

Mr. G. A. Putnam emphasized the necessity of looking after the farm end of the work. It was the manner in which this end was looked after, in his opinion, that determined largely the quality of the butter.

A SUBSTITUTE FOR SKIMMILK
During the past year Mr. H. Lunn, a dairy student at the G. C. has been conducting experiments with the object of determining the efficiency of powdered milk for use in making pure cultures. His experiments showed that powdered milk was equally efficient with skim milk when mixed in the proportion of one part powder to 10 parts of water. The butter, where such culture was used, was of good flavor. The cost of powdered milk starter is its greatest disadvantage, that running from \$1 to \$1.25 a cwt. Mr. Geo. H. Barr, Chief of the Dairy Division, Ottawa, said that they had used powdered milk as a starter with excellent results, the cost being about .47 cts. a pound of butter.

The results of experimental work conducted by Mr. Barr with pure cultures was a surprise to the meeting. Mr. Barr endorsed pasteurization, but found that the use of pure culture was not markedly profitable. Mr. Barr and Professor Dean have both found a greater loss with pasteurized than



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MONTREAL

WINNIPEG - - - VANCOUVER

with unpasteurized cream, but the superior quality of the butter more than compensates for the loss of butter fat. In one experiment reported by Mr. Barr, a prominent butter buyer said there was one and one-half cents a pound difference in value between two lots of butter both made from the same cream, the one pasteurized and the other not.

WATER JACKETED PASTERIZER
PREFERRED
The discussion on creamery machinery brought out some valuable points. Mr. Foster, a western creamery man, stated that in his experience with pasteurization, the water pasteurizer was much superior to the steam jacket variety. Mr. Rickwood, the College butter maker, as a result of experimental work, estimated the cost of pasteurizing cream at from .031 cents to .048 cents, not counting labor. Mr. Barr found that refrigerators for the keeping of cream on the farm were neither as cheap nor as efficient as iced tanks.

Some interesting figures were given by Mr. Rickwood as to the relative merits of jacketed versus ordinary cans for collecting cream. In hot weather he found that the cream in the jacketed cans was three to four degrees cooler than in those not protected. Mr. Foster had noted a difference of five to seven degrees between protected cans and those not protected.

DAILY TESTS DISCUSSED
A subject that has only recently become of live interest to creamery men is the daily testing of cream. Very few of the makers had experience with daily testing. One of them, Mr. Stillman, who tests daily, said that he liked the practice well. There is in it more labor and expense, but he also found greater satisfaction from the daily test. A card is sent to each patron each day giving them the weight of their ship-

ment and the test. Mr. McQuaker said that in some of his work the composition test had been one to one and one-half per cent. higher than the daily test. Mr. R. M. Plyer of Walkerton found that the daily test worked well, gave a slightly higher over run, but he did not see that there was any money in it for the creamery man.

It is not possible to here give a full report of the discussions at this meeting, but full reports will be given of the most valuable discussions in future issues of Farm and Dairy.

Adding Starter to Ripen Cream

Occasionally we hear butter makers say: "We can't use starter; our cream is ripe when it comes to the creamery."

Good starter will materially improve the quality of butter even when added to ripe cream, provided that the cream is promptly cooled and churned as soon as the proper temperature has been reached. The quality of bad flavored, sour cream is improved by treating it with starter, just as poor milk becomes richer by treating it with cream. The more starter added to poor cream the less of the poor flavor will be noticeable.

We urge all butter makers to use large amounts of starter regardless of whether the cream is sweet or sour. Cream that arrives at the creamery in a sour or ripe condition should be treated with a heavy starter, cooled and churned the same day it is delivered. If it is not churned the same day the chances of getting good butter are less.—Ex.

I have reduced the cost of hauling cream one-half by owning my own team. You can then hire a man to suit yourself, and a good one will canvass for you and get more patronage for you.—Wm. H. Harrison Co., Ont.

Cheese Department

Makers are invited to send contributions to this department to ask questions on matters relating to cheese making and to request subjects for discussion. Address letters to The Cheese Maker's Department.

Western Cheese Men Meet

Optimistic indeed was the note sounded by Mr. E. J. Bennett, of Stratford, in his opening address as chairman of the annual meeting of the Cheese Makers of Western Ontario, held at the Guelph Dairy School on Wednesday last week. High prices for cheese have given the cheese industry additional stimulus, and the chairman believed that in spite of the competition of condenseries, homogenizing plants and creameries, the cheese factory patron is making the most money and the cheese industry is one of the most stable in Ontario.

The number of cheese makers present was not as large as might be expected, considering the value of the discussions. The meeting, however, was fairly representative, and it is proposed to continue the central meeting at Guelph in place of the district dairy meetings, such as were held until two years ago, when the one central meeting was substituted.

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Professor H. H. Dean welcomed the visitors to the College, and gave a brief review of some of the principal problems that cheese makers have to solve. Professor Dean again stated his belief in the justice of considering both fat and casein in estimating the value of milk for cheese making, and claimed that until we have a casein test easily operated the addition of "2" to the fat reading was approximately correct. In experiments on the ripening of cheese they had found that the best results were obtained when the cheese were taken directly from the hoops to cool storage at a temperature of 40 degrees.

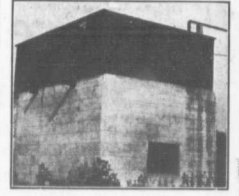
Although statistics are not yet to hand, Mr. Frank Herna, Chief Dairy Instructor for Western Ontario, reported a probable decrease in the rate of cheese for 1911. This season's more factories have adopted pay by test. No additional cool curing rooms have been added. The need of cool curing rooms was evident when Mr. Herna stated that in the month of July and August the average temperature in the curing rooms was 71 degrees.

THE TEMPERATURE OF MILK DECIDED

"It has often been suggested," said Mr. Herna, "that cheese makers come to some agreement as to the temperature at which milk shall be delivered at the factory, and insist on patrons living up to the terms of this agreement. Why not come to some such agreement here?" This suggestion of the Chief Dairy Instructor's led to a resolution being passed that, if lived up to, will work a revolution in the quality of the cheese produced in Western Ontario. The resolution, as submitted, reads as follows: "Whereas, in the opinion of this meeting, some set temperature should be fixed for the delivery of milk delivered to cheese factories, it is hereby resolved that the night's milk for daily delivery should be cooled immediately after skimming to 65 degrees, and that the temperature of the milk be not higher than 70 degrees F., delivered at the factory. If for any reason the night and morning milk be mixed when delivered to the factory the night's milk should be cooled to 60 degrees or lower, and

such milk should be delivered at the factory at a temperature not above 75 degrees. To keep milk from Saturday night to Monday morning, it is recommended that the milk be cooled immediately to a temperature of 60 degrees or under, and so held till time of delivery." This resolution was moved by Mr. Waddel, president of the W. O. D. A., and seconded by Mr. Geo. H. Barr, of Ottawa.

The terms of this resolution met with the unanimous approval of all the cheese makers present. They agreed that all that is necessary to carry it out is that all cheese makers in a section will get together and re-



A Whey Tank and Coal House Combined

The elevated whey tank and the coal house are combined in one structure at the Sidney Town Hall cheese factory in Hastings Co., Ont. The tank has shown great economy in fuel. The foundation is cement. Quite an expensive structure did it not serve two purposes?

—Photo by an Editor of Farm and Dairy.

fact to take in milk that is not of proper temperature. In the discussion of salting of curds, it was agreed that the amount of salt used was governed by so many varying factors that every maker would have to decide for himself how

Put in curing room at once	Salt per 1000 Marks shrinkage	Av. score
AL 1 94	..... 2	A2 1.5 92.5
BI 1 94	..... 2.25	B2 1.75 92
CI 1.75 94.25	..... 2.5	C2 1.5 92.25
DI 1 92.75	..... 2.75	D2 1.5 92

much salt to use. The following figures given by Mr. Frank Herna would show that the place where cheese is kept when ripening has a greater effect on the quality than the amount of salt used. The cheese marked AL and A2 were made at the same time in the same vat.

It will be noted that the cheese kept in the cool room invariably scored higher than those kept in the ordinary room for 15 days. It will also be noted that the amount of salt used up to 2.5 lbs. caused no great variations in the scoring, but that when 2.75 lbs. was used, the quality dropped immediately.

LESS IN BOTH QUALITY AND QUANTITY

An experiment reported by Mr. Alex. McKay, of the College staff, showed that when cheese was cured in a room at 40 degrees temperature the average of scorings for the season was 93 and the shrinkage 2.92 per cent. When kept in the ordinary room one month cheese made from the same milk showed an average scoring of 90.42, and a shrinkage of 3.38 per cent. Samples of this cheese were passed around among the makers, and the cool cured was easily seen to be superior in both texture and flavor.

One of the subjects for discussion at the meeting was "Should milk delivered at cheese factories be paid for by test?" This question, however, did not arouse much interest as all were agreed that milk should be paid for by test. Professor Dean spoke strongly of the advisability of appointing official testers, and in this opinion he was seconded by all present. It was pointed out, however, that until we get such official testers, cheese makers should qualify themselves to do their own testing.

Further reports of the discussions at this meeting of these makers will be given in later issues of Farm and Dairy.

Whitewash in the Factory

"Well, I am as happy as a lord," said R. W. Ward, Dairy Instructor in Peterboro County, on a recent visit to the Farm and Dairy office. "I always was strong on whitewash, and now some of my makers are getting the fever. Young Hunter down at Hastings has put his factory in fine shape. He has given the whole interior a coat of whitewash and it looks fine."

He has used a new prescription for whitewash that does not rub off. He mixed half a bushel of unslacked lime with warm water, keeping it covered while airing. A peck of salt well dissolved in warm water was then added. Three pounds of ground rice were boiled to a thin paste and stirred in the boiling mixture. Half a peck of powdered Spanish whiting and a pound of glue that had been previously dissolved completed the mixture, to which five gallons of hot water was added. It was then stirred well and allowed to stand for a few days. There is nothing like this whitewash for inside or outside work.

LESSON LEARNED AT HOME

Speaking further of whitewash, Mr. Ward said: "The experience that I had with whitewash when a boy at home convinced me of its value in connection with dairy work. We had a small cellar under the house that in the fall was filled right to the top with roots. In the spring rotten roots and dirt were carried out until my back felt like breaking. The whole was then given a good coat of whitewash, and such a sweetening effect had the wash that we could keep milk there nicely."

"Look at the amount of whitewash that the Government, railways and so forth use. This is proof that it is

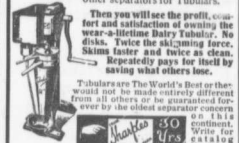
Ordinary room 15 days then cool room	Mark	Shrinkage	Av. score
A1	..... 1.5	..... 92.5
B1	..... 1.75	..... 92
C1	..... 1.5	..... 92.25
D1	..... 1.5	..... 92

good stuff and cheap. When it is prepared right it is almost as good as paint, and it sticks. There is no place where it can be used to better advantage than in the cheese factory."

You may extend my subscription to Farm and Dairy one year. Your paper is invaluable.—Geo. S. Gehman, Waterloo Co., Ont.

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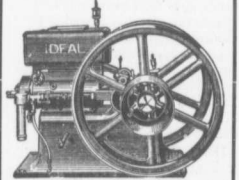
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Life is to see to we must

Pearl, the Milford, Man. the family, unsmiled because of being a habitable in the moving the dooed to the of shiny, is thrashed by tional, as he Watson are attend the o to conduct se

PEARL, all the own her, taking that word for it that have a old thing make the ont's Hurry up, M in; it's a que we've got done with the business wh We're not w "Pearlie, "you're rat them."

"Hopes!" say hopes, beech with there blubber spoiling By eleven ready but if it subje that this w Pioneers' P ed right ov and a patch The Perky Sorrow was dried his e shining on A little trees and in glittering a quarter family, sea high-boxed of the yard "Sure, w for getting the philoso The Perky bursey never Even Marti was coming Behind

PEARL



LIFE is a Christmas Stocking. It is long and deep. We cannot see to the bottom of it, nor reach our presents at a single snatch; we must take them out one by one.

—Rev. Wm. E. Barton

The Second Chance

(Copyrighted)

NELLIE L. MCCLUNG

Author of "Sowing Seeds in Danny"

(Continued from last week)

Pearl, the oldest daughter of John Watson, a G.P.R. section man living in Milford, Mass., receives a large sum of money from the relatives of a young Englishman she had nursed when ill. She decides to educate herself and the rest of the family. The Watsons are joined by their Aunt Kate, who proves not an unmissed blessing. Pearl proves an efficient and clever scholar and has dreams of being a school teacher. She sees that her small brothers are learning bad habits in the town and gives up her ambition to be a school teacher and suggests moving the family onto a farm, to which John Watson agrees. We are introduced to the children at a country school. Tom Steadman, a bully, in a game of skinnies, intentionally strikes with his club Libby Anne Cavers, for which he is thrashed by Bud Perkins. Libby Anne does not dare to say the blow was intentional, as her father owns Mr. Steadman money. Bud Perkins is angry, but forgives Libby Anne, as he understands the circumstances. In the meantime the Watsons are getting established on their farm. The Watson family begin to attend the country school. Pearl calls on Mr. Burrell, the pastor, and asks him to conduct services in their school house.

PEARL grew desperate. "Look at all the other hens that did go in," she said as she tied the bows in her own hair. "I don't see the sense of taking that crazy old ike of a hen's word for it against all the other hens that have gone in." She's a mount, an old thing, and is staying out to make the other ones feel bad, or else she don't know enough to go in. Hurry up, Mary, and get all that stuff in; it's a quarter to eleven now, and we're got Tommy to do yet when he's done with the boots. It's none of our business whether it rains now or not. We're not wantin' to go just now.

"Fearlie, dear," her mother said, "you're raisin' too many hopes in them."

"Hopes!" Pearl cried. "Did you say hopes, Ma. They look like a bunch with too many hopes, settin' their blubberin' their eyes out and spoiling their looks."

By eleven o'clock everything was ready but the weather, and then, as if it suddenly dawned on the elements that this was hardly a square deal on Pioneers' Picnic day, the clouds parted right over John Watson's house, and a patch of blue sky, ever widening, smiled down encouragingly. Sorrow was changed to joy. Bugey dried his eyes when he saw the sun shining on the Brandon Hills.

A little breeze frolicked over the trees and flung down the raindrops in glittering showers, and at exactly a quarter past eleven the Watson family, seated on three seats in a high-backed wagon, drove gaily out of the yard.

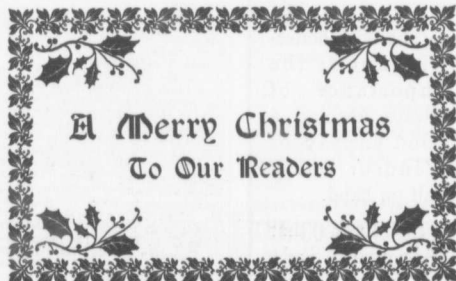
"Sure, we enjoy it all the better for getting the scare," said Mary the philosopher.

The Perkinses, in their two-seated buggy, were just ahead on the road. Even Martha, encased by Pearl, was coming to the picnic.

Behind the Watsons came the

Caverses and the Motherwells.

"It's me and Libby Anne ride with us," said Tommy, but Mary, with fine tact, pointed out that she would see the bottles, and it might hurt her feelings. "For, now, young you," said Mary, "she knows, mind and all as she is it."



A Merry Christmas To Our Readers

Mary was one year younger herself. Along every trail that led into the little town came buggies and wagons, their occupants in the highest good humour. There was a laughing ripple in the meadowlark's song, as if he were declaring that he knew all the time the rain was only a joke.

Across the river lay the Horseshoe slough, a crescent of glistening silver, over which wild ducks circled and skimmed and then sank into its clear waters, splashing riotously, as if they, too, were holding an "Old Boys' Reunion." It was the close season for wild fowl, and nobody knew it better than they.

Coming down into the valley, in-

numerable horses, unhitched and tied to the wagons, were to be seen. The rain had driven away the mosquitoes, and a cool breeze, perfumed with wild roses and cowslips, came gently from the West. The Watsons drove to a clump of poplar trees on which seemed to offer shade for the horses. Bugey and Tommy carried the box of bottles to the drug-store, admonished by Pearl to drive a close bargain.

Pearl went with Jimmy and Patsy, who took the green vegetables to the hotel. Jimmy had been accustomed to bringing milk to the back door, and was quite an admirer of Mr. Braden, the general proprietor.

Mr. Braden himself came into the kitchen just as they knocked at the door. He was faultlessly dressed, and in a particularly happy mood, for the first of July was one of his richest harvests, both in the dining-room and in the bar, where many a dollar would be laid on the altar of "aud lang syne"; and besides this, Sandy Braden was really glad to see all the old timers, apart from any thought of making money. He paid Jimmy for the vegetables, and gave him an extra quarter for a treat for himself and the others.

Acting on a sudden impulse, Pearl said: "Mr. Braden, you know Bill Cavers, don't you?"

"Mr. Braden said he did."

"Well," said Pearl, "they've all come to town to-day. Mrs. Cavers hasn't been here for ever so long; but Bill promised to stay sober to-day if she'd come."

Pearl hesitated.

"Well, what else?" he said.

"They're goin' to have a photo taken to send home to her folks in Ontario. Mrs. Cavers is all fixed up with her hair curled, and Libby Anne has a new dress made out of her mother's wedding one, and Bill is lookin' fine—he hasn't been drunk since that Sunday you took him away from the school when we were havin' church."

Mr. Braden suddenly stopped smiling.

"And what I want to ask you, Mr. Braden, as a real favor, is not to fill Bill up until they get the photo taken, anyway. You know how his lip hangs when he's drunk—he wouldn't look nice in a photo, to send home. Mrs. Cavers went all white and twitchy that day you took him away from church. I was right behind her, and I guess that's how she'd look in a photo if he got drunk, and she wouldn't look nice, either, and even Libby Anne wouldn't be lookin' her best, because she gets mad when her father is drunk, and says she'd like to kill you, and burn

up all your whisky, and lots of things like that that ain't real Christian. So you see, it would spoil what a picture if you let him get drunk."

Sandy Braden was not a hard-hearted man, and so, when Pearl told him all this with her eyes on him straight and honest and fearless, he was distinctly uncomfortable.

He tried to get a grip on himself. "Who told you to come to me about it?" he asked suspiciously.

"Nobody told me myself," Pearl said. "I never thought of it myself until I saw you lookin' so fine and such fine clothes on you, and you so full of good humour, and I thought maybe you're not as bad as I always thought you were, and maybe you don't know what a bad time Mrs. Cavers and Libby Anne have when Bill drinks."

"You see," Pearl continued, after she had waited in vain for him to speak, "you've got all Bill had anyway. You mind the money they saved to go home—you got that, I guess, didn't you? And you'll be losin' anything to-day, and Bill hasn't got it. He gave all the money he had to Mrs. Cavers—he was afraid he'd spend it—and that's what they're goin' to get the photo with."

Sandy Braden continued to look at the floor, and seemed to be unconscious of her presence.

"That's all was wantin' to say," Pearl said at last.

He looked up then, and Pearl was struck with the queer white look in his face.

"All right, Pearl," he said. "I promise you Bill won't drop here to-day." He tried to smile. "I hope the photo will turn out well."

"Thank you, Mr. Braden," Pearl said. "Good-bye."

Sandy Braden went back to the bar-room and told his bartender not to sell to Bill Cavers under any consideration. The bartender, who owned a share in the business, became suspicious at once.

"Why not?" he asked.

"Because I don't want Bill Cavers to get drunk, that's all," he said shortly.

"Out with it, Sandy. Who's been at you? Have the W.C.T.U. been interviewing you?"

"That's none of your business, Bob. If I choose to shut down on Bill Cavers it's nobody's business, is it?"

"Well, now, I guess it's some of my business," the bartender said. "Don't forget that I have a little interest in this part of the joint, and besides, you know my principles. I'll sell to any one who has the money—we're out for the coin, and we're not runnin' any Band of Hope."

"Now, see here, Bob, this man Cavers drinks up every cent he earns, and to-day I happen to know that he is trying to keep straight. They've come in to get a photo taken, and she hasn't been off the farm for years."

The bartender laughed.

"Bill will take a hot photo when he gets about two finger-joints and in him! No, it's not our business who buys. We're here to sell. That's one thing I don't believe in, is refusin' liquor to any man. Every man has a perfect right to as much liquor as he wants."

Sandy Braden was about to make a spirited reply, but some one called him in the office and in the excitement of the moment he forgot all about Bill Cavers until his attention was called toward him later in the day.

(To be continued)



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It makes money for farmers and dairy-men because it makes butter that brings the best prices.

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Importance of Pure Air

Dr. Ella S. Webb

A man may go for days without food and for hours without water, but deprive him of air for a few minutes and he ceases to live.

Our governments exercise some supervision of the food and water supply of the people, but the air is "free" to all, and it is left to each one to regulate the quantity and quality in her home.

Air laden with the foulest and most poisonous substances can be inhaled without immediate knowledge of the conditions, but the effects are seen later in headache, drowsiness, and other warning symptoms that, in the case of habitually unventilated dwellings, results in deficient nutrition, loss of vigor, of body and mind and of the power to resist disease.

WE'RE DIRTY AIR

We reject dirty food for our stomach while using dirty air for our lungs, organs far more delicately constructed than the digestive apparatus and needing careful consideration if we would have the best health and strength.

Go into the large majority of living and sleeping rooms in city or country, especially in winter, and you will find a reason for the spread of the white plague which is slaying thousands of our young people all over the land.

Fresh air, then, is a law of our well being. The average adult contaminates about 5,000 cubic inches of air with every breath. A ordinary respiration an adult abstracts 16 cubic feet of oxygen from the atmosphere every 24 hours, and adds to it 14 cubic feet of carbonic acid gas in the same time. Nearly one-third of the excretions of the body are eliminated from the lungs and another large proportion through the skin. Economic considerations frequently

lead householders to save fuel at the expense of health; again drafts from open windows are objectionable; also, many persons accustom themselves to an overheated room and catch cold if fresh air is admitted while sitting at work.

Science and invention are coming to our aid to overcome the first two objections, and the last can and will be overcome by the exercise of will power and the desire to be well. Public opinion is coming to favor open windows in sleeping apartments, and the sleeping porch has ceased to be a fad; the arrangements for absolute comfort of body while enjoying fresh, pure air for the lungs has been reduced to a science along those lines.

ARE WE INDIFFERENT?

In this very important matter of fresh air as a necessity for physical health it has seemed that familiarity with the subject has bred indifference.

It is of vital importance to realize that we cannot consume too much pure air, the larger the quantity the greater the amount of life giving oxygen conveyed to all parts of the body, and the larger the lung capacity the better our health and strength.

Worthy Object for Xmas Giving

Last spring a brief article on the Canadian Free Library for the Blind appeared in these columns. In that article it was stated that the library, then at Markham, Ont., was to be removed to Toronto. The removal has since taken place, and the C. F. L. B. now occupies quarters at 105 Annet street, Toronto, Ont.

The Canadian Free Library for the Blind is attempting to reach and benefit all the blind of Canada, but it is encountering various obstacles in the realization of this hope from the difficulty in securing names and addresses of those without sight and from the necessity of expending funds to defray the expense of maintenance. The board of management therefore requests all readers of Farm and Dairy who are acquainted with blind persons not now enjoying the benefits of the library to send in such names and addresses to the secretary, S. C. Swift, M.A., 8 Washington avenue, Toronto, Ont.

It is the desire of the C. F. L. B. to establish a printing department for the purpose of printing Canadian texts in embossed type for the use of the Canadian blind. There is at present no such establishment in Canada, with the result that Canadian literature is practically unavailable to our sightless citizens. Thirty thousand dollars are required to secure sufficient income to make the plan feasible. Less than a thousand of this amount is at present in the treasury of the C. F. L. B. The library asks the Canadian people at Christmas to help it to realize this plan, so worthy of assistance.

Fall Work on the Lawn

When the ground freezes, the lawn should be mulched with several inches of barnyard manure. Avoid that which is largely trash or bedding, if possible. The leachings during the winter and spring will stimulate a rapid and luxuriant growth, and this is one of the best features of the manure-mulch in the fall.

The manure-mulch should also be applied to the hardy perennial borders, and about the shrubbery. Tops of the herbaceous plants should be cut to within two or three inches of the ground, and the mulch applied right over the crown.

With tender shrubs and roses that must be protected, avoid swathine them in burlap, paper, or cornstalks to stand like mute Egyptian mummies, marring the view all winter long. Just as good a plan, as far as

protection is concerned, and a far more pleasing one, is to give some stakes, bend the tops down when no frost is in them, and tie them down with wires or small ropes. They may then be covered with leaves raked from the lawn, or with a trashy manure. If the location is exposed a 12-inch board may be staked on edge about the group to prevent the mulch being blown off. The covering ought to be severely checked.

If the lawn has been kept clean from weeds and trash, and there are no seeds or grains in the mulch much will not be there. In the spring, at the proper time, if, however, it can be removed and the tops pulled back into position.

For Rural Betterment

The most desirable communities in which to live are the communities in which people work together and cooperate in various enterprises common to the community.

One of the problems that should receive the attention of every rural community this winter is the matter of rural school consolidation. While it is not practical for every community to consolidate at this time, the advantages and possibilities of consolidation should be known and considered by everyone. Consolidation is one of the great modern movements that will tend to interest boys and girls in country life, increase the value of farm property, and better the conditions of life in the country.

Organize a Farmers' Club in your community, and by so doing improve the social advantages of your own family and of your neighbors. During the busy season when one seldom sees his neighbors, a feeling of indifference is likely to grow up in a community; which is, to say the least, undesirable. Calling a meeting by someone will interest many people in the community pleasure, add to their interest in other people, and create a feeling of friendliness and helpfulness among all; and, if the meeting results in a permanent organization that will call the members together at least once a month, it will result in great good to the community.

Hints for the Cook

Garnish boiled mutton with beet-root cut in slices and a little chopped parsley on each slice.

The flavor of salad dressing is greatly improved by the addition of a very little chopped capers or pickles.

When peeling lemons for cooking purposes, be sure never to cut any of the white skin, as it has a bitter flavor.

If the oven does not brown, sprinkle a good handful of sugar on the bottom of the oven. It will then brown the anything.

The flap of the sirloin should be cut off before it is cooked. It should be rubbed with salt for a few days, and then boiled very gently with herbs and spices in just enough water to cover. When done, press till cold. Garnish nicely before serving.

Egg shells should always be carefully saved, for they are useful for cleaning and whitening a table and mixed with salt, for cleaning enamelled pans.

Bread should always be kept in an earthenware pan with a wooden cover. Wash the pan out every week, and dry thoroughly before replacing the loaves.

Tough meat should be laid in vinegar a few minutes before cooking. This is a particularly useful hint for summer, when meat cannot be hung till tender, as in winter.

A tablespoonful of turpentine added to a boiling of clean clothes will increase their whiteness.

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The Upward Look

The Meaning of Christmas.

And the angel said unto them, Fear not; for behold I bring you good tidings of great joy, which shall be to all people. For unto you is born this day

OLD COUNTRY DOMESTICS

Capable Scotch, English and Irish makes; also Danish girls. Parties arriving twice a month.

Apply now, The Guild, 71 Drummond Street, Montreal, 47 Penbrooke St., Toronto, or 227 Bank St., Ottawa

Anything to Sell

We want to hear from every reader of FARM AND DAIRY who has anything to buy, sell, or exchange. Have you a FARM FOR SALE? Have you LIVE STOCK for which you want buyers? Have you a CREAM SEPARATOR, BABCOCK TESTER, INCUBATOR, BOOKS, or ANYTHING that you would like to exchange for cash or for other articles of value equal to yours?

The small trader can connect with possible customers by placing a small advertisement in FARM AND DAIRY. Our rate is 10 CENTS AN INCH. Bargain counter space in classified columns at 5 cents a word. Make out your advertisement and send it to-day to Farm and Dairy, Peterboro, Ont.

Farm Help AND Domestic Servants

Can be had on application to the

Salvation Army

Immigration and Colonization Dept.

Head Office, 22 Albert St., Toronto, Ont.

Our men have given satisfaction. We bring out the best class of men and take care in the placing of them.

Not One Boy need be Without Skates

(Hockey Skates)



(Spring Skates)

Your Choice

of either Hockey or Spring Skates in return for only one NEW subscription to Farm and Dairy taken at only \$1.00 a year.

A better pair — Nikkie-Plated ones—for only two NEW subscriptions.

Girls!

This Offer is for You, Too
See one of your father's neighbors after school or on Saturday. Get him to subscribe. Then write us, sending the subscription, and we will send the skates.

In ordering skates send the size of the feet in inches from the extreme heel to the extreme toe.

FARM AND DAIRY, PETERBORO, ONT.

a Saviour, which is Christ the Lord.—St. Luke 2:10, 11.

The joyous Christmas season is with us once more, with all its sacred, inspiring memories, and its promptings to the accomplishment of better things. Throughout the world wherever the love of God and of His only begotten Son, Jesus Christ, is known, the hearts of humanity rejoice at this season as during no other period of the year. It brings to our memory the greatest and most wonderful evidence of love the world has ever known, and in proportion as our hearts catch and radiate the inspiration it conveys do we rejoice in and enjoy the Christmas tide.

The beauty and the glory of the Christmas spirit lies in the fact that it is no respecter of persons. It may be found in all its beauty and fullness of power in the hearts of the rich and the mighty, as well as in the hearts of the poor and the apparently forsaken, for no one is forsaken who is conscious of God's love. The spirit of Christmas is the product and manifestation of love, and love can be found only where love abounds. And just as the poor have the same capacity to love and the same desire to be loved that all classes in the community have, so the Christmas spirit may be found in their homes as surely as anywhere else where love abounds.

Much to be pitied are those who think that the spirit of Christmas consists only in the giving and in the receiving of gifts. The deepest parts of our being recoil from anything that makes of hypocrisy and sham. Gifts that are bestowed with any other motive than a desire to manifest the giver's love for the receiver are shams, it matters not how costly they may be. In the words of St. Paul, "Though I bestow all my goods to feed the poor, and though I give my body to be burned, and have not love, it profiteth me nothing." There is an intercommunion of spirits which we cannot see but which is very real. It enables us to pierce through every disguise and to discern the real and worthy motive as well as to detect the false and the counterfeit.

"Love," St. Paul told us, in his great epistle to the Corinthians (19th chapter) "seeketh not her own." It does not worry itself wondering what others are going to do for it. It has no time or inclination for such thoughts. Instead, it is occupied to the full with its desire to manifest its love for others even if this can be done in no other way but by means of kind words, helpful deeds or encouraging smiles.

Love cannot be bought. All the wealth in the world does not enable a man to purchase love. He must first be worthy to receive it. It is because we feel this instinctively that the loving words of a true friend, even when unaccompanied by a gift, have the power to warm our hearts and shed joy along our pathway, as nothing else can.

Therefore, if we be not as happy at this Christmas season as we feel we should be, we must look for the reason in our own hearts. Are our hearts full of joy and gladness, and of loving gratitude to God because of his great gift to us? Do we desire that others should share our joy, and are we doing all that we can, even if it be in but the simplest of ways, to help them to do so? Jesus Himself told us that it is more blessed to give than to receive. In proportion as we remember that giving and strive to give from a loving heart, the best that our means afford, will this Christmas season bring joy and gladness to our hearts and to the hearts and lives of others.—I. H.

Have you forgotten to renew your subscription to Farm and Dairy?

A Christmas Carol

God rest you merry gentlemen,
Let nothing you dismay,
For Jesus Christ our Saviour
Was born upon this day,
To save us all from Satan's power,
When we were gone astray,
O tidings of comfort and joy
For Jesus Christ our Saviour
Was born on Christmas day.

In Bethlehem in Jewry

This blessed Babe was born
And laid within a manger
Until this blessed morn;
The which his mother Mary
Nothing did take in scorn.
O tidings, etc.

From God our heavenly father

A blessed angel came,
And unto certain shepherds,
Brought tidings of the same,
How that in Bethlehem was born,
The Son of God by name.
O tidings, etc.

Fear not, then, said the angel,

Let nothing you afright,
This day is born a Saviour
Of virtue, power and might;
So frequently to vanquish all,
The Friends of Satan quite.
O tidings, etc.

The shepherds at those tidings,

Rejoiced much in mind,
And left their flocks a-feeding
In tempest, storm and wind,
And went to Bethlehem straight way,
This blessed Babe to find.
O tidings, etc.

But when to Bethlehem they came,

Whereas this infant lay,
They found him in a manger,
Where oxen fed him,
His mother Mary kneeling.
Unto the Lord did pray.
O tidings, etc.

Now to the Lord sing praises,

All you within this place,
And with true love and brotherhood,
Each other now embrace;
This holy tide of Christmas
All others doth deface.
O tidings, etc.

'Twas the night before Christmas

when all through the house
Not a creature was stirring,—not
even a mouse;
The stockings were hung by the chimney
with care,
In hopes that St. Nicholas soon would
be there.
— Moore.

THE COOK'S CORNER

Recipes for publication are requested. Inquiries regarding cooking, recipes, etc., gladly answered upon request, to the Assistant Editor, Farm and Dairy, Peterboro, Ont.

To Prepare Cranberries

JELLIED CRANBERRY

Wash and look over one quart of berries. Sprinkle over them one pint of sugar and one pint of water. Cook slowly. When they begin to boil cover over a few moments and cook until tender, but do not allow skins to break. Pour into a mold. The juice will be firm, including the berries, which makes an attractive and delicious dinner accompaniment.

THICK CRANBERRY JELLY

Wash one quart of berries, add one pint of water, and boil five minutes. Press through a sieve, return to kettle, and add one pound of sugar. Stir until sugar is dissolved, boil for a minute, and turn into a mold. Stand over night in a cool place before serving.

The Sewing Room

Patterns 10 cents each. Order by number and size. If for children, give age for adults give bust measure, sure for waist, and waist measure for skirts. Address all orders to the Pattern Department.

CHILD'S PAJAMAS, 7233

Both little boys and girls wear pajamas in these days, and they are exactly alike for the two sexes. They can be made from any material that is liked for sleeping garments.

For the 4 year size will be needed 3-14 2-12 yards 36 or 2 yards 44 in wide.

This pattern is cut in sizes for children of 2, 4 and 6 years of age.

BOY'S MIDDY SUIT, 7244

The middy suit is one of the newest and latest for small boys. It is very charming, very attractive and so suggestive of the sailor that the little lad himself is sure to be happy while wearing it.

For the 6 year size will be required 1-12 yards of material 27, 2-8 yards 36, 1-7 yards 44 inches wide with 2-4 yard 51 or 27 for collar and sleeve trimming, and 1-14 yards 44 inch width for the shield.

This pattern is cut in sizes for boys of 4, 6 and 8 years of age.

COATLE BLOUSE, 7186

The coatle blouse is exceedingly smart this season and this one is especially appropriate for many materials. It can be made with the most pointed revers or without them and finished with fancy banding. The peplum is joined on a slightly raised waist line and the blouse is altogether a most satisfactory one.

For the medium size will be required 3-14 yards of material 27, 2-4 yards 36, 2-18 yards 44 inches wide with 1-14 yards of all over lace 18 inches wide for the chemise and under-sleeves.

This pattern is cut in sizes 34, 36, 38, 40 and 42 inch bust measure.

SKIRT FOR MISSES AND SMALL WOMEN, 7222

The skirt that is cut with side seams only is one of the best liked just now. This one includes also the panel feature that is to be noted in the latest models. It gives the straight and narrow effect, yet it is not exaggerated in any way.

For the 16 year size will be required 3 yards material 27, 2-13 yards 36 or 44 inches wide, with 1/2 yard of any width for the panels, width of skirt at lower edge 2 yards.

This pattern is cut in sizes for misses of 14, 16 and 18 years of age, and will be mailed to any address by the Fashion Department of this paper on receipt of ten cents.

CARE IN ORDERING PATTERNS

Be sure and state size, also number of pattern desired. Illustration and measurements. Order by number and size only.

How to Completely Cure

the ailments of farm stock is sold in a Fleming's Veterinary Adviser. A 96 page book, indexed, free. Write us for it and learn how to cure.

Fistula and Poll Evil
Even cases considered hopeless are promptly cured, with very little trouble, by using Fleming's Fistula and Poll Evil Cure. Your money back if you fail to get what we claim.

FLEMING BROS., Chemists,
83 Church St., Toronto, 10



SYNOPSIS OF CANADIAN NORTH-WESTERN SELECTIONS

ANY PERSON who is the sole head of a family, or any male over 18 years old, who is homesteaded a quarter section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Land Agency, or Sub-Agency, for the District. Entry by proxy may be made at any agency, on certain conditions, by the mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a tender in good standing may pre-empt a quarter-section alongside his homestead, at a price of \$3.00 per acre. Duties—Must reside upon the homestead or pre-emption six months in each of three years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption, may enter the purchased homestead in certain districts. Price \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. F. COOKE,

Deputy of the Minister of the Interior.
N. B.—Unauthorized publication of this advertisement will not be paid for.

NEWVERMIFUGE

The best and most effective remedy for Bots and other worms in horses.

(Guaranteed by the Farmers' Horse Remedy Co., under the Pure Food and Drugs Act, June 30, 1906. Serial No. 31571). It is guaranteed to kill and bring from the body dead in from 12 to 24 hours all pin worms and bots.

It is absolutely harmless and can be given to horses in foal before the offspring is born. Practical horse owners have written to Newvermifuge has removed the distress and annoyance caused by worms from a single horse. An animal whose stomach is full of worms cannot get fat or help being obstinate. Send your order to-day. Beware of imitations.

Farmers' Horse Remedy Co., Dept. A.S.
592 - 7th St., Milwaukee, Wisconsin.

SANITARY, ARTISTIC and FIREPROOF is the verdict of the critic concerning

Metallic Ceilings and Walls

and they are moderately priced and so easily laid. A splendid range of new colors and standard sizes for selection.

Write us for artistic booklet telling all about them. Where, Park, Inc.

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HOLSTEIN-FRIESIAN NEWS

Farm and Dairy is the official organ of the Canadian Holstein-Friesian Association, all of whose members are readers of the paper. If you are not the Association are invited to send items of interest to the breeders for publication in this column.

HALEY BROS.' HOLSTEINS

As stated in the gossip column of the December 7th issue of Farm and Dairy, the breeders of Farm and Dairy are presently the two great Holstein herds owned by Haley Bros., of Springfield, Ont. He has won some 175 prizes and has won some 600 honors during the past few years, not only in the dairy tests at Guelph, where they have repeatedly carried off the sweepstakes championship, but also at the Toronto and London Exhibitions, where their prizes captured the majority of the prizes. These two herds comprise many very fine animals. The Mears Haley have two fine farms that stock on each other. Both farms have usually good buildings, silos, and other advantages that make it possible for the Haley Bros. to keep their stock under the most favorable conditions. Although they have been breeding Holsteins during only the last seven years, they have already developed two of the best herds in Canada. Their ability as breeders has been shown through the success of their prizes. They have won, but by the fact that they have attended auctions sales and bought in animals that others prefer allowed to be sold at low figures. Both farms have good judgment, they have developed into animals that have been noted, both as producers and in the show ring. Both brothers kept grade Holsteins and pure bred sires for years before they undertook to breed nothing but pure breeds. Consequently, the experience they gained in this way has been of value to them. In order to keep their stock as far as possible, they have made a specialty of developing Holsteins testing high in butter fat, and their efforts have met with considerable success. Their show

M. L. Haley's Herd

One of the outstanding cows in the herd of M. L. Haley is a cow named De Kol, now nine years old, which won the sweepstakes in the Guelph dairy test in 1908. She is a cow making the highest three-day record both in the open and been a time in a public test. This cow has a seven-day record of 27.02 lbs. of butter. She has a one day record of 11.41 on strict dairy lines. She will freshen this month and her calf, whether male or female, will be offered in the great Holstein sale at Tillsonburg on January 2. This grand cow has a great udder, full milk veins, and she has the wedge shape so much desired by breeders. She is mostly white.

Her daughter, Lady Aaggie De Kol 2nd, a four year old, is more black than her dam, and is a larger cow, being full built deep behind the shoulder, strongly built throughout, and showing nice square quarter. At a year and 11 months she made a record of 10.97 lbs. of butter. A choice cow in the Farm and Dairy herd, the first and grand champion female this year at London, and a winner at Toronto. She has a one day record of 11.41 on a five-year-old in 10 months, and a seven day record of 503.09 lbs. of milk and 21.05 lbs. of butter. She is a cow with a vigorous constitution showing a large muzzle, bright eye, length and depth, a magnificent udder, and milk veins that reach almost to her shoulder.

Another great individual, in fact in the opinion of many an animal superior to Jimmie De Kol, is a cow named the sweepstakes cow this year at Toronto. She is a larger animal than Jimmie with

not only a well sprung open rib, broad quarter and prominent hump, but she also has a great udder and good veins. She is a magnificent specimen of the breed.

Lantha Mechilde Jewel is out of the champion cow. She is a two-year-old, due to freshen in the fall. Her dam she takes after her dam, being a fine, large heifer, mostly white and showing depth and a strong constitution. She has a record of 252.8 lbs. of milk and 11.81 lbs. of butter.

Aaggie Corneilus Bosch is a beautiful five-year-old cow. She is mostly white in color, she is a splendid handler with a full well swung udder, and well placed teats. She is a cow showing width between the hook bones and a broad quarter, and is a show yard type of animal. She has a record of 252.8 lbs. of milk and 11.81 lbs. of butter for seven days.

Colantha Queen De Kol, now nine years old, is much the same type of a cow as Lady Aaggie. She has length, constitution and dairy form, with an excellent udder. She has a record of 252.8 lbs. of milk and 11.81 lbs. of butter.

Another fine type of a cow is Fairy Favourite, a six-year-old that has a five-year-old record of 429 lbs. of milk and 17.08 lbs. of butter for seven days. Her dam has a record of 15,000 lbs. of milk in 368 days. She is a nice dairy type, with good legs and feet, and a fine udder. One of her daughters, Fairy Favourite Mercena, has a two-year-old record of 352 lbs. of milk and 15.35 lbs. of butter in seven days. This latter animal, now four years old, is even larger than her dam, but otherwise much the same type of a cow as her dam.

Another fine cow in the Haley herd is a four-year-old, possessing pronounced dairy characteristics and a great milk udder. She is a fine specimen of a home-bred Favourite Mercena, not yet two years old, that is straight as a die, and possesses the makings of a very fine cow. King Beet Segis, a grand-daughter of King Segis, has a record as a junior two-year-old of 25.5 lbs. of butter in seven days, her average per cent of fat for seven days being 4.7 and for 30 days 4.9. She has a day's record of 89 lbs. and is an excellent milk producer. Her dam, Johanna, a four-year-old, has a grand muzzle, splendid barrel, strong top line, and a fine udder. She has a record of 329 lbs. of milk and 12.67 lbs. of butter.

A fine type of a show cow is Bonnie Lindy, a four-year-old cow. She has never freshened at a time when she could be tested. She has length and depth, a great udder, and broad quarters. She is sold for a nice figure at the Tillsonburg sale next month.

(To be continued.)

ONE OF CANADA'S GREATEST HERDS OF HOLSTEINS; HERD OF EDWIN LADLAW & SONS

(Continued from last week)
Three sables of this great herd are now in the herd. These include Belle Dewdrop 5th, one of the nicest heifers in the stable, having a record in the Record of Performance as a junior two-year-old of 14,068 lbs. of milk and 563 lbs. of butter, and a record as a three-year-old of 443 lbs. of milk and 17.08 lbs. of butter for seven days.

Another daughter is Belle Dewdrop 6th. Her seven day record was 443 lbs. of milk and 17.08 lbs. of milk and 21.33 lbs. of butter for seven days and 2,009 lbs. of milk and 82.2 lbs. of butter for 30 days. This is a fine specimen of a cow, showing nice open rib, good, strong top line, a well shaped udder capable of carrying loads of milk. She is a cow that has a third daughter, Belle Dewdrop 8rd, was under test at the time of our visit. She has a nice udder, and is a cow that shows her dam, being a nice handler and showing the same wedge conformation, but is larger and has a more square great things.

A cow of great merit is Molly of Bayham, a four-year-old cow. She is mostly white, showing a great middle and the throat and the shoulders, which denotes great lung capacity. This is also shown by her strong back and great width between the hooks. As a four-year-old she has a record of 546 lbs. of milk and 24.50 lbs. of butter for seven days and of 2,515 lbs. of milk and 101.6 lbs. of butter for 30 days. She also has a private record for 19 months of 19,875 lbs. of milk.

A stylish looking cow, low set, strong and with milk veins running well up to the foreleg, due to call this month, is Belle Texa Fisterlee. She is a six-year-

old and has a record for seven days of 514 lbs. of milk and 22.35 lbs. of butter, and for 30 days of 2,227 lbs. of milk and 103 lbs. of butter. She is in the Record of Performance where she has already made the exceptionally fine record of 19,023 lbs. of milk in 11 months 20 days. This great cow is offered in the coming year at the Tillsonburg sale on January 2nd. Her daughter, Pauline Texal, at four years and four months produced in seven days 529 lbs. of milk and 25.35 lbs. of butter. In the Record of Performance she gave 15,283 lbs. of milk and 557 lbs. of butter in 10 months 20 days. Her daughter, Robert and does both him and her dam record. She is a larger cow than her mother and shows other things, shows a nice, square quarter. One daughter and two granddaughters of Lord Roberts DeKol that have not freshened yet are a fine lot, that promise great things.

One of the promising daughters of Lord Roberts DeKol is National Queen DeKol. Her dam was a second prize winner at the National Dairy Show in Chicago, 1906 and was a champion cow. She has made a seven-day record of 460 lbs. of milk and 18.15 lbs. of butter, and for 30 days a record of 2,170 lbs. of milk and 97.75 lbs. of butter. Her persistence as a milk producer is shown by the fact that at the same age, eight months after calving, she produced 506.52 lbs. of milk and 25.83 lbs. of butter in seven days and 604 lbs. of milk and 26.74 lbs. of butter in 14 days. The same year in the Record of Performance she produced 14,735 lbs. of milk and 632.5 lbs. of butter in 10 months 10 days.

Another fine cow in the stable is Princess Susie Malhade, a four-year-old, with a record for seven days of 529 lbs. of milk and 23.39 lbs. of butter, and for 30 days of 2,216 lbs. of milk and 90.75 lbs. of butter. This is a strong, hearty cow, deep in the body and large in the barrel. As a two-year-old in the Record of Performance she gave 11,773 lbs. of milk and 475.25 lbs. of butter, and as a three-year-old 12,167 lbs. of milk and 543.44 lbs. of butter. This latter record was made in 302 days, she being milked only twice a week.

Another cow, possibly not equal to some of her stable mates but a fine individual cow, is a four-year-old cow named a four-year-old that had just freshened at the time of our visit. Her record for seven days was 443 lbs. of milk and 17.08 lbs. of milk and 18.63 lbs. of butter. Her latest record, completed since our visit, is 521 lbs. of milk and 21.68 lbs. of butter in seven days. Two of her daughters will be entered in the sale next month.

Two two-year-olds that have shown their merit are Calamity Jane Ormsby and Calamity Tenke DeKol. The former, now two years and two months old, has given 41,154 lbs. milk and 50.02 lbs. of butter in seven days and 1,710 lbs. of milk and 74.39 lbs. of butter in 30 days. This record was made when she was on three legs and when she was suffering severe pain with a trouble in a fore leg.

Breeders DO YOU EVER CONSIDER

How Much You Have Lost

or how much business you do not get

Because Some One Does Not Know

You have for sale the stock they want and which they buy from the other fellow who advertises?

Take the progressive, paying way of getting buyers for your live stock—Advertise in Farm and Dairy.

Your advertisement in these columns will cost you only our low flat rate of 98 cents an inch. So in your advertisement you can get

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OUR FARMERS' CLUB

Correspondence Invited

PRINCE EDWARD ISLAND

KINGS CO., P.E.I. LOWER MONTAGUE, Dec. 11.—We are having very fine weather, no snow or frost yet. This is shortening the winter and helping out the feed. Most of the hogs have been killed. The price has dropped to 71¢ for hogs of from 80 to 100 lbs.; heavy pork, 4¢ to 5.15¢. Hay has advanced to 81¢ and will go higher. Other prices remain about the same.—G.A.A.

QUEEN'S CO., P.E.I.

BAY VIEW, Nov. 30.—Grain crops in the centre county of the island, Queen's, and the western county, Prince, were a good average. In the eastern county, King's, the rainfall was much too light and the crop was below an average. The summer was hot and the oats are not in as good flesh as usual. The potato crop was a fair average. Oats are now selling at 44¢ and potatoes 35¢. The turnip crop is one of the heaviest we ever had going from 700 to 1,000 bush. to the acre. There has been a slump in lambs. Last year we got 8¢, now they are only 5½¢.—W.S.

QUEBEC

MISSISSOUI CO., QUE.

FRELIGHSBURG, Dec. 1.—The weather has been very desirable for the past month, and fall plowing was cut short on the 15th by a heavy fall of snow, with good sleighing for a few days. This was followed by heavy rains, and has filled the springs to some extent, which have been very low the past season. Threshing is almost through, with a good yield of grain. Butter is selling at 31 cts.; hogs, 81¢; eggs, 35 cts.; and potatoes, 75 cts. to 1.—C.A.W.

ONTARIO

HASTINGS CO., ONT.

CHAPMAN, Dec. 15.—We are enjoying very warm weather and the frost is entirely out of the ground. Only the occasional wet weather prevents the farmers from plowing again. Hay is selling for 81¢; oats, 50¢ a bus.; peas, \$1.30 a bus.; and hogs for 5¢ a lb.; 12¢ a lb. is being offered for turkeys.—H.S. Tucker.

NORTHUMBERLAND CO., ONT.

WICKLOW, Dec. 12.—Recent rains have completely done away with the winter famine. Hay is scarce, but there seems to be a fair supply of other kinds of fodder. Those having silos are highly pleased with their results. Our cheese factory has just closed a very successful season's work. Stock so far has wintered well.—E. B. H.

CARTLETTON, Dec. 13.—Feed is quite plentiful. The frost is out of the ground again, and some farmers are plowing. Hogs are down. Potatoes are scarce and are selling for \$1.50 a bag.—H. P. M.

WELLINGTON CO., ONT.

FERGUS, Dec. 6.—We have had the best of sleighing since the snow came, although one or two mild days would spoil it. Threshing is almost finished, some farmers having as much as 1,000 bushels less of grain this year, while the straw is being fed, some "like snow in summer." Oats are 43¢; barley, 80¢; peas, 90¢; buckwheat, 55¢; butter, 35¢; eggs, 22¢; hogs, 85¢; hay, \$4.50 a ton; 85¢; hay, 11¢; choice cattle, 45¢; potatoes, bag, \$1.15; chickens, 15¢; ducks, 12¢; geese, 12¢; turkeys, 18¢.—W.B.

WATERLOO CO., ONT.

AYR, Dec. 13.—We are having a mild spell. We may get a chance to finish some of our plowing, as a number did not get through last fall. The Agr. Farmers' Club and Women's Institute held a very successful banquet on Dec. 5th, about 150 present. The ladies provided the luncheon and the men the program of toasts interspersed with music by a local orchestra and a concert band. It was voted by all a very enjoyable event and done much for the social side of our lives, bringing us closer together.—G. B. S.

but the good farmers who grow corn and have silos have quite a nice lot of feed. Our stables are not filled with feeders as in other winters, but most people have a few young cattle feeding. Hay is very scarce and high. Straw is hardly procurable by town people at any price. Oats are about 40¢; barley high; potatoes, \$1 a bag; apples, 83 to 50¢ a barrel; beef, 89 to 810 per quarter; dressed hogs, 85¢; butter, 27¢. With eggs 40¢ and poultry away up will make working people look round at Christmas time, but we farmers have no kick. We have our milk and cream, butter, poultry, eggs, fruit, potatoes and meat of every description, with a good supply of dry wood stored in the cellar, so we are ready for the winter when it comes.—C. H. S.

WENTWORTH CO., ONT.

KIRKWALL, Dec. 11.—Nearly all farmers in this vicinity are scarcely doing anything excepting chow. The past week has been very mild, somewhat similar to April weather. Everything has been very quiet in regard to the election, more interest having been taken in the previous Dominion election. A large number of auction sales are being held, at which everything is selling for good prices, especially in the line of feed, oats going as high as 60¢ and hay \$23 a ton. Considerable discount is observed among farmers. Many are going west, others to the cities and still others to New Ontario. Hogs are selling at 85.25¢; wheat, 80¢; potatoes, \$1.50 per bag.—C.A.W.

OXFORD CO., ONT.

WOODSTOCK, Dec. 13.—We have very fine weather for a couple of days, but the roads are very soft. A few of the farmers are going west, but nothing is being put, but very little of the land is fit for it. Sod on gravel bottom seems all right. Milk is very high just now, paying 14¢ a cwt. Never knew eggs to be so dear—40¢ a doz. in Woodstock.—Alex. M. McDonald.

ELGIN CO., ONT.

TALBOTVILLE, Dec. 6.—A farmer who lives near here, besides growing splendid crops of grain, hay and corn, as a side issue, raises abundance of market garden produce. From 150 tomato plants, his first picking was 90 lbs., for which he got on average 10¢ a lb., or \$9. Many other pickings followed, for which good prices were received. From 1 ounce of onion seeds he got nearly 400 bushes. Spinach, beets, carrots, cabbage are also grown to good advantage and all finds a quick sale. He says there is good money in a small market garden.—J. E. O.

ESSEX CO., ONT.

ARNER, Nov. 30.—Corn husking is about completed. Owing to so much rain it has been a difficult matter. The fields are as wet as they would be in the spring. The corn is a very good quality and much of it would be suitable for feed. Tobacco buyers have been through buying part of the crop, the prices ranging from 10¢ to 15¢ a lb. Prices for farm produce are: Hogs, 85.50¢; wheat, 85¢; corn, 65¢; oats, 40¢.—A. L. A.

BRUCE CO., ONT.

RAVENNA, Nov. 30.—The snow has disappeared, leaving the roads quite slushy. A large number of hogs were shipped from Thornbury on Wednesday, the prices being 85¢ a head. The price of corn is a long time since grain has been so high. Some think that it pays to sell, at least it is less work. It looks as if the country is improving by the number of sulphur poles that have been erected during the fall. Those that went to the west last summer to come home and speak in glowing terms of that famous country. Butter is 25¢ to 30¢; eggs, 28¢ to 30¢.—G.B.

NISSISSING CO., ONT.

COCHRAN, Dec. 6.—The manager of the Government Experimental Farm, Mr. Winn, visited Cochrane on Saturday last and reports a successful wintering operation and reports a very good yield of grain. If the north county in the near future. Potatoes, \$1.75; butter, \$1.75; beans, \$1.60; corn meal, \$1.25. Snow has fallen to a depth of 11 inches on the flat.—E. S.

BRITISH COLUMBIA

NEW WESTMINSTER DIST. B.C. CHILLIWACK, Nov. 35.—Have had the first of our earliest snows, but not too much, and lasting until Nov. 19th. Many turkeys were out, but the frost was not enough to stop them, and they are round what ever. The ground is now filled with water, and the wells are again replenished. Stock went into winter quarters in fine condition, and we have a good start to face a short supply of feed, which is quite common with some farmers here.

3 FEEDS FOR ONE CENT. This is all it costs you to keep your stock in prime condition with the world's most famous animal tonic— International Stock Food. Every cent invested in this wonderful health-giver, brings back dollars in strong, healthy horses, cows, sheep and hogs. Careful tests show that 4 quarts of oats and the regular feed of INTERNATIONAL STOCK FOOD will keep horses in better condition than FIVE quarts of oats without it. INTERNATIONAL STOCK FOOD will make your cows gain 1 to 4 quarts of milk per day. Nothing like INTERNATIONAL STOCK FOOD for fattening animals for market. Your hogs need it. Ask your dealer for it. We have a copy of our \$3,000 Stock Book for you. Send us your name and address, and tell us the number of head of stock you own. INTERNATIONAL STOCK FOOD CO. Limited TORONTO, ONT. CAN. MENTION THIS PAPER.

GAMBELLFORD!

WEDNESDAY, THURSDAY AND FRIDAY January 3rd, 4th and 5th, 1912. This is to be the place and date of the THIRTY-FIFTH ANNUAL CONVENTION OF THE Eastern Ontario Dairymen's Association. Be sure and come and hear some of the big men talk on subjects that mean real dollars and cents to the live dairymen and dairy farmer. Special railway rates are arranged for and a big crowd is expected. Don't miss the Convention this year! Write to the Secretary for a copy of the programme.

H. GLENDINNING President MANILLA, ONT. T. A. THOMPSON Secretary ALMONTA, ONT.

BREEDERS' DIRECTORY Cards under this head inserted at the rate of \$4.00 a line per year. No card accepted under two lines, nor for less than six months, or 1 insertion during twelve months. CLYDESDALES, Imp. Stallions and Fillies. Fresh Importations always on hand. Every mare guaranteed in foal. J. A. J. Temple, Milverton, Ont., and Laverne, Minn., U.S.A. HAMPSHIRE PIGS—Canadian Champion herd. Boar head headers. Bows three months and under.—Hastings Bros., Crosshill Ont. CLYDESDALES—Toms of Acme. (Imp.) Holstein—Home of King Fingers Beggs. Holstein, bestross 7 dams 7 lbs. butter per week, and Broken Welsh Fannies—E. M. Holby, G.P.S., C. Macintosh, Ont. Myria, G.P.B. FOR TAWMOUTH SWINE—Write John W. Todd, Corlinton, Ont., R.F.D. No. 1. YORKSHIRE AND TAWMOUTH HOGS—Plymouth Rock and Orpington Fowl.—A. Dynes, 434 Parkdale Ave., Ottawa. HOLSTEIN AND TAWMOUTH—All ages, also E.C.W. Lehigh and Yorks for sale at any time.—J. McKennie, Willowdale, Ontario. TAWMOUTH SWINE—Choice stock for sale all time at reasonable prices. Correspondence invited.—Wm. Keith & Son, Listowel, Ont. Bell phone.

December 21, 1911

WOODCREST HOLSTEINS

A few choice Bull Calves for sale; six to ten months old. Some of Homestead Girl De Koj Sarcastic and grand-sons of Pieterjet 22nd. Recently tuberculin tested by a U. S. inspector Write for pedigrees and prices.

WOODCREST FARM

RIFTON, ULSTER CO., - NEW YORK

GLENSPIRIG HOLSTEINS

bulls from officially tested dams. One, 13 mos. old, sired by Inka Sylvia Beta Posch, is out of lady Bessie, which made with her first calf at 2 years 12 lbs. butter in 7 d. 3 m. after calving. Another, 11 mos. old, sired by the champion, broodmare of the world's champion 2-year-old, is out of Daisy Virella, averaged over 15,000 lbs. milk, milked twice a day for 3 consecutive years. Here is an exceptional opportunity to buy a good sire at the right price.

E. B. MALLORY, FRANKFORD, ONT.

HOLSTEINS

We have Record of Merit and Record of Performance pure bred Holsteins. Five young bulls, one of which, sired by Paul De Koj, One yearling bull (extra) by Sir Beets De Koj Posch. Write for particulars. I must sell to make room. My cows are beginning to freshen and I need the room for the increase. Phone connections at St. Thomas. E. C. GILBERT, FAYNES MILLS, ONT.

HOLSTEINS

If you are wanting HOLSTEIN any age, either sex write GORDON R. MANHARD, Ontario. Manhard Ont

DAMS
24.897 LBS.
20.65 LBS.
19.67 LBS.

Of the three best and best females I have consigned to the "Breeds" Sale at Tillsonburg, I. N. and all are worthy of your special investigation and bid at the sale. Dam of one bull calf I offer has record of 24,897 lbs. butter in 7 days. Another has record of 19,657 lbs. butter-a cow Geo. Rice imported. One bred bull has record in lat. Price Cow at Guelph Winter Fair and lat. at Ottawa Dairy Test last winter—36.65 lbs. as a 4-year-old. The females are good young cows. One of them, Mercedes Canary Pieterjet, Geo. Rice called her dam one of the best cows ever owned. Sir has record of 17 lbs. in a 4-year-old her dam, Queen Mercedes, 22 lbs. butter in 7 days. All to be sold absolutely without reserve. Get a catalogue for full particulars.

R. J. KELLY

TILLSONBURG, - ONTARIO

FAIRVIEW FARMS HERD

Some of Pontiac Korydake, sire of the (world's) record cow Pontiac Clothilde De the sire of seven daughters whose 7 day records average 31.13 lbs., each, unweaned by the daughter on any other sire of the breed living or dead. He is the sire of the youngest bull of the breed to sire a 30 lbs. daughter. We also offer some of Rag Apple Korydake, whose dam Pontiac Clothilde De Kol 2nd, 30 (world's) record giving this young sire's dam and her 7 days record of 34.1 lbs. each.

We have in service, and can offer you sons of Sir Johanna, Colantha (dad), a cow of the highest record daughter of Homestead De Koj, 20 daughters. One is a cow of Colantha Johanna, who is a record of 35.25 lbs., making his dam and sire's dam average \$52 lbs. each, which is higher than that of any other sire of the breed. Let me send you anything you want in first-class Holsteins; young sire or Speciality. E. B. DOLLAR, NEWBOLT, St. Lawrence Co., N.Y. Near Prescott, Ont.

HOLSTEINS

WELCOME STOCK FARM HOLSTEINS

We have at the head of our herd King Blanche Loren whose two grand dams have a seven-day record of over 33 and 34 lbs. respectively. We have also grand daughters of Pontiac Korydake, the only sire having two 37-lb. daughters, and King granddaughters of Pieterjet Hengerveld Court, the sire of the world's champion of Colantha 4th Johanna, whose yearly record stands unchallenged.

J. LEUZLER and C. BOLLETT CASSEL - ONT.

One Year Old, Good Size and dam from a team of cows. Dam also grand-daughters very high producing 1st P. cows—most popular families; for sale cheap, early buyer.

C. PUFF BRED Tamworth Pigs, either sex.

A. CURR NELLES, Boston, Ont.

FERNDALE STOCK FARM

Clydesdale Horses and Holstein Cattle were never stronger than now. We have 4 or 5 bulls from Korydake King Scillar, who is closely related to Pontiac Korydake, who sired two 37 lb. cows. Also 6 or 7 yearlings, 2 years old, bred to freshen from now on. C. P. R. station, Mt. Elgin, Phone 167.

FIEMRELLER BROS. - Mt. Elgin, Ont.

LAKEVIEW HOLSTEINS

Bull calf born March 25th, 1911, sired by Count Hengerveld, Payne De Kol and out of Rose Batten, 34.19 lbs. butter in 7 days; another one calved March 24th, 1911, sired by the same sire out of Suka Sylvia 4th De Kol, 21 lbs. butter in 7 days and 29 lbs. butter in 10 days. Write for these and several others equally good. Telephone. E. F. OSLER, BRONTE, ONT.

HOLSTEINS FOR SALE

Bull calf born May 15. A fine individual of good breeding; also some cows from my noted dairy herd of Holstein grades, in line of Oliver Mercona. Write for particulars.

R. B. Brock, Box 10, Jarvis, Ont.

Lyndale Holsteins

Offers two, young bulls born September, 1910, one of them from a team of sires of Brightest Canary and sired by a son of 20.25 lb. yearling daughter of Hengerveld De Kol.

BROWN BROS., LYN, ONT.

Purebred Registered HOLSTEIN CATTLE The Greatest Dairy Breed See FOR FREE ILLUSTRATED BOOKLETS Holstein Friesian Assn., Box 148, Bantelboro, Vt

A Great Combination

Bulls, eight months old, for sale, offering the blood of Pontiac Korydake in their pedigree, whose milk contains 16% butterfat. These are the two greatest Holstein-Friesian bulls in America.

A. A. FARWELL, OSHAWA, ONT.

FOR HOLSTEIN BULL CALVES

SALE bull, born Feb. 1, whose four near, set dams average 27 lbs. of butter in 7 days. Another born May 15; dam first days in Canada, set her age to make 30 lbs. of butter in 7 days. Bull calf born Jan. 10, dam, daughter of same dam of number calf with official record at 5 years and 13 days of 14.98 lbs. butter in 7 days. Also 20 lbs. bull. David Caughill, Yarmouth Centre, Ont.

Summer Hill Holsteins

Present offering: 15 yearling heifers in calf, 10 imported heifers (some bred), 1 bull calf from a 35-lb. dam, bull calf set dams average 27 lbs. of butter in 7 days. Another born May 15; dam first days in Canada, set her age to make 30 lbs. of butter in 7 days. Bull calf born Jan. 10, dam, daughter of same dam of number calf with official record at 5 years and 13 days of 14.98 lbs. butter in 7 days. Also 20 lbs. bull. David Caughill, Yarmouth Centre, Ont.

Mr. Kelly is also offering six females, all young, cows out of tested stock. Mr. Kelly now has in his stable 12 lactating milch particulars of breeding of his cattle at sale and call on him when you are at 704 street.

HOLSTEINS

Centre & Hillview Holsteins

Head headed by Sir Sadie Cornucopia Clothilde—the average of 12 lactating in 62.73 lbs. milk, 20.38 lbs. butter in 36 days. Also Sir Shadeland Selgin, whose 14 nearest daughters average 24.5 lbs. butter in 7 days. Also some bulls from Brookhills Butter Baron, who is sire of champion 2-year-old 30 days, 2-year-old 7 days, he has 25 daughters in 10 months. We own the Champion of Canada Junior 2-year-old giving 21.24 lbs. butter in 7 days and 31 lbs. in 30 days; also a 2-year-old giving 23.83 lbs. butter in 7 days and 35.7 in 30 days. FOR SALE: Bulls up to one year old, also females, all ages, with official backing.

P. D. E E
Oxford Centre P. O., Ont.
Long distance phone, Woodstock Station.

PENINSULA FARM HOLSTEINS

Young bulls for sale from Record of Merit cows and Winter Fair prize winners. Prices reasonable. H. T. PATTERSON, ALBORN JCT., ONT.

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We offer bull calves, all ages, and all out of tested dams. One is a son of Sir Johanna, Colantha Glad, best daughter of Colantha Johanna Lad and Pontiac Korydake, and from a 25 lb. three-year-old dam. Also HORN DORSET SHEEP and YORKSHIRE PIGS.

H. LORNE LOGAN, Manager Brockville, Ont.

AUCTIONEER

My lifetime has been made devoted to the breeding of Holsteins and selling Dairy Cattle. Have sold sales from the Atlantic to the Pacific. My experience is up to you—ROBERT E. HAEGER, ALGOQUINN, ILL.

BROOKSIDE HOLSTEIN FARM

Offers a beautifully marked Young Bull, whose 4 nearest dams average 21.5 lbs. of butter in 7 days. His sire is a grandson of "Jessie Veeman A," the best type of a Holstein cow in America; his dam is sired by "Johanna Rue 4th's Lad," who carries "Lad"—80.00 lb. Several other choice ones, both sexes for sale. Write for pedigree, photos and prices. W. L. LAMKIN, FORDWICH, ONTARIO.

RIVERVIEW HERD

Offers bull calves from 2 to 10 mos. old Sired by KING IREBELLE WALKER, whose 3 nearest dams also sired average 20.18 LBS. BUTTER IN 7 DAYS and 11.97 lbs. in 30 days from dams of likewise breeding, as exceptionally low figure, to P. J. SALLEY, LACHINE RAPIDS, ONT.

Cloverleaf Holsteins

Herd bull, Cloverleaf Favorit Choice One Cow sold for export to S. Africa. His sire has 7 sisters with 31.15 lbs. average of Fafortis in a direct line. Dam, Cloverleaf Fafortis Mercona, is the fifth generation being tested in six months after calving, is now just completing her year, some of her calves are now averaging 14,000 lbs. milk and almost 600 lbs. butter. Several good Cows and Heifers, in calf to be sold at sale. Also, two Bull Calves, one by Sir Adolph Ormstrong, one a record. A. E. Smith & Son, Millgrove, Ont.

AYRSHIRES

BREEDERS!

ONE INCH SPACE Same size as this will cost you only 98 cents in Farm and Dairy 1 costs more to keep your surplus stock this winter. Send Your Advertisement To-Day FARM AND DAIRY, PETERBORO, ONT

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World's Champion herd for milk and production. Some young bulls and bull calves, all from first class service. Ayrshire pigs, all age. First prize bull and sows 18 months old. Apply to WOODDISSE BROS., Tangleyville Farm ROTSEAT, ONTARIO

Ayrshires and Yorkshires

FOR SALE—High class Ayrshires, all age, including three bulls for service. Yorkshire pigs, all age. First prize bull and sows 18 months old. Apply to HON. W. OWENS, ROBERT BINTON ROBERTSON, Riversdale Farm, Montebello, Que

CITY VIEW AYRSHIRES.

R. O. P. cows and two-year-old heifers for sale; one yearling bull and a fine lot of 1911 bull calves. Prices reasonable. Write or phone. JAMES BEGG, R. R. No. 1, St. Thomas.

BURNBIDE AYRSHIRES JUST LANDED

12 Bulls fit for service. Best winners. 12 one year old heifers, all bred to freshen in Sept. 2 years old heifers, all from a strong lot of useful heifers with good tests. Also a few good yearlings. R. R. NESS, - HOWICK, QUE

CHOICE AYRSHIRES

FOR QUOTE—One bull 11 months old, one 3 months old two Feb bull calves—grand, large one from R.O.P. cows. A few choice one females. High producers, good tests and speciality. Prices reasonable considering quality. Write or come and see. WILLIAM THORN, LYNDICOE, ONT. Trout Run Stock Farm, long distance phone in house.

RAVENSDALE AYRSHIRES

Special offering of a splendid lot of young bulls, from two to 12 months old. Write for prices and send them. Prices reasonable. W. P. A. V. Ravensdale Stock Farm. G. I. ST. ARMAND PHILIPSBURG, QUEBEC

AYRSHIRES

For Sale—One yearling bull and three 1911 bull calves, also grade heifers in calf. Jno A. Morrison - Mt. Elgin, Ont.

THE SPRINGBANK HERD OF AYRSHIRES

Contain now 20 of the Champion milk and butter producers than any other herd in America. A few choice bull calves from record bred dams. Write for reasonable prices. Address A. S. TURNER & SON, Eylemans's Corners, Ont. 3 miles south of Hamilton.

HOLSTEINS

HOMESTEAD HOLSTEIN HERD

Home of Helbon Dekol, Canadian champion cow for 7 and 30 days, viz., 84 lbs. the butter in 7 days, 128.7 lbs. in 30 days. Herd is headed by Dutchland Colantha Sir Abbecker, whose dam, Tilly Pauline Dekol, made 84.4 lbs. butter 7 days, and sire's dam Colantha 4th Johanna 35.22 in 7 days, 150.7 lbs. in 1 year. We have the choicest young bulls we ever had to offer. Better accept early if you want to. R. LAIDLAW & SONS, AYLMER WEST, ONT.

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