

meant a larger acreage covered more evenly, while the hand-spread manure was uneven and altogether too thick to allow any amount of the field to be fed. The third is the plan I have adopted, and am satisfied with results. I believe in fall plowing generally, more especially for corn and roots. For roots I prefer a good dressing of well-rotted manure to be plowed in in the fall, and plow again in spring, working until the manure is absolutely absorbed in the soil, giving the roots a good chance for development. This means a pile of manure must be held over, and if a pile is well built and in a low place, it will retain sufficient moisture to cause the desired effect, and in the fall season one may dig it out with a shovel, and it is fairly certain that no weed seeds survive this treatment. For corn I draw from the stable to the field and make piles of about fifteen loads in each, leaving it at the manure yard till I have this amount in order to make up the pile the same day, if possible. If I have not sufficient new manure to ensure a slow heat, a bag of fresh lime, scattered a little in the centre, after a few loads, will help in this way. I like it to heat enough not to freeze through. I place these piles conveniently, allowing about 10 loads (manure spreader) to the acre. There they remain till after the oats and barley are in. Should the land show signs of getting grassy, I at once disk it thoroughly and at the allotted time I have a good team on the spreader, and two men in about a week will spread the whole of the piles from 60 head of cattle and pigs. We keep it thoroughly disked close up, not allowing the manure to dry out and give a double-crossing with disk, and again with the drags, if necessary the cultivator as well. We then harrow down for a fine surface. This will, on ordinary land, prove sufficient to ensure a splendid seed bed, and it is my plan to drill three feet apart and cultivate as long as I can pass through without damaging the corn, the last time arranging the cultivator to pack up closely in order that when a shower comes, the manure yields the requirements to make strong, healthy corn. This plan gives us, usually, from ten to twelve tons per acre. I am convinced that manure well piled, loses very little of its strength, but that manure spread in winter, loses considerable plant food during the early spring thaw. There must necessarily be a "run off," and by watching the process one can easily be convinced of this fact.

Labelle Co., Que.

CHAS. GOULD.

## THE DAIRY.

### All Branches of Farming Discussed at Huntingdon Dairymen's Association.

The practical side of things characterized the 34th annual convention of the Huntingdon Dairymen's Association, held at Hemmingford, Que., on February 18. President, D. H. Brown, Beith, occupied the chair, and many prominent agriculturists and live-stock breeders from the various sections of the district of Beauharnois were present at each session. R. W. Blair, Mayor, and Robert Ellerton, Secretary-Treasurer, Hemmingford, welcomed the members of the Convention.

The President, in his opening remarks, paid a tribute to the progressive men who organized and successfully carried on the work of the Association for 34 years. Such men as the late D. M. Macpherson, its first president, and his successor, Robert Ness, and those associated with them in the work, laid a strong foundation on which we men of to-day can continue to build. Great advancement in agriculture and dairying had been made since the organization of the Association and methods advocated by them, which were considered by many beyond their reach are now widely practiced.

The Secretary, W. F. Stephen, of Huntingdon, in his report of the year's work, referred to the past year as one of the best in the history of the district. Large crops, an increased milk flow, and higher prices for dairy products had been realized. There was a bigger make of cheese and more milk and cream shipped to the city than ever before. He contrasted present conditions in the district with those of 30 years ago, when there were over 40 cheeseries and 10 or 12 creameries. Now there were less than a dozen cheeseries and 6 or 8 creameries, owing to the bulk of milk and cream going to Montreal. The condensary at Huntingdon and receiving stations at Ormstown also took a large quantity of milk that formerly went to factories. It is recognized that the purest and cleanest milk received in Montreal comes from this district. The financial statement showed a balance on hand of \$10.67.

Prof. Barton was the first speaker at the morning session, and discussed the "Horse Industry" from many viewpoints. He paid a compliment to the enterprise and progressiveness of the farmers of the district of Beauharnois, but thought there was still room for improvement. He made a survey of the conditions surrounding the production and sale of horses. If we are going to breed there must be an outlet, therefore, the marketing end was important. He surprised his hearers by stating that in spite of the many importing agents, horses were the only branch of live stock that had made a steady increase in numbers. There were fewer cattle, sheep, and swine in Canada and the United States than a few years ago. The last year had taken many of our horses. Statistics show that in 1909, 19,711 horses passed through Winnipeg; 33,571 in 1910, 26,072 in 1911; 4,932 in 1912, and comparatively few in 1914 and 1915. Local demands, the opening of new country, lumbering and commercial enterprise were all factors

demanding a supply of horses. There is little call from the West for horses. Lumbering was quiet, therefore, the cities were our chief purchasers. The war has caused a demand not as big as was expected, but up to Jan. 1, 1916, over 42,000 horses had been purchased in Canada for war purposes, and more would be required. The greatest competitor of the horse was the tractor, but so far it had been shown that on the land the horse was the cheapest propelling power. The auto had displaced the lighter class of horses to some extent, but there would always be a place and demand for good drafters. He considered this should not be overlooked, and farmers should rear one or more colts each year. At the College farm they had found that the idle horse in winter was a loss, and by breeding the mare so as to foal in the fall would overcome this to a large extent. Farmers must learn that a better quality horse is wanted, therefore, breed only their best mares to the best stallion, and thus have high-class stock. The cost of production was increasing, labor being the chief factor, and farmers must improve conditions so that better horses may be more economically reared.

At the afternoon session, James Morris, M.P. for Chateauguay County, referred briefly to the manner in which this district was coming to the front as a great live-stock centre, also that Canada had received much prominence through her great crop and the increased production of 1915, together with the splendid part she had played in assisting the mother country in her many contributions, the best of which was the thousands of her noble sons, who had sacrificed much, even life itself in many cases, for the cause of justice and truth. He referred to the splendid work of the Live Stock Commissioner, in making it possible to secure the best class of breeding sires, to the great possibilities in the dairy industry and to the work of the small experimental farms, one of which had been established at St. Chrysostome, and thought there should be one in the east end of Huntingdon county.

As Hemmingford is a great apple producing section an hour or two was given to fruit growing. Fred H. Grindly, of the Fruit Branch, Ottawa, spoke on the marketing of apples, and advised the co-operative system now so successfully carried out in Ontario, Nova Scotia, British Columbia and certain parts of Quebec. Montreal was the natural market for Quebec

on the ground and ploughed within in the spring fosters the growth of the tree and at the same time ripens the wood, and thus the trees become more hardy. Pruning is important, the tree should be cut back so as to have a low headed tree and heavier to the side of the prevailing wind. Fertilization should not be neglected, 8 to 10 tons per acre of barnyard manure with 500 to 600 lbs. of good fertilizer will give good results. Wood ashes are beneficial, especially in bearing orchards. Apples cannot be successfully grown if spraying is omitted. The mixtures recommended, applied by a large hand or power sprayer, three or four times during the season and at proper times will give excellent results. There is no reason why in the Province of Quebec the growing of apples should not be made a more prominent feature of agriculture. We have a splendid home market, and Quebec apples should be sold in large quantities instead of apples from the States of Washington and Idaho.

Robert Brodie, of Westmount, spoke briefly in the discussion which followed the two addresses, and C. E. Baxter, of the Fruit Branch, Ottawa, also spoke on the fruit question; J. A. Robb, M.P., for Huntingdon, spoke briefly on live stock and dairy matters.

Building up of the dairy herd by the use of pure-bred sires, and the rearing of the calf, were ably handled by R. R. Ness, Howick's noted Ayrshire breeder, and Neil Sangster, Ormstown's noted Holstein breeder. The former stated that the influence of the good, pure-bred sire was the most important factor in the improvement of the herd. He considered that the sire was more than half of the herd, therefore, the inferior sire should go to the butcher. Sires should be selected from families of good type backed up with good records of milk and fat. A few dollars difference in the price between a good and inferior sire frequently influenced men from procuring the superior animal. This difference was often more than made up by the first crop of calves. Mr. Ness advocated the keeping of the old bull until his usefulness was past. Often good bulls went to the butcher before their ability to produce heifers of high quality had been established. In selecting a sire choose one that is strong and vigorous, and especially strong where the females of the herd are weak. Where the herd production had increased it was frequently due to the better sires used from time to time. In the discussion which followed, co-operation in using the good, old sire was strongly advocated.

Mr. Sangster, in his address, said that he recognized the importance of using only sires of quality, along with this he advocated paying more attention to the babyhood of the cow. He claimed that many cows were ruined by being stunted when in the calf period through lack of proper feed and care, and, therefore, there was no development. This is in evidence in many parts of our country. The undeveloped cow was more subject to disease, and from this class we get the great numbers of "boarders." The calf should be well fed, new milk at first gradually turning to skim at about three weeks old. From now on the calf should be kept in a growing condition so that its development at maturity may be insured. The feeder should use good judgment so that the calf will not take scours, the bane of the dairy cattle raiser. This is usually caused by overfeeding. He advocated feeding milk to the young calf three times a day. As the calf grows the skim-milk ration should be increased, and after each feed of milk give a small portion of meal. When the heifer is six or seven months old the task becomes easier, as she then can handle and assimilate coarser feeds as the digestive organs develop. From now on they should be kept thrifty but not fat. When they should drop their first calf depends on the breed, size and development of the heifer. Some claim that early breeding develops the milking propensities of the heifer. Where such is practiced from 18 to 20 months should elapse before the second lactation period to allow for growth and development. The cow making a large amount of milk works as hard as any horse and must be well fed and cared for. Rearing the calf under these conditions, along with skilful feeding and good care will improve a very mediocre herd into a fine herd of producers.



Destia.

Champion cow of the Dairy Test, Ottawa Winter Fair, 1916. Exhibited by Jas. Knapp, Merrickville.

apple growers, and if they did their duty there would be no apples imported from the United States to supply the demand. He recommended box packing for table apples, such as Fameuse or McIntosh Reds. For the later varieties he thought barrel packing was best for this province. While the market was now affected by the war, this was only a temporary condition, and there is bound to be an ever-increasing consumption of good apples. The Fruit Marks Act is a great protection to the producer. He said the three essentials to successful apple production were: Care of the orchard, honest packing and co-operation. These if carried out would make such a section as Hemmingford, famous for the production of apples, and would return to the growers a good profit on their investment.

Peter Reid, of Chateauguay Basin, Secretary of the Pomological Society, gave an interesting paper on the "Care of the orchard." He said there were few farms but what had a spot suitable for an apple orchard. Such ground planted with apple trees would amply repay the owner. In planting an orchard he advised that the ground be thoroughly cleaned by the growing of hoed crops. If ground is low and springy, under-drain. In planting, holes should be made sufficiently large so that the trees may be set in either way to insure straight rows. Put the best soil about the roots, and make the ground around the trees firm with the foot. Plant well-grown trees of two-year-old growth from the graft, and cut back the last year's growth to three or four buds. Thorough cultivation insures growth, but a little lack when in crimson clover sown in July will retard the growth, ripen the wood and make the tree more hardy for the winter. Shallow cultivation of the orchard as the trees grow larger, and the sowing of 15 to 20 lbs. of crimson clover in July, left

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J. L. Leclaire, of St. Hyacinthe, who represented the Hon. J. E. Caron, expressed the regrets of the Minister. He was much pleased with what he had seen and heard, and could understand why the district of Beauharnois was so progressive, because of such conventions being held yearly where advanced ideas and methods were advocated by progressive men. He referred briefly to the new law governing creameries and cheeseries, and thought it was an advance step.

The evening session was opened with an address