

Annual Meeting of New Brunswick Farmers' and Dairymen's Association.

With President C. F. Rogers in the chair, the twenty-ninth annual meeting of the New Brunswick Farmers' and Dairymen's Association was opened at Fredericton, on Tuesday afternoon, March 22nd, a fair audience being present, including many of the Normal School ladies. The visit of Senator Perley from the Northwest to his old Province recalls to mind the fact that just thirty years ago he was fighting, single-handed, the battle of New Brunswick farmers for the re-establishment of the Board of Agriculture, which had been abolished not long before. His bold and fearless agitation against the policy of the Government in which his father held a portfolio, led to the organization of County and Provincial Associations, the chief object of which was the wresting of control in matters agricultural from a commission of "lawyers and such," and the restoration of this control and direction to a board of farmers, who, to use the Senator's phrase, "knew something about it." So the Association gained their point, and held it, too, so long as their champion remained in the Province. The Farmers' "League" then established is the direct predecessor of the great Association which met last week.

D. W. Hamilton, M. A., of Fredericton, read a most instructive and interesting paper on "Bacteria in relation to the Farm," first tracing briefly the origin and growth of scientific knowledge of these minute organisms, and showing that, like the geni of old, some species are kindly and some evilly disposed, the former—happily for humanity—far outnumbering the latter. Most bacteria are destroyed at 160 degrees F., though spores, like seeds, can stand much higher temperatures than the parent plant. At freezing point they cease to grow, but are not killed. Milk is an ideal food and environment for bacteria, though they exist almost everywhere, those in the surface of fertile soils being excellent examples of the beneficial species. They play an important part in breaking up mineral matter, forming nitrogen compounds and in transforming organic matter into nitrates which the plant can make use of. As the supply of nitrogen, so essential to plant life, is being constantly diminished by the removal of crops, and as it can only be renewed from the soil (the free nitrogen of the air not being available), Mr. Hamilton pointed out how essential is the presence of nitro-bacteria in the soil, and hence how important it is that the soil should have plenty of oxygen which these bacteria require for their rapid increase.

HORSE-BREEDING.

Mr. W. S. Spark, of Canterbury, England, was the speaker of the opening evening, his subject being the draft horse, for a trade in which Canada has great possibilities. Mr. Spark earnestly counselled breeders to decide upon a type and stick to it, whether it be Clyde, Shire, Hackney, Hunter or Thoroughbred; but he predicted great success for a distinctly Canadian type, which might be produced by crossing Clyde and Shire. Combining the good points of both, we should get the ideal in heavy draft horses, one that will pull the greatest load with the least strain on his limbs. Failing this, let the farmers at least agree in districts to breed the same type, so that buyers will be attracted and prices kept up, while the cost of breeding will be reduced by the exchange of stallions. In any case, it is essential to breed from mares free of any hereditary disease, such as roaring, whistling and ring-bone, and to use the very best stallion of the desired type, regardless of initial cost. Docking should never be done except on a young colt, and better not at all in a country where flies are troublesome.

In the discussion on feeding Mr. Spark agreed with the author of *Shore Acres*, that "Hosses is human beings," and therefore should have variety in their feed—oats, roots, scalded bran and sometimes barley.

Mr. Donald Innes had found barley very useful; Mr. Duncan Anderson feeds no hay the second winter, but oat straw, turnips, oats and roots. Mr. Spark admitted that too much hay was not good, but would not substitute straw entirely.

With the aid of some excellent views Mr. Spark then concluded by explaining the good and bad points of many types of horses as to head, body, position in standing, indications of disease, and so on.

PRODUCING BEEF.

On Wednesday morning Mr. A. P. Ketchen, Assistant Live-stock Commissioner, of Ottawa, discussed the selection and feeding of beef cattle, a subject which deeply interested the audience. He first pointed out that buyers of cattle to finish must have excellent judgment, not only of the animals as offered, but of their chances of development. He then detailed the points of a good animal, such as full, bright eyes, large mouth and nostrils, thickness behind the shoulders, long, well-sprung ribs, soft oily hair and skin, and so on. Two-year-olds, if well grown, are good stock for Great Britain; but if not well grown, are apt to use their feed for growth and not to finish properly. With the aid of a chart Mr. Ketchen explained which parts of the animal bring the highest market price, and should therefore be fully developed. The speaker warned farmers against letting the cattle remain out too long in the fall, when cold and wet are sure to give them a setback, which will take weeks of care and feeding to overcome—a dead loss. Then plenty of cheap and succulent feed is wanted in winter,

such as turnips or silo-corn mixed with cut straw and hay. Be sure the corn is well matured, or never put it into a silo. Here Mr. Donald Innes pointed out that in New Brunswick corn was apt to be immature, but that turnips could be grown with great success. In the discussion on root-growing, which followed, Mr. Robertson, of Nappan, stated that many failures in mangolds were attributed to poor seed, when the sowing was really to blame, and that they would have succeeded admirably in bunches. Mr. Ketchen advised plowing out turnips if the soil is dry enough; otherwise, they must be pulled. The grain feed for May cattle should begin with three or four pounds a day in January, increasing to ten or fourteen pounds at the finish, varying the ration—oats, barley and occasionally peas. This, with ensilage and cut straw, and a noon feed of long hay and roots, should give the best results. Here Mr. Hopkins suggested growing Banner oats and six-rowed barley together; and a member stated that Scotch beans and corn, which in the West had proved a failure, are a great success east of Ottawa. Further points emphasized by Mr. Ketchen were the importance of punctual feeding, comfortable bedding, kind treatment, and everything that tends to keep the animal in good humor and putting on flesh. He has found it better to run steers loose (always dehorned) than tied, provided they have plenty of room.

Mr. Duncan Anderson, of Rugby, Ontario, followed with a brief talk on the early care of calves to be raised and finished by the breeder, who should always have an ideal, and stick to it. He had noticed in many New Brunswick beef herds a strong dash of Jersey—a strange foundation on which to build. Do not mix breeds. Have the cows calve late in the fall or in early winter. Begin on whole milk, then skim milk and dry crushed oats, with pulped roots.

DAIRYING.

On Wednesday afternoon, Mr. Robertson, manager of the Maritime Experimental Farm at Nappan, delivered a most practical address on the dairy cow, which he considered the farmer's mainstay, in good and bad times alike. He endorsed Mr. Anderson's preference for cows coming in in the fall, and for keeping to one strain for the purpose intended—either beef or dairy, but not a mixture. He would feed the calf new milk for not longer than five weeks, lest it learn the habit of fat-making, or "putting the feed on its back," as much a fault in the dairy animal as it is a virtue in the beef steer. Regularity of feeding, comfort and kindly treatment, are even more essential with dairy cattle than with others. The stable should be kept at about 60° in winter, should be well ventilated, and, above all, should be scrupulously clean. Cement floors are quite the best. The animals should be carefully brushed. In answer to a question, Mr. Robertson advised feeding twice a day, leaving the cow undisturbed at noon. Cleanliness is absolutely indispensable. The successful dairyman must be deep enough in the business to have a man about his stables all the time.

Mr. N. S. Dow, of Woodstock, then gave some detailed directions regarding the care of milk for cheese and butter. Cleanliness in the stable is the first requisite, and, if rigidly observed, makes aeration unnecessary. If foul flavors are present, aeration is required to remove them. Milk cans should be covered while on the way to the factory. In no case should skim milk or whey be left standing in the cans. Hand separators he claimed are often abused; the best hand separator is the one which is simple and easy to clean, as it should be washed more than once a day. Do not mix new cream with old till cool.

Mr. Ehrhart, formerly of Cornell, now managing a dairy in New York City, expressed the opinion that New Brunswick had a great future before it in the dairy trade. He instanced the fact that 20,000 quarts of milk are sold daily in New York City at twelve cents a quart, and that one firm sells its entire product, 2,500 quarts a day, at 18 cents, chiefly for infants' use—such is the value of purity. Another company just formed will supply condensed milk to belligerents in the Far East. Mr. Ehrhart mentioned the Washington Dairy Department's bulletin, "Facts About Milk," with fifty dairy rules, as a most useful pamphlet. Build the cow-barn, he said, for the cows, not for hay, grain and implements.

FRUIT-GROWING.

The Wednesday evening session was devoted to fruit. Mr. MacKinnon, Chief of the Fruit Division at Ottawa, sketched the work which is being carried on under the Minister's direction, with a view to instructing growers in their profession, in the law applying to it, and in the market conditions which they must meet. He touched upon the subject of co-operation as an aid to the grower in all stages of his work, described the power-spraying to be done by the Government in the Maritime Provinces this season, and concluded by showing the helpful relation which properly drawn-up prize lists for fruit at fall fairs might bear to the industry at large.

Mr. G. H. Vroom, of Middleton, N. S., took as his subject, "The Orchard, from the Ground Up," and gave minute directions for selecting site and trees, for planting, cultivating and caring for them. Mr. Scholey, of Centreville, contributed his experience with one thousand New Brunswick trees planted very close together some thirty years ago, which would have done much better had they had room; and agreed with Mr. MacKinnon that a few varieties should be agreed upon by all growers

in a district, and be planted exclusively, so as to attract buyers. Mr. Vroom illustrated by "pulp-heads" how barrels of apples should be branded, and emphasized the importance of clear, neat stencilling. A general discussion on varieties brought out the fact that McIntosh Red, Blenheim, Baldwin and Baxter are favorably regarded in the St. John Valley. Some exhibits of Baxter (Larne) and Wolf River, though certainly past their best, were remarkably firm for the season.

PURE SEED.

Thursday morning's session was devoted to the question of seed purity and germination. Mr. G. H. Clark, Chief of the Ottawa Seed Division, showed a thorough knowledge of his subject, and, having furnished the audience with samples of seed in light wooden trays, was able to command their intelligent attention throughout. Mr. Clark dwelt upon the importance in seed grain of fidelity to type, and mentioned Banner oats as a variety in which this quality was well known to exist. Samples of Banner and Tartan King oats were compared in respect of the percentage of hull in each, on which the members did not all agree. The importance of this question will be seen from the fact that some short, thick varieties test as high as forty per cent. of hull, while some of the long, slim sorts (particularly black varieties) run under twenty per cent., having thin, papery hulls. It is apparent how much more feed value there is in the latter sort, with its large kernel. Some impurities found in the samples were wild buckwheat, vetches, wild oats and barley. Mr. Clark advised the buying of seed near home, and from those only who make a business of keeping the seed under proper conditions for germination. It should be kept cool, and evaporation of its moisture prevented.

The Seed Division was endeavoring, by means of laboratory tests, to assist farmers to secure pure seed. With the aid of farmers themselves, the bill introduced by the Hon. Mr. Fisher last session will, if passed, result in all seed being properly graded and in No. 1 seed being ninety-per-cent pure and germinable. Already, at least one firm is selling seed of this quality, and another gives (on request) a guarantee, stating the percentage of pure and germinable seed used in filling the order. Mr. Clark hopes that in time Canada will produce her own root seeds, and become independent of Europe.

A member enquiring whether varieties of grain must necessarily "run out" in ten or fifteen years, Mr. Clark stated that, given a good variety and ideal conditions for growing seed, the variety can be improved by selection, and kept up indefinitely, just as can be done with potatoes.

FARM MANAGEMENT.

Duncan Anderson opened the afternoon session with a talk on fertility and rotation of crops. Premising that while inventions and discoveries will change methods in all industries, and even shift the centers of population, the soil will forever remain the source of human food, and the farmer its producer. The speaker went on to show that Canada, exporting last year fifty millions worth of cheese, butter and bacon alone, is and will continue to be essentially a food-producing country. Hence the vital importance to farmers of conserving the fertility of their soil. To do this, commercial fertilizers are not sufficient, as they supply no humus; nor is mere cultivating enough, especially on clay soil, where humus—in the form of barnyard manure or otherwise—is required to arrest the escape of moisture, and to keep the stiff soil open and warm. Mr. Anderson stated that he would apply manure in winter, even on snow, if not more than fifteen inches deep, not on a steep hillside, and not on a low level where water would lie. Some discussion arose here, Mr. Robertson, of Nappan, having found this practice result in soggy ground, delaying spring operations wherever applied. Others had a similar experience where there was backwater in flood time, though no current. Manure should always be spread evenly and fine. Mr. Anderson then went on to emphasize his three cardinal rules for cultivation: 1. Be liberal with surface cultivation, since you cannot make the seed-bed too fine. 2. Keep the fertility near the top, as by top-dressing, for example. 3. Never bring to the surface the cold and hungry subsoil. It was strongly urged that there should never be more than two crops of hay in succession.

Mr. Ketchen's Thursday afternoon address was barn construction, including site, materials, ventilation, etc. A summary of this address was given in our January 7th issue, in the report of the Winter Fair at Guelph.

The report of the Nominating Committee was brought in on Thursday morning, and the following officers were elected:

President—B. M. Fawcett, Sackville.
Vice-president—N. S. Dow, Woodstock.
Recording Secretary—A. G. Dickson, Sackville.
Treasurer—Geo. E. Fisher, Chatham.
Cor. Secretary—W. W. Hubbard, St. John.
The list of County Vice-presidents was named as follows:
Madawaska—P. R. Violette.
Victoria—Wm. McPhail.
Carleton—Wm. J. Owens.
York—C. H. Giles.
Sunbury—J. W. Stephenson.
Queen's—J. W. Shea.
King's—E. L. McIntyre.
Albert—S. S. Ryan, M. P. P.
Westmoreland—C. F. Alward.