

HISTORY.

It is difficult to form an opinion of the manner in which the disease was introduced into Nova Scotia. There are various theories in regard to it. One of the most prominent is "That many years ago a vessel arrived from Scotland bringing soil in ballast; that the soil contained the seeds of a plant or weed, which has become thoroughly mixed with the grass for many miles in extent, the eating of the weed causing the sickness which almost invariably results in the death of the animal." The plant as seen by the roadside and in the fields, is from 12 to 20 inches in height, has a yellow blossom, the leaves are tough and emit an offensive odor, and is known as "Stinking Willie." The botanical name of the plant I was unable to learn.

CONTAGION.

The question of contagion may be considered as an open one. The fact, as stated to me, that cattle mingle together in pastures during the autumn months and are exposed during the winter in barns, without an outbreak of the disease from August until late in June, would seem to point to causes other than contagion.

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A VISIT TO BERTHIER.

Berthier, or *Berthierville*, or *Berthier en haut*, is an old settlement, about fifty miles from Montreal, on a branch of the Q. M. O. and O. R. The population, previous to the establishment of a beet-sugar factory, was 1,800, but has since increased to 2,300. The general industries there existing are said to suffice for the immediate requirements of the factory.

A small river emptying into the St. Lawrence borders the town, and places it in easy communication by summer steamers with the important Canadian cities. The only possible or plausible reason that can be given for selecting it as a locality for a beet-sugar factory is that, through the influence of one of the directors of the company, contracts for beets were made with the farmers for a term of years. In reference to this we would say that, whilst beets are of very great importance, there are other elements equally so,—without which success is not assured in advance.

The history of the organization of the factory is simply that Mr. Lavallée, after considerable agitation among farmers, visited Europe, and there met Mr. H. Legru, of an old family of beet-sugar makers.

These gentlemen, by mutual arrangement, matured plans for the forming of the "Union Sucrière Franco-Canadienne," with a capital of several millions, which would have for its object the establishment of, not one, but several beet-sugar factories. The final organization for the starting of an experimental 200 ton fac-

tory was made in November, 1880. Shortly after that time, on July 1st, \$110,000 was paid in cash by the French stockholders, while the Canadians were represented by \$60,000.

The farmers gave little heed to the importance of preparing their land by a proper fall plowing, etc., for the coming beet-crop, but they realized their mistake later. This may be explained by the fact that no special guarantee was given to them, in case the factory was not started, that there would be any sale for the beets they might raise.

There were about three hundred farmers who signed the contract for beets, and the largest area contracted for was 50 arpents. The crop at Berthier was by no means satisfactory, for some farmers had only 10 to 12 tons to the arpent, whilst, on the other hand, in the parishes of St. Barthelmy and St. Cuthbert, 18 to 20 tons were obtained. The partial failure of the crop at Berthier in 1881 is said to have arisen from tardy sowing, bad preparation of the land in the spring, and no fall plowing the year previous. In Richelieu River County 6 acres of land were cultivated in beets for the Berthier factory. The greatest distance the beets were grown from the factory was 70 miles, and the delivery in that case was made by cars. The greatest distance from water communication was but 30 miles; and the number of arpents said to have been contracted for was 1,636. As regards the yield on good land, properly cultivated, the average was about 15 tons; not more than 8 arpents yielded this last amount; on 300 arpents the beets did not come up, and 500 arpents yielded only 6 tons.

The contracts with the Berthier factory, published in *The Sugar Beet*, were not in all cases fulfilled. They are, notwithstanding, for twelve years, but the new form is for five years only. In special cases of very poor land the farmer will be allowed to manure his soil slightly, and must plow it under the fall previous to sowing. As regards this double system of contract we fear it will be the cause of considerable trouble. The director (Mr. Lavallée) in charge of the cultivation informs us, that he expects to make a compromise with the contracting farmers of 1880, diminishing the area they contracted for, and providing that they will do exactly as told and not introduce their special ideas, that have so frequently been ruinous to themselves and disadvantageous to the factory. It is possible that the company will rent or purchase land with the view of cultivating about 1,000 arpents, representing a total of nearly 3,000 arpents. On account of the scarcity of labor, the company does not consider it advisable to extend its operations beyond that point.

Very few of the farmers who grow beets had had any previous experience, beyond raising a few roots for cattle feeding; and the seed was sold to them for twenty-five cents a pound, and was, in reality, several varieties mixed. It had a bad, musty odor, indicating possibly, a slight fermentation. Besides this the soil upon which the roots were grown for the Berthier factory was extremely variable as to quality. It had been previously, as a general thing, planted in wheat or potatoes. The thinning out was effected when the roots were very small.

The expense for beet cultivation, based upon the experience of the farmers who have grown roots for Berthier factory, is as follows: The sowing by drill, three rows at a time, ten acres a day, including man, boy and horse, \$4; or, say, 40 cts. per acre. When running the cultivator through, five acres may be worked with a horse and man for \$2.50, or 50 cents per acre. For spacing and hand hoeing, \$2 an acre. Thinning out after the spacing has been properly done, \$3. Hoeing by machine, 50 cents. Harvesting, with a plow, \$4 per acre, total \$10.40. In reference to the preparation of the land, the season is short, and the numerous hoeings given in Germany are said to be impracticable in Canada. The cost of transportation on Canadian roads is a problem not yet solved, and not likely to be for many years to come. Under the best of circumstances the roads are bad, and when the fall rains and snow appear they are almost impassable; and for that reason many of the smaller contracting farmers were unable to deliver their roots; but, for the most part they lived up to their contracts during the entire growing period. Superintendents made frequent visits to the farms to see that the proper principles of cultivation were adhered to. The free use of superphosphate of lime was allowed, but as this is sold at a comparatively high price, there was little danger of its being used in excess.

As regards the transportation by railroad, the cost is \$6 to \$8 per car-load of 10 tons, while the very slow delivery, in many cases, necessitates having a man at each station in constant attendance. This latter item raises the cost of carriage to about \$1 a ton. It is argued that if large areas were grown in beets along the Richelieu River the roots might be delivered by water at \$1 a ton from wharfs of a simple and cheap construction built by the farmers, who would have, as an average, transportation of about one-fourth of a mile, while by railroad the distance averages two miles under the best of circumstances. This water transportation is assured in advance, and the factory can then place reliance on its beets. On the other hand, by railroad,