

APPENDIX No. 1

sults at Nappan. At the western farms the roots are not grown to any great extent, and outside of our plots on the experimental farms there is not much done out there in growing roots. The question of labour there is a difficult one to get over, and the roots cannot be grown satisfactorily without a good deal of labour. They must be attended to at the proper time, and a farmer has a large area of grain to look after, and much land to summer-fallow. Corn can be grown cheaper for ensilage purposes than roots. On that point, I might just give you the average results of four or five years' experiments with sugar beets, taking into account the crops obtained at all the experimental farms. These have averaged 23 tons 1,075 pounds per acre.

Q. That is for all the plot experiments ?

A. Yes, for the plot experiments, averaging the poor crops with the good ones.

Q. What was the quantity grown on the plots at the Central Experimental Farm in 1901 ?

A. The average crop at Ottawa for the four best varieties was 33 tons 497 pounds.

By Mr. Cochrane :

Q. Would that be the same kind of sugar beets that we want to produce for sugar ?

A. I will give you the names of them.

Q. No, no ; I don't want that. What I want to know is, if this is the kind we want to raise to produce sugar ?

A. Permit me then a few words of explanation. The Red Top Sugar, which stands at the head of the list at Ottawa in productiveness, is one of the newly developed sugar beets which is being grown in some parts of the Dominion for the feeding of cattle. From the examination of our chemist it is found that these contain a very fair proportion of sugar.

The Royal Giant is one not quite so rich in sugar. Vilmorin's Improved, which is one of the varieties we have been growing, is one of the richest sugar beets that is grown in France. That variety does not produce a heavy crop and hence does not come in the four best sorts. It does not grow so long a root, but it has given an average yield of 19 tons 118 pounds per acre for the past five years.

The Wansleben is also a variety rich in sugar, and these two latter sorts are among the best beets grown for sugar through the civilized world.

Q. What is the quality given by the Wansleben best ?

A. This last year the Wansleben gave at the Central Farm 25 tons 160 pounds per acre and as an average for five years 25 tons 1,496 pounds.

By Mr. Clancy :

Q. Can you say, Doctor, what variety is being grown in Michigan ?

A. I really don't know. There are many varieties of sugar beets now available, and it is very important for the sugar factory that the beets be rich in sugar. The test of sugar beet seeds is made in this way. The best growers of sugar beet seeds test every one of their beets before they are planted for seed by scooping out a little piece of the beet and working it up into a solution and putting this into an instrument called a polariscope, where the proportion of sugar in it can at once be determined. All the roots which fall below a certain standard are rejected.

By Mr. Wright :

Q. Every individual beet ?

A. Yes, every individual beet is subjected to that process by the best seed growers.

By Mr. Clancy :

Q. That is in the country where they grow them. We import all our seed from Germany ?