

6. Is the residue of any use?—Yes, the pulp makes excellent cattle-feed. It is often mixed with cut straw or chaff. Pigs are also fed upon it. The molasses can be used for the distillation of spirits.

7. It has been stated that the yield per acre does not amount to 15 tons; can you state if this is so?—No, I do not recollect, but it is something about that—rather under I think.

8. What time is required for the growth of the beet crop?—It is generally considered a fallow crop. The season—it is sown in the spring, and is biennial. I should add that it requires to be very carefully cultivated. In the Southern Island it thrives best in country of a limestone formation, but would answer well anywhere with proper treatment.

9. *Mr. Murray.*] Is the refuse of much use for purposes of distillation?—Yes.

10. Would you recommend the Legislature to permit distillation from the waste products?—No; but if found profitable they could be sold to distillers.

11. You have personal knowledge of factories in France?—Yes.

12. *Mr. J. C. Brown.*] What amount of labour is required in the manufacture of the sugar?—A considerable amount of labour is required. It is, however, cheap labour after sowing—it is principally that of women and children.

APPENDICES.

APPENDIX A.

Telegram from the Chairman, Beet Sugar Committee, to Mr. J. C. Cairns, Mangere, Onehunga, together with Mr. Cairns's reply:—

1. What is the inducement you require to go into beet sugar industry? Is it a bonus or protection? If the first, how much? If the second, how long?—No bonus, only freedom from excise for ten years, and guarantee for some equivalent should import duty be repealed or reduced.

2. When would you be prepared to commence operations and manufacture sugar?—May, 1879 or 1880.

3. What quantity will you guarantee to produce first year, and what the annual increase of production?—I propose 600 tons, and to continue about that.

4. State estimated cost of plant capable of producing 1,000 tons per annum?—£24,000.

5. Would you propose to grow beet yourself or purchase from farmers?—To purchase from farmers, as requiring less capital.

6. What area of land would be required for production of beet in sufficient quantity for manufacture of 100 tons sugar?—About 80 acres good land.

7. What would be the cost of such sugar of good quality?—Manufacturer's actual outlay at first of about £31 per ton for fair average refined.

8. What capital you propose to lay out?—£15,000.

APPENDIX B.

MEMORANDUM showing Analysis of Beet-roots for Sugar, samples grown in New Zealand.

1873.	Botanic Gardens, Wellington	...	...	3½ lbs. average weight	...	2.1 sugar per cent.
	"	...	...	1½	...	6.7
	"	...	...	3¼	...	2.2
	"	...	...	6	...	2.1
	"	...	...	4	...	5.5
	"	...	...	3½	...	6.5
	"	...	...	5	...	5.1
	"	...	...	4	...	4.2
	"	...	...	2¾	...	5.2
	"	...	...	2½	...	8.1
	New Plymouth ...	...	...	2	...	8.7
	"	...	...	4	...	7.4
1875.	Napier	...	...	7	...	6.0
	"	...	...	12	...	3.1
	"	...	...	4	...	4.9
	"	...	...	4½	...	5.8
	"	...	...	2½	...	8.4
	"	...	...	3¼	...	6.7
1877.	Domain, Christchurch	...	...	1½	...	5.7
	"	...	...	2¾	...	8.2

AVERAGES of Sugar in Beets used in Germany for the manufacture of Sugar. Analysis by Herrmaun.

½ lb. average weight	...	...	...	11.4 per cent. of sugar.
1	...	...	...	9.4
1½	...	...	...	9.5
2½	...	...	...	7.4

Colonial Museum of New Zealand,
Wellington, 26th August, 1877.

JAMES HECTOR.

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