

pleased to come before this Committee. It has been demonstrated in other countries, with climate, soil, and labour-conditions similar to our own, that sugar-beet can be grown successfully, and consequently I feel there is no reason why it should not be accomplished in New Zealand. In Mr Graham's absence and on his behalf I should like to put in a pamphlet which he published in 1908 on beet-root culture (Exhibit 1). I have grown beets myself at different times for experimental purposes, with a view to demonstrating that it is possible in the Waikato to grow sugar-beets so that they will return a profitable percentage of saccharine matter, and, if carried out on an extensive scale by the settlers, it would pay them. I have a full knowledge of the difficulties in the way of the successful establishment of the sugar-beet-root growing industry. I will explain them to you a little later, but first will suggest what I believe to be the only way in which they can be overcome. It relates principally to cultivation, and in that respect there is from my observation more or less prejudice at first to be overcome on the part of the average farmer in regard to agricultural innovations. It will necessitate on his part something entirely new in the methods of field-cultivation for a root crop. Waikato is, of course, noted for its ability to produce prolific root crops of all kinds, but for the successful growing of the sugar-beet-root special cultivation is necessary. Knowing that difficulty, my opinion is that, in order that the settler on an ordinary-sized dairy farm may satisfy himself as to the proper method of successfully growing sugar-beets, he should, first of all, not grow them for sugar purposes, but as a winter feed for his stock. We have settlers in the Waikato who have for a number of years been growing sugar-beet-roots with that object in view, and I take a typical settler, Mr John Davies, of Kirikiriroa, within three miles of Hamilton. When I received word on Tuesday night that I should be wanted to give evidence before this Committee, I made it my business to call upon Mr Davies and get the latest results of his work. These are the notes I made from my conversation with Mr Davies. He has grown beets for the past fourteen years, each year as winter fodder for dairy cows. He states that all kinds of stock relish them—cows, pigs, and horses. As a feed nothing can compare with it except quantity. There is no other root crop to come near it for quality. He grows swedes, carrots, and mangolds each year, and has no hesitation in stating that sugar-beet-roots are far superior in feeding-quality. He throws the roots whole to the stock, and they eat them with relish. He cultivates by ploughing in the early winter, say, six inches, on heavy soils he subsoils, say, another six inches. Soil is a great factor in determining the extent of cultivation necessary—for instance, land of a sandy nature he does not subsoil; it is very easy, and costs little to work. He gives his land thorough cultivation, sows seed in October, and gives liberal supply of artificial manure. The money spent, so he says, in fertilizers more than pays for itself in the crop. He estimates his average return at 20 tons per acre. This year his mangolds would not keep, neither would his swedes, but the sugar-beet kept well, and some now are quite sound. I should like to say that, as far as the Waikato is concerned, Mr W. A. Graham as early as 1887 took up the idea of establishing the industry in New Zealand. The movement became very popular, but for some reasons it dropped. In 1895 I became interested in the matter, and I was satisfied that it had great possibilities for the State. In 1896 the settlers took up the idea in real earnest, and guarantees were given to the promoters of a company who undertook to establish a factory for the industry in Waikato. The position was this. I was one of those who guaranteed an area of beets for the proposed factory. When we came to look into the whole thing the guarantee necessitated a joint and several bond for the full area by all of us who agreed to grow beets. As the company would insist upon that clause, our experience suggested, and our bankers advised, that we should not touch it, because the company would require the whole area of 1,500 acres cultivated within thirty or forty miles. Now we come to the present position. Since 1896 I have taken much interest in the scheme, and I have grown roots. I have also acted as secretary to an organization set up in the Waikato which endeavoured to get the Government to give us seed for distribution. I have a letter from the Stock Department dated the 12th September, 1901: "In answer to yours of the 2nd instant, I beg to say that the Secretary for Agriculture has been advised of the desire of your Committee, but if seed is not now in the colony it will be too late to get a supply for this season. However, a small area of roots will be grown at Ruakura, and results recorded." I received another letter from the Stock Department at Auckland dated the 19th October, 1901. "Yours of 6th instant to Inspector Ross *re* sugar-beet seed. I have written to the Secretary for Agriculture *re* the seed, and he replies, 'The Department has no sugar-beet seed for distribution.'" The farm put in a small crop of beets at that time, and, as they did not appear to make satisfactory growth, the authorities did not permit the crop to grow right through, but ploughed up the ground and put in some other crop. This was a disappointment to many of us, who had hoped to have the cause of that failure carefully recorded for future guidance. Of late years, however, I am satisfied that everything is done at Ruakura to assist farmers to investigate the cause of any failure, so as to apply the remedy. I grew beets in 1902, and I sent some to the Agricultural Department, and I received a letter, which I have not now in my possession, as I gave it to Mr Graham, but the Department wrote to say that "As the beets which you sent showed an abnormally high percentage of saccharine matter, would you please send a further sample for analysis?" I sent further roots, and the Department replied on the 12th September, 1902, "Yours of 10th instant *re* beet-roots: I have to thank you for your promptness *re* these roots. The information you have so kindly given will be forwarded to Mr Aston for his information." I picked out some roots, and no special care was taken in selection other than that a "transplant" was so marked. These roots I sent down to Wellington, and in October, 1902, I received the following letter: "Analysis of Sugar-beet: Mr Aston gives the following results: The sample of sugar-beet marked 'Transplant' contained 14 per cent. of sugar; the other sample contained 18.7 per cent. Both the results are satisfactory"—E. CLIFTON, Inspector of Stock in Charge." At that time another proposition was got up with a view to establishing the industry in Waikato, and I received a letter written by Mr John St. Clair in Auckland proposing to establish