

a distillery in connection with the works, because the beet that would not come up to the standard required could be manufactured into brandy.

34. Do you know if in Germany they have tried any process for drying the roots, so as to enable them to carry on the manufacture all the year?—No. I have not been able to find out anything in reference to that. It is not necessary in Germany.

35. How many hands are employed there on a farm which produces about 500 tons of sugar?—Eighty laborers, and five overseers, with machinery of 76 horse-power. It is necessary to have a large quantity of water, as the beet requires constant washing to prevent sourness.

36. *Mr. Richardson.*] Have you ever seen any of the modern sugar-making apparatus?—No.

37. *Mr. Holmes.*] Is there a bonus offered for the production of sugar in Australia?—Yes, I believe so.

38. *The Chairman.*] From the nature of the communications you have had do you think there would be a disposition on the part of capitalists in Germany to go into the matter?—Yes; the moment I recommend it to the Government, they are prepared.

39. *Mr. Holmes* stated:—At the request of the Committee stated, I visited Belgium within the last few years, and made enquiries respecting the culture of beetroot. I believe the quality of the root in New Zealand will be found to be quite as good as in any part of the Continent, and I think Mr. Krull may have little hesitation in assuring his correspondent of that.

40. *Mr. Richardson to Mr. Holmes.*—Has any of the root which you have grown, Mr. Holmes, been analysed?—No. You can, however, by cutting the root get some idea of its quality. I have grown beetroot and mangolds, and I have put both into the trough, and observed that the former is much preferred by the cattle.

41. *Mr. Lightband.*] I would like to get some information from Mr. Krull respecting the manufacture of starch, and he might be kind enough to give the Committee some information at the next meeting.

42. *Mr. Krull* stated:—I know that every family in Germany make their own starch, and in New Zealand splendid starch ought to be produced on account of the quantity of potatoes. It requires very little capital; in fact, I know one man (German) who thought of commencing the manufacture with a capital of £100, near Wanganui.

43. *The Chairman.*] From what part of Germany, Mr. Krull, would this emigration take place?—Mr. Krull.—I have been corresponding with Berlin, and I think the immigrants must come from the Province of Saxony.

44. *Mr. Holmes* stated:—I have raised from 20 to 25 tons to the acre of excellent beet, from Silesian beet supplied to me by the Provincial Government of Otago. I have grown it for the last three years, preserving the seed every year for my own use. I have manured very little, so that I have to take fresh soil to get a good crop.

45. *The Chairman.*] Have you ascertained to what extent the crop is exhausting?—A very good crop is exhausting. A soil being quite new and in full bearing vigour, of course would not be affected by the crop so much as it would if it had been used for a series of years.

46. Was yours entirely new soil?—In some cases it was, and in others it was grass land ploughed up again.

47. How deep do you plough?—About eight inches. The soil I used was friable soil, of limestone formation. I was so satisfied with the suitability of the soil for producing good sugar beet that I was prepared to cultivate and manufacture sufficient to entitle me to the premium proposed to be given by the Provincial Government of Otago about three or four years ago, but the Government did not carry out its original intention of giving a prize. The bonus offered was £1,500 for 100 tons. My calculation was that the £1,500 would have merely paid for the machinery, and the loss, in the event of its not proving an absolute success, would have been the loss of producing.

48. Do you know whether the beet has been cultivated in other parts of Otago?—A great many persons have grown the same kind of beet successfully.

49. Was the seed you used of the best description?—Yes. It was sent for expressly by the Provincial Government, and was procured by the Agent for Otago, in Britain. It is called Silesian beet, and is supposed to be the best sugar beet that can be procured.

50. *Colonel Russell.*] I think you said that sugar beet was more greedily eaten by the cattle?—Yes. Twenty-five tons of beet is equal in point of feeding quality to 35 tons of mangolds, because it contains more sugar. We use the beet to keep the stock in condition during the winter.

51. *Mr. Lightband.*] It might be satisfactory, if Mr. Holmes has any of that beet, for him to have some forwarded to Wellington for analysis. If he has any now it will have been kept virtually for a year.

52. *Mr. Holmes.*] There was a quantity in the ground when I left home. I don't lift the roots, as I find they keep better in the ground. I will write for a bag by the first vessel, and Mr. Krull can see them.

53. *Mr. Murray.*] How do you propose to keep up the fertility of the soil?—In a new country I would never think of repeating the same crop on the same ground from year to year. It is only in a country where there is a limited quantity of available land that that is desirable. On a regularly cultivated farm I would manure the beetroot, and put a grain crop in afterwards.

54. You think it would not be necessary to put in artificial manure?—If you give the beets an ordinary crop of manure, there is the additional culture you have to keep clean, and the working of the soil improves it; and with the manure that is used to propagate the beet the quality of the ground is improved, and it is then in a condition to produce a good wheat crop afterwards.

55. *The Chairman.*] Have you estimated what it cost you per ton?—Just the same as an ordinary crop of mangolds.

56. Then, if you get less per acre, of course it costs you more per ton?—Certainly. The mangold requires as much attention as the beet. To keep the beet covered would entail an expense of about 15s. an acre.