

progress and present magnitude of the industry; and its having proved such an almost inexhaustible source of national wealth to Germany, convinces me that it would be wise policy to naturalize it in New Zealand, if circumstances were favourable to the growth of the plant.

In 1867, for instance, the duty on sugar imported into Germany amounted to only £73,000, whereas on inland manufactured sugar it amounted to nearly £2,000,000.

There are now 296 beetroot sugar manufacturers at work on the Zollverein. The beetroot sugar now pays a duty equal to 10s. per cent.: but it is by no means protected; on the contrary, the duty is in favour of unrefined sugar imported from the Colonies, in as much as the residue syrup from that sugar is considerably higher in value than that left from the beetroot.

Steadily and surely has this industry increased; until it is now one of the most productive the States possesses; and not only does it yield a revenue of £2,000,000, but it creates a demand for labour to the same amount, and returns to the soil as nearly as possible an equivalent in manure and stock-carrying capacity. Besides it has imparted to land, before almost unproductive, an immense value; and opened up a field for the profitable employment of a very large capital.

During the years 1836 to 1840 no duty was levied on sugar; in 1840 to 1841 a duty was levied at the rate of sixpence per ton of 20 cwt. of clean washed beetroot. It gradually increased until 1858 to 1859, when it was raised to fifteen shillings per ton; and since 1st September, 1869, it has been raised to sixteen shillings per ton of beetroot.

Levying the duty on the beetroot and not on the sugar has necessarily resulted in the beetroot being brought as nearly as possible to perfection for the required purpose. Whereas formerly, from the imperfect acquaintance of the growers with the laws by which the valuable substance secreted in the root is regulated, it required about 18 cwt. of beet to yield 1 cwt. of sugar, now the average is 12½ cwt., which brings the actual duty as nearly as is required for comparison to ten shillings per cent., or equal to that of New Zealand.

The cost of producing the loaf-sugar from beetroot is about thirty shillings per cwt. Labour is essentially cheaper than in our Colonies; but on the other hand, land fit for the cultivation of beetroot pays a yearly rent of forty-five shillings per acre, and in some instances even eighty-six shillings. The average crop is from twelve to fourteen tons per acre. If, therefore, it could be ascertained, by experiment, that the beetroot grown here would contain enough saccharine (and I may mention that I have written to Germany for seed of the three now recognized species, which, on arrival, I shall have much pleasure in handing over to you), I have no hesitation in saying that the cultivation of the plant would not only be highly profitable to those embarking in it, but would, in a very few years be able to contribute to the revenue—and not only directly, but, as soon as the industry got more developed, it would give employment to a greater number of hands than any other that could be established in New Zealand; and it is self-evident that the labour employed must be an indirect source of revenue, from its consumption of commodities that pay duty.

I fully believe that beetroot sugar, after being fairly introduced, will be able to pay a gradual duty up to £4 or £5 per ton; and the difference, as compared with the present duty, will be more than compensated by the many economical advantages incidental to the manufacture. I have already corresponded on the subject with friends and experienced persons at home; and I am justified in saying that, if the conditions existing in New Zealand were proved favourable for the growth of the plant, that a company could easily be formed in Germany, who would come out to the Colony, bringing with them their own workmen and their own machinery, if the New Zealand Government would meet them in a liberal spirit. Such a company would require to get on reasonable terms, a block of from 3,000 to 4,000 acres of good land, within convenient distance from a suitable shipping place; and would also require protection for a limited number of years, until the industry had fairly established itself.

A company to produce 500 tons of sugar in a year, would require a capital of about £35,000, and land to the extent of from 3,000 to 4,000 acres. It would give employment to a very great number of people; and yet the ground would produce so abundantly as not only to yield a fair return to the capitalist, but also a good living to all the labourers employed. It would also, after a few years, as already pointed out, become a source of direct and indirect revenue to the State.

Contrast this with the large tracts of country fenced in by the New Zealand runholders, which, though undoubtedly affording nourishment to many thousand sheep and cattle, are of little benefit to human beings and comparatively useless to the Colony.

In the manufacture of beetroot sugar everything is profit to the State, and thousands of pounds are saved which would otherwise pass out of the country.

That the French consider the cultivation of the beet in Germany superior to their own is shown in the "Revue de Deux Mondes," vol. lxxi., fol. 51, in an article by Émile de Grovelege, upon "Les progrès recus de l'agriculture en Prusse."

Should any other information be desired on the subject, it will afford me much pleasure to answer any questions that may be put to me, as I think I am well versed in all connected with the industry.

Wellington, 19th August, 1871.

F. A. KRULL.

Enclosure in No. 20.

English Beet Sugar Culture.

At the Society of Arts recently an interesting paper on this subject was read by Dr. Voelcker, F.R.S. The chairman, Mr. Caird, in summing up the discussion that followed, referred to the growing importance of the subject. The use of sugar in this country, he said, is constantly increasing, and its consumption is greater than that of any other country. It had risen from 44 lbs. per head of the population in 1869 to 47 lbs. in 1870. The imports of last year exceeded 700,000 tons, and the consumption 643,000. This is equal to one-eighth in weight of the consumption of wheat, and to more than one-fourth in weight of the annual imports of that grain. Unlike wheat, it may be said at present to be entirely a foreign product. It is important, therefore, to consider the sources of supply of an article becoming to us one of prime necessity. A few years ago Cuba furnished nearly one-half of all