

X.—*On the Prospects of the Manufacture of Sugar from Beet-root in Ireland.* By W. Neilson Hancock, LL.D.

[Read 29th May, 1877.]

BETWEEN 1869 and 1876 an experiment was tried in Ireland of the manufacture of sugar from beet-root, which turned out unprofitable as a pecuniary speculation.

When the failure occurred, it was suggested by a gentleman of some character and influence that the want of success arose from a want of support of investors. He wrote :—

“The calculations of success, based upon that of Lavenham, Suffolk, and upon the ascertained value of Irish roots, would have been verified before now, had investors come forward sufficiently.”

As this is the second large attempt within the past quarter of a century to promote the manufacture of sugar from beet-root in Ireland, I think it may be of some use to take up the issue thus publicly raised as to the conduct of those who hesitated to invest, and to place on record some results that I ascertained in the course of an examination of the facts stated in support of the success of the manufacture to which I have referred.

In May, 1869, a foreign gentleman made a statement at a meeting of the Royal Dublin Society, in support of the plan of manufacturing sugar from beet-root, and not being satisfied with the report of his speech, he addressed a letter to the editor of the *Daily Express*, which appeared on the 12th of May, 1869. He said :—

“I did not refer to *twenty-five shillings and sixpence* per ton as the cost of growing roots, the highest price paid for the roots to the farmers was *twenty shillings*.

At Lavenham, in Suffolk, an English manufacturer is reported, in 1869, as carrying on the manufacture at this price.

“Mr. Duncan is rapidly using the supply of this district at *twenty shillings a ton*.”

In the prospectus of the English Beet Sugar Company issued at that time, the price of roots was estimated at *twenty shillings a ton*.

These statements all found the *twenty shillings a ton* as the highest limit of price fixed by the competition of cane sugar, which manufacturers of sugar from beet root in England could afford to offer the farmers.

Whether this price will pay the Irish farmers depends upon the relative produce of sugar beet, and mangold wurtzel, and the price the farmer can get for the latter crop for cattle feeding.

Now a paper was read at the Lavenham Farmers' Club in 1869, to encourage English farmers to grow the sugar beet, and the estimate of the relative produce of mangold and sugar beet produced was as follows :—

“Taking the average weight per acre of mangold (when clean) to be twenty-four tons, we hold the calculation for sugar beet to be sixteen tons.”

The writer then goes on to state that

“This produce, at ~~twenty~~ *twenty shillings a ton*, would give £16 an acre:

In the same year a careful experiment was made in Ireland by one of the most eminent of our Irish scientific agriculturalists, and the result communicated to me as follows :—

“We grew several acres of sugar beet last season, the average yield was fifteen tons per acre, as compared with twenty-two and a half tons per acre of mangolds, grown in similar soil and under similar circumstances.”

It will be observed that in Ireland, as in England, the produce of sugar beet is only two-thirds of the produce of the mangold. Now if we take the highest of these figures, the English produce of sixteen tons of sugar beet, or £16 an acre.

The price of mangold that would give the same gross result would be *thirteen shillings and fourpence* per ton.

Whenever mangold is above that low rate it will pay the farmer better to grow mangold than sugar beet. At the extremely low average of *fifteen shillings* a ton for mangold, the produce of twenty-four tons would produce £18 an acre; when mangold was twenty shillings a ton, the produce would be £24 an acre; and when mangold was, as it often is, thirty shillings a ton, the produce would be £36 an acre.

The question then arises, when the growth of mangold presents such attractions, how can a maximum of £16 an acre be sufficient to induce the Irish farmers to grow sugar beet for the manufacture of sugar, at such a small produce per acre.

In the facts I have stated as to the relative produce of sugar beet and mangold, and in the high price of mangold compared with the price of sugar beet, limited by the competition of cane, led me in 1870 to form the unfavourable opinion of the prospects of the manufacture, which has been, I think, borne out by the results.

My object, however, is not to lay down any absolute opinion on the subject, especially as my investigation was made seven years ago, but I wish to call attention to well-known and published facts, which I have had tested, in order that anyone who thinks of again embarking in the undertaking, should commence with a comparison of the relative produce of sugar beet and mangold in Ireland; and a comparison of the actual price of mangold for cattle-feeding, and the price which the competition of cane sugar will allow to be offered for beet-root.