

No. IV.

PRACTICABILITY AND ADVANTAGES OF THE MANUFACTURE.

The writer does not mean for a moment to say that any one reading these articles can go into the manufacture from the information here given, and make good sugar. Such is not the intention of these papers. We want to draw the attention of the Canadian farmer to the great fact, that Canada, through the means of her agriculturists, can produce all the sugar required for the consumption of the Province, and that the doing so would put the proceeds into the pockets of the farmers, instead of, as now, being sent out of the country. The farmer wants another money-producing crop, and the proposed industry will give it to him. Too much cannot, therefore, be said in favour of such a project. Many will say, "Yes, it is like all new things, very well to talk about, but it won't answer;" and they may possibly refer to the disappointments lately inflicted on the farmer, and the public generally, by the attempted growth of flax on a large scale. Sugar is not like flax. The value of flax fibre is governed by the price of cotton, and the quantity used is also governed by the improvements in the manufacture of cotton goods; but for sugar no substitute has been found. Slave labour was at one time the governing power of the production of sugar, but slave labour has now happily ceased, and even if it had not, the French and Germans have shown that free-grown beet root sugar can compete with slave-grown cane sugar, and that the use of sugar is, within itself, the cause of a constantly increasing demand. No sooner does the price of sugar fall to a rate where it can compete with malt and grain in the manufacture of beer and spirits, than the demand for sugar is so increased, as at once to clear the market of all surplus supplies, and thus again restore the price to a remunerating point. In fact, the demand for sugar may be said to be practically unlimited, and as yet it has found no substitute to compete with it.

A friend of the writer, for whose opinion on these points he has a great respect, because the friend was bred up in the country, and on a Canadian farm, has rather thrown cold water on the proposed industry, because he says, "that the generality of farmers are not, and cannot be made, manufacturers," that neither their means of information or habits of life tend in that direction, and that as a body they are incapable of dealing with a new industry like the one proposed.

Granting, (for argument's sake only, for I demur to the statement), that the general run of Canadian farmers have neither the intellect nor the means to manufacture sugar from beet root, there are none so ill informed and stupid that they cannot cut the root up into slices, and dry it either in the open air, or in a kiln constructed for the purpose, and thus reduce the root to one-fifth of its bulk,

so as to make it a profitable article to carry to the manufactory. But it will be said, "there are no manufactories." Granted again; but let farmers grow, and feed to their cattle, sugar beet, instead of mangels and turnips, and the manufactories will arise. Millions of capital are seeking investment, and a great industry, like the one proposed, would at once command a large proportion of it; but the capitalist cannot proceed until the sugar beet root is raised in plenty; whereas the farmer may as well raise the beet root as the mangel and turnip, and when he has done so, and thus shown the capitalist the fact that he can have any quantity of what he wants, manufactories will spring up like mushrooms, and we shall soon be exporters instead of importers of sugar.

The CANADA FARMER is a temperance publication, and advocates neither the use nor the manufacture of spirits; but, notwithstanding that, people will have fermented liquors and spirits, and all the rough grain produced by the farmer is not sufficient to make what is required; hence, millions of bushels of Indian corn are annually imported from the States, to the great loss of our farmers, who, in producing sugar beet, would produce a substitute for the corn now brought in, and the dried beet would not be a more cumbersome article to carry to market for the distiller's purpose than barley now is, and would produce a greater price per acre for the land sown, with this advantage too, that if the results of the root are applied to the land as manure, an improvement, instead of a deterioration, in producing properties, is found; whereas, grain growing occasions a serious diminution in the producing power of a farm.

NO. 5.

HOME PRODUCTION.

Since this series of articles was commenced we have ascertained that the same views have been adopted in Europe. The sugar manufacturers find that the business is now well established, and the demand so enormous for the beet root sugar, that the practice of growing the roots and manufacturing the sugar as one business is not the most profitable mode of procedure. The roots are so bulky that they will not bear carriage far, the business of growing them and of making the most of them when grown is more the business of the farmer than the manufacturer; and the course of affairs now tends to the manufacture of the crude syrup or sugar directly on the farm, and the subsequent conversion of it into refined sugar at the manufactory.

For the purpose of carrying out these views, a system has been devised whereby the farmer can, on a small scale, bring the produce of the beet root into a state fit for the refinery. The author of this plan is M.

Kissel. We have sent for his publications, and all others which bear on the point of the home manufacture of the syrup, the results of which shall in due time be made known to our readers. It is possible, however, that the present war may interfere with our intentions.

Meantime, there is another and most important phase of the subject which calls for special attention, and that is the fact that the cultivation of the sugar beet, when the results of the pulp of the root and the leaves of the plant are returned to the soil, cause a considerable and constant increase of fertility, until, from the statistics of the countries in which beet root sugar is manufactured, it is now found that the increase in the growth of wheat and other cereals is exactly in equal proportion with the increase of the root. Wheat, however, makes the best alternating crop.

This is not only proved by the statistics of the country in which beet root sugar is principally made, but the fact has long since been shown that by the growth of the beet, owing to the manure necessarily applied to produce the crop, and owing to the destruction of weeds which the tillage of the plant calls for, the land used for the purpose is increasing in richness and freedom from weeds, until a far higher grade of fertility is established than existed before the root was grown.

Land does not, under proper cultivation, get "sick" of beet root, as it does of other crops. The same fields have produced heavy and increasing crops of beet root year after year for very lengthened periods. In the beet root sugar countries, the same fields are used for that crop year after year without injury. The hauling of the roots to the factory is so heavy an item, that it makes it well worth the while of the manufacturer (who is also the grower of the root) to prefer what was at one time supposed to be the chance of injury to the land by repeated cropping, to the absolute expense of hauling the root from a distance; but this supposed injury by continual cropping with beet is now found to be a fallacy; the more beets are grown, provided the refuse is returned to the land, the better the land for crops both of beets and of wheat.

BEET ROOT AS A DESTROYER OF WEEDS.

This is another great argument in favour of the growth of the root in Canada; it would be the most destructive course of cropping for weeds that could be imagined. Thus, beets being a hoed crop, would leave the land clean for spring wheat the following year, but what would be better culture for Canada would be beets, followed by a partial summer fallow, then fall wheat. The stubbles of the fall wheat being immediately ploughed and manured, would leave the land in the finest possible condition for beets again, and this course would destroy, with the greatest amount of cropping and the