are formed from the maple sugar made on the farm. This is the purest source of sugar which the vegetable kingdom supplies. It has deposited all its woody portions and impurities in the tree, the growth of which it nourishes, and we get it filtered and purified to the greatest possible extent.

Beet sugar must not be looked at for a moment with the same ideas or treated in the same manner.

The beet root contains besides sugar and woody matter, portions of albumen, pectine, and other substances, and also a flavoring matter of a strong beety odor, but chiefly large quantities of potash and salt.

Were it not for the potash and salt, and the strong beety flavor before spoken of, the juice of the beet when defecated would boil down into a pure crystallizable sugar, at once useable as maple sugar is.

It is the beety flavor and the potash and salt which we have difficulty in getting rid of. —These matters, however, yield at once to the operations of the refiner. The only portions of the extract from the beet root which in the refiner's hands are not made use of is the essential oil which causes the strong flavor, and any other imparities which ought to have been removed before it comes to his hands. The mixture of potash and salt when extracted from the syrup and purified is really worth weight for weight, at least as much as the sugar.

The following table will show the money value obtained from the entire beet root crop in France *alone*, in the year 1865-6, and it must be remembered that Germany, Belgium, Holland, Austria, and Russia, all make their own sugar, or at all events the greater portion of it, from the beet root, and in all cases it must also be remembered that the beet root industry is one that has been, and is constantly increasing.

The beet harvest of 1865-6, in France alone, produced—

| | | |
|---|---|---|
| 275,000 | Tons of raw sugar worth | £6,250,000, |
| 100,000 | Pipes of strong spirit—each pipe containing from 100 to 120 gallons, part distilled from the root direct, without the assistance of the sugar manufacturer, and part, ly from the molasses, and worth - - - - | 1,350,000. |
| 20,000 | Tons of potash, worth | 500,000. |
| 1,600,000 | Tons of pulp, worth | 1,000,000. |
| | | £9,100,000. |

This is what is produced from the entire beet crop—not the value of the produce of the sugar manufactory.

The imports of beet root sugar at the British and Scotch ports for the first eleven months of 1871 were 134,480 tons, against 56,670 tons for the same period in 1870, and 31,060 for the same period in 1869; this shows the enormous increase of the manufacture.

Now, it is perfectly ridiculous to suppose (in the face of such a statement as the foregoing) that Canadians and the inhabitants of America generally, are going to confess inferiority to the French and Germans, and to allow it to be said, we have not nationally sufficient intelligence to make sugar from beets, when the continental nations are able to assist in supplying the world with that necessity.

Some people have been rash enough to say that our climate and soil are not fitted to produce the root rich enough in sugar to pay. This we most emphatically deny. The extended trials of the American patent office and the numerous instances of Canadian grown beets which have, during the last two years, come under the writer's hands, all show, beyond question, that Canadian beets, where well selected and well grown, are as rich in sugar as the best French and German or continental beets. If any one doubts it, all he has to do is to grow a patch of the best kinds of sugar beet in his field or garden, and following the instructions hereafter given reduce the roots to such a state that the amount of refined sugar they contain is easily proved by the ordinary tables and instruments. Others will say, and they are far the most practical. If it can be done, why has it not been done? In reply, I affirm that it is only because the manufacture has been made a mystery of and has not been understood. The chief trouble of the manufacture has consisted in the uncrystallizable sugar, and this, it is now proved, beyond a doubt, has been caused not by the sugar contained in the well grown root being inferior, but by the process adopted being imperfect. If the following instructions are carefully carried out, all difficulties and troubles as to uncrystallizable sugar will cease to be a serious obstacle.

With these few observations, I propose to lay before the readers of this little treatise, full instructions for the conversion of the root of the sugar beet into such a class of crude sugar as is best fitted for the refiner and in every way equal, for the purposes of refining to the best tropical sugar that is produced.

As the object of the writer is to tell people how to make sugar out of beets, and not to write a book, he will dispense with all dissertations as to how to grow the beet, and the various sorts, merely remarking that "the better the land is, in which beets are grown, the better will be the crop," that the beet for sugar must not be grown on black or peaty soil, nor on fresh green manure,—the land must be manured the previous season, and well prepared and ready for seeding in the fall—the seed must be sown as early as possible after the frost is out of the ground; if sown so late in the year as not to grow, it may even be sown in the fall. The ground; should all be prepared the previous fall, and be ready at once in the spring to sow the seed without further ceremony.

Grow the roots small, and close together;