

# THE CANADA FARMER

Vol. IV. No. 2.

TORONTO, CANADA, FEBRUARY 15, 1872.

NEW SERIES.

## The Field.

### Beet Sugar.

Next in importance to the possibility of making sugar from beet roots grown in Canada, is the question of profit. The writer has established beyond a doubt, in his own mind, and by constant and unremitting experiments, made on a practical working scale, that there is a certain and paying business to be done in the raw sugar manufacture alone, leaving out of the question altogether the refining of the article; and also that the sugar made from roots grown in Canada will crystallize as well, and is as strong in its quality as any made in France or Germany from continental grown roots. Also, after much thought and consideration, I have arrived at the following conclusions: That every ten square miles of land may have its raw sugar factory; in other words, that roots within such area can be grown sufficient for the employment of a reasonable sized factory, and that such factory can be built for about as much as an ordinary good steam saw mill; that such a factory can afford to pay from \$30 to \$50 an acre for beets delivered at its door, and then have at least 50 per cent. as profit in manufacturing raw sugar fit for the refinery; that from the refuse cake, vast numbers of cattle can be kept and fattened; that there is no end to the demand for the article at reasonable prices, so far as has yet been demonstrated by the experience of other countries; and that all these advantages can be had without any sensible diminution of the fertility of the soil, or fears of injuring the land. Now this may be considered "tall talk," but the facts will sustain the assertions. We all know that ten to fifteen tons of beet can be grown to the acre, and can be hauled a mile without much expense, and will pay well at \$4 cash per load of 2,000 lbs. Five acres of beets would at this rate yield a gross return of about \$260, and the beets can all be raised and hauled by

one team, at the rate of about half an acre a day; and the second load can be taken up and prepared by two boys, whilst the driver is away with the first. Then, when the beets are worked out, and the sugar extracted, the pulp or cake can be hauled back again in about one-tenth of the time, as ten tons of beet make about one ton of cake; and this cake, if pressed into pits, will keep for months perfectly fresh, and be all the better for it.

There is some loss of potash to the farm, but I am told years of experience have established the facts above stated, as being the result of growing beets in France and Germany.

For some months past the writer was in some doubt as to the possibility of securing the perfect crystalizing of the sugar; but steadily pressing on with experiments has demonstrated to almost a certainty that the glucose or uncrystalizable sugar can be generally avoided, provided certain fixed rules be always followed. Here then is one great point gained.

The next and not less important question was that of a market; and here we have been met by a most liberal letter from one of the principal sugar refining firms in Canada, stating that they were quite prepared to treat with parties willing to furnish such sugar, provided it was well and carefully prepared, and of good quality, and they were willing to pay all it was worth, estimating the value by the quantity of crystalizable sugar it contained.

Briefly recapitulating the foregoing conclusions, I submit—

1st. I have established the fact that sugar exists in Canadian beets in equal degree as in continental grown roots, and can be extracted in paying quantities therefrom.

2nd. That the price the raw sugar manufacturer can afford to pay for the roots will prove remunerative to the farmer.

3rd. That from all reliable accounts obtained from the continent, no depreciation takes place, as a rule, in the quality of the farm from the continuous growth of beet root.

4th. That there is every prospect that there will be a fair price paid for the raw sugar, even now at its first introduction; and in future, as competition brings the value more on a par with the cost (and machinery is introduced), there is every probability of a further rise in its value.

And therefore, lastly, we may hopefully look forward to the day, and not very far distant, when thousands of acres of sugar beet will be grown in Canada.

VECTIS.

### Double Furrow Plough.

This plough seems rapidly coming into general favour, notwithstanding the quite natural idea that it ought to take four horses to draw *two* ploughs, as it certainly requires two horses to draw *one*. By the most carefully conducted experiments, made in the presence of several members of the Royal Agricultural Society of England, it was clearly proved by the dynamometer that the power requisite to draw an ordinary iron plough when doing its work in the average soil and depth, was only three times as much as when the implement was drawn on the surface of the soil without *ploughing at all*—that is to say, to draw three light unloaded ploughs on the top of the land would take as much force as to draw *one*, when doing its work under it.

The next experiment had reference to the special locality or cause of resistance. A number of differently formed mould boards have been tried and patented, as great improvements, adapted each for special circumstances. Many great improvements have no doubt been developed by this enterprising spirit, but the great point established by the experiments in question was this—that the friction of the land side, when compelled to "hug" the earth close enough to resist and turn over the furrow slice, caused an enormous waste of power; yet the double plough attacked this point by placing the wheels *obliquely* in the furrow, so as almost altogether to remove the friction so complained