and the quantity of manure, in the thinning, &c., a very great difference in the sugar content of the beets may result. The usual methods of cultivation and manuring practised to produce a big crop of turnips, potatoes, &c., applied to the cultivation of sugar beets would produce an unprofitable crop for factory purposes In every country where beet sugar industries are established, is has required from two to three years' practice before the farmers have been able to grow beets containing satisfactory percentages of sugar.

Past analyses of sugar beets grown in Ontario have shown that fully onethird of each year's crop contains less than 12 per cent. of sugar, a percentage too low for factory use. It would indeed be a serious matter to both the farmer and the factory should one-third of the total crop grown for a factory contain only 12 per cent. or less than 12 per cent. of sugar. To avoid such a misfortune small plots of sugar beets should be grown according to definite instructions where a factory is likely to be established. Such an experiment would be an object lesson not alone to those growing the beets but more or less to all farmers in the neighborhood, and by the analyses of the beets valuable data regarding the fertility and the requirements of the soil of different farms and sections would be collected. In this way the farmers would learn quickly and inexpensively to produce crops of beets of high tonnage and rich in sugar.

Restitution to the soil of the constituents removed has to be considered in good farming more or less for all crops, and especially for any root crop. The impression prevails that sugar beets are particularly hard upon soil and will in time impoverish land. This is not necessarily true with sugar beets any more than with other root crops. Twelve tons of sugar beets, not including tops, removed from the soil 79.2 lbs. potash, 19.2 lbs. phosphoric acid, and 38.4 lbs. nitrogen, while an equal weight of turnips removes 48, 14 4 and 52.8 lbs. respectively of potash, phosphoric acid, and nitrogen. The comparison does not, except in the constituent potash, show that beets are more exhaustive than turnips. The tops of the twelve tons of beets contain 156 lbs. potash, 31.2 lbs. phosphoric acid, and 93.6 lbs. of nitrogen. This fact, however, is true of all root crops, viz , that the tops contain large quantities of ash constituents. A strictly scientific method of cultivation considers the available fertility already in the soil and supplies, less that in the soil, all that the crop requires In the cultivation of sugar for factory purposes, since a high content of sugar as well as a high tonnage is required, particular attention must be given to the form in which the manure is applied and to the relative quantities of the several ash constituents. An unproportional amount of nitrogen, for example, will prevent the formation of sugar, yielding, it may be, a high tonnage, but an unprofitable crop for sugar production.

In Germany, where the sugar beet is a staple crop, it occupies a position in the crop rotations between fail rye or winter wheat and a spring cereal crop, usually wheat or barley. By many large farmers the sugar beet is the money producing crop, while the other crops and the live stock are regarded as auxiliaries to it. A sugar beet farmer is also a dairy farmer who keeps from 50 to 100 mileh cows per 600 to 800 acres of land. The sugar beet pulp, especially when fed along with sugar beet tops, is an excellent food for dairy stock, and the large quantities of straw grown on sugar beet farms used as folder and as bedding, furnish manure which is applied to the land for the winter rye or wheat which prefeded sugar beets. In a word, live stock and grain growing are usually combined with and auxiliary to sugar beet cultivation. The kintion. Almo sugar beets. may be grow. Whatever his should the subest in a war and moist. require under also late in th to grow and in tent. A soil cultivation per

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