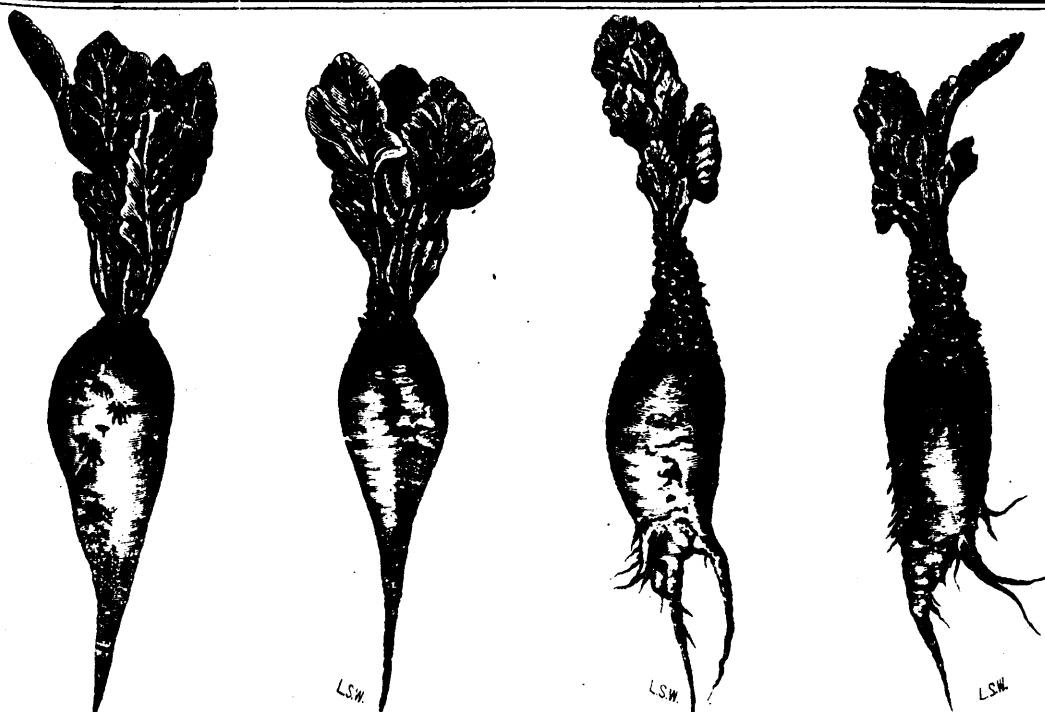




UNSTRIPPED.

EVIL RESULTS OF STRIPPING.

THE LEAVES OF THE SUGAR PLANT.

that no deception existed; for that reason it is desirable to know what the best sugar beets look like.

In order that our readers may appreciate the external difference, we give an illustration (Fig. 1) of a "white sugar grayish top." This variety closely resembles the mangel wurtzel in its manner of growing; but the skin, instead of being reddish, like the latter, is white, and the neck far less conical. Its maximum yield to the acre is 96,000 pounds and it contains only about 64 per cent. of sugar. Even this type is preferable to the mangel, as it contains a far greater percentage of sugar, and is susceptible of improvement.

We shall now consider two of the best types. First, we may mention the *Improved Vilmorin* with small neck. The shape, as shown in Fig. 2, is conical. It grows entirely beneath the surface; has an average weight of about one pound and is said to contain about fifteen per cent. of sugar. The maximum yield per acre is 28,000 pounds. Mr. Vilmorin's beet attained this state of perfection in 1879; but since then we have planted it, and we regret to say that it has shown a tendency to become forked, thus rendering the harvesting difficult; but its shape as represented in the illustration is most satisfactory.

If we now examine the types of sugar-beets that have taken recent prizes at the agricultural exhibitions throughout Europe, we will find long roots with comparatively small diameters (see Fig. 3.) These are the result of Professor Violette's selection of mothers and of improved methods of cultivation. These are known in Europe as *Deprez No. 1*. These roots have frequently contained seventeen per cent. of sugar, and have an average yield of 24,000 pounds to the acre. In the illustration we have supposed a theoretical shape for the neck, and, as shown, this is small and conical, and grows partly aboveground. The yield in this case, when compared with that of the grayish top, is small, but the percentage of sugar is double, and these very saccharine qualities are what is wanted. Admitting that these roots contained proportional quantities of other elements than sugar, the amount to be worked up would be double in the grayish tops that is the *Deprez*, while the amount of sugar that could be extracted would be the same. Consequently we have double the expense for the same result; and other complex manufacturing difficulties arise when using the large beets.

Let it be remembered that beets which have the appearance of *Figures 2 or 3* will, as a general thing, contain a satisfactory amount of sugar, and when it is asked what the best sugar beets look like these shapes should be borne in mind. In conclusion we would say that farmers should not be misled by large crops

and large roots, as the one is consistent with the other, but not with the sugar these roots are expected to yield.

THE LEAVES OF THE SUGAR BEET.

While the leaves grow the root increases but little. After the leaves cease growing, the root rapidly becomes larger.

Small leaves, with given signs indicate roots rich in sugar.

Light soils produce small leaves, for reasons unknown. Stripping the leaves makes the necks longer, increases the water, and lessens the sugar per centage in the root. The explanation of the latter is that the neck contains the greatest amount of salts and the least sugar.

BET SUGAR PRODUCT.—The continent of Europe now produces from beets more than one-fourth of all the sugar of all kinds made in all parts of the world. France makes 451,000 tons; Germany, 290,000; Austria, 205,000; Russia, 150,000; Belgium, 80,000; Holland and Sweden, 35,000—in all, 1,211,000 tons. France has about 500 sugar factories, and about as many distilleries for beet spirits and for beet sugar molasses. In this country capitalists are awakening to the importance of this branch of manufacture, and already immense establishments have been organized in some of the Eastern States. The prairies of the West afford the finest field for the cheap production of the beet.

GRAPEVINE LEAVES AS HOPS.—Did any reader ever try using grapevine leaves instead of hops in bread-making? Simply use grape leaves as though they were hops, only, perhaps, requiring a little larger quantity. After having made yeast, just before setting it to rise, stir into it from one-half to one teaspoonful (according to quantity of yeast) of light hop yeast, or that made by soaking yeast-cake in a little warm water, stirring in the flour and allowing it to rise. After the yeast has become light, use as you would hop yeast. While the leaves on the vines are still fresh and green, gather the tenderest and best, dry and save for winter use.—*Inter-Ocean*.

The largest sheet of plate glass in the world has recently been cut at the St. Gobain works in France. It measures 21.15 ft. by 13.48. It is 7-16 of an inch thick. It is white glass and weighs 1,573 lbs. The same works have turned out a silvered mirror 17.90 by 9.94 ft., weighing 770 lbs. The Jeumont works have produced a plate of white glass 17.81 by 11.51 ft., which weighs 1,100 pounds.