

cellar will usually afford satisfactory conditions for the storing of seed roots. Where cellar storage is not available or is unsatisfactory, the roots can be stored in pits outside.

(For pitting roots, see *Exhibition Circular No. 57*)

SEED RAISING.

Soil and Cultural Requirements.—Mangel seed can be grown profitably on many kinds of soil. A fairly light loam is preferable and should be used if available.

The land should be selected the year previous to planting. It should then receive an application of about 20 tons of barnyard manure to the acre, ploughed in, if possible, during the latter part of the summer. Throughout the remainder of the season the soil should be kept free from weeds, and in a good state of tilth, with the disc and drag-harrow.

As soon as it is possible to work the land in the spring, it should be ploughed and thoroughly worked into a good tilth. The field is then ready for planting.

Number of Varieties to Grow.—All kinds of beets, including mangels, sugar beets and garden beets, cross readily. As the value of the seed produced depends largely on its purity, it is imperative that arrangements be made to prevent crossings. The easiest and safest way to accomplish this is to **grow only one variety for seed.** The farmer who wants to grow a certain variety of mangels for seed is advised not to grow for seed any other variety of mangels or any variety of either sugar beets or garden beets, unless the seed plots can be located so far away from each other that danger of crossings between them is entirely out of the question. Under no circumstances should different seed plots be located less than three or four hundred yards apart.

Time to Plant.—As soon as the land can be conveniently worked, and the danger of heavy frost is past, seed mangels should be planted. If planted as late in the season as the middle of June, the seed may mature, but the yield will be much lower than if planting is done earlier.

During the hot weather of mid-summer the plants blossom freely and the seed sets readily, while, on the other hand, the general growth of the plant practically ceases. It is, therefore, imperative that the crop should be started as early as possible, in order that the plants may be large and strong by mid-summer, and thus capable of bearing a maximum amount of seed.

Planting.—At the time of planting care should be taken that the roots are not all dried out by being exposed to bright sun for even a short time. If planting is done on bright days, cover the roots with wet bags or straw when hauling from the pits, and do not expose more roots than can be planted in a comparatively short time.

For the purpose of cultivation, the roots should be planted in rows 3 feet apart with the roots 2 feet apart in the row. Each root should be firmly set in the ground so that the crown is level with, or a little above, the surface of the ground. Long roots may be set in at an angle to avoid deep digging, but care should be taken to have the lower part of the roots at least 6 inches below the surface of the ground to prevent its drying out.

Planting is most satisfactorily done with a spade. One man digs holes of required size and depth, another places the roots in the holes and fills them in, pressing the earth firmly around the root, and a third distributes the roots. Three men working in this manner should, after becoming accustomed to the work, plant from one-quarter to a third of an acre per day.

If the roots are small they may be planted in furrows made with a plough. In this case one horse is generally used, with the pull arranged so it will walk on the unploughed land. The roots are laid on the sloping side of the furrow and are covered by the following two furrows. The roots are thus planted in every third furrow. After planting in this manner, it will usually be found necessary to go over the field with a hoe and cover such roots that are not set sufficiently deep, or uncover those buried too deep.