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United States Department of Agriculture,
DIVISION OF BOTANY.

HORSE-RADISH CULTURE IN BOHEMIA.¹

Horse-radish is employed much more extensively by German and Austrian than by American cooks, with the result that the cultivation of the plant has received in those countries more attention than



FIG. 1.—Roots of the Maliner Bohemian horse-radish. (Reduced.)

with us. On the other hand the fact that the markets there afford an adequate supply, of good quality, has doubtless tended to encourage

¹In connection with the distribution of roots of the Maliner horse-radish it has seemed desirable to publish in full Mr. Fairchild's account of the method of growing this plant in Bohemia. The amount of hand labor required will doubtless prevent market growers in the United States from adopting this method in detail, but valuable suggestions may be derived from it. Those wishing information about the American methods of horse-radish culture, in which hand labor is reduced to a minimum, should consult Circular No. 15 of this Division.—

consumption of this acceptable condiment and to increase the variety of culinary uses to which it is put, it being employed not alone in the raw state, but as a prominent ingredient of boiled dressings for beef and mutton dishes.

The variety of horse-radish known in Germany and Austria as the "Maliner" or "Maliner Kren" is considered superior to any other. It is grown to perfection in Kuttenberg, a small village southwest of Kolin in Bohemia, whence large quantities are exported. It is distinguished by its unusually sharp penetrating taste, uniform shape, and excellent keeping qualities. The author is indebted to Mr. H. Schmidt, of the Agricultural College in Leitmeritz, Bohemia, for kindly furnishing him with brief notes on the culture of this variety of horse-radish, as practiced at Kuttenberg.

A deep, loose, strong soil with plenty of moisture is best suited to the culture of horse-radish. In the autumn the soil is forked over to a depth of 2 or 2½ feet, and well-rotted barnyard manure is thoroughly worked in to the depth of a foot or more. A narrow bed, 3 feet wide, is prepared, and in late March or early April the horse-radish cut-

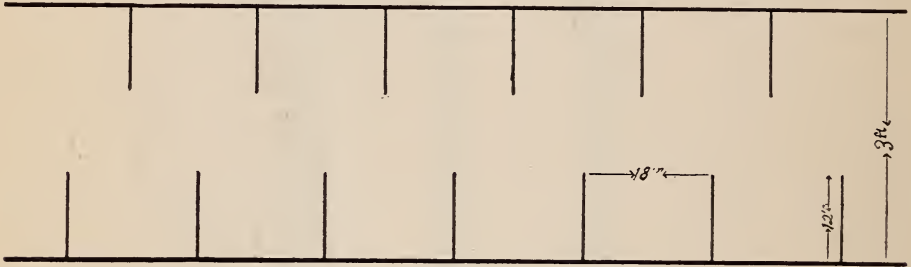


FIG 2.—Diagram of horse-radish bed.

tings are planted along both edges, alternating so that they are not opposite each other across the bed. The cuttings are 12 inches long and are set out 18 inches apart. Instead of being placed vertically in the ground, they are planted in an obliquely horizontal position, with the upper, larger end covered by only three-quarters to 1 inch of earth, while the lower lies 3 or 4 inches deep. As a consequence of this slanting position, the new roots thrown out from the lower end of the cutting, striking vertically downward, make almost a right angle with the main stem, and it is these slender roots from which the new cuttings for the next season's planting are made.

During the summer the ground is kept free from weeds and the surface of the soil lightly stirred. Toward the end of June the bed is gone over carefully and each cutting uncovered separately and slightly raised out of the soil with the hand. Care is taken not to injure the perpendicular roots which have formed from its lower end. All small rootlets are rubbed off from the body of the root with a woolen cloth, those that are too large to be removed in this manner being cut close with a sharp knife. A small quantity of powdered

charcoal is scattered over the cut surfaces to prevent decay. The cutting is again covered with earth as before.

In order to keep the new roots of a uniform diameter, and to prevent their striking deep into the soil and becoming too slender, the beds are sometimes underlaid with a porous cement pavement, a foot and a half below the surface of the ground. This pavement checks the growth of the young roots and causes them to thicken.

The roots are allowed to continue growth until the end of September, at which time the harvest begins. The cuttings which have been two seasons in the ground, the first as vertical roots and the second in the oblique position, are by this time large enough for market. In digging the horse-radish a long-bladed mattock or spade is used which enables the digger to remove not only the obliquely planted cutting, which is the marketable product, but also the new roots from its lower end, of which the cuttings for the next year are to be made.

The roots are sent to market in neat bundles of several dozen. The uniformity in length and diameter is remarkable, the average thickness being about $2\frac{1}{2}$ inches at the large end and $1\frac{1}{2}$ inches at the other.

Restaurants keep their supplies of horse-radish quite fresh for several months by planting the roots in cool cellars in moist sand, and the cuttings held over for the spring planting are kept in the same way.

There is every reason to suppose that the Maliner Kren variety of horse-radish can be cultivated as successfully in America as in Bohemia, if the hand labor entailed by the removal of the small roots from the cuttings is not too great. But even should this additional expenditure of care prove unprofitable the selection to which this variety has been subjected will probably render it superior even under the methods now practised by growers in America.

Whether the variety, when introduced, will retain its superior qualities can be determined only by experiment. A quantity of cuttings has, therefore, been imported for distribution to the State Experiment Stations, and to special growers who are already familiar with the culture of horse-radish and are willing to take the pains necessary for a careful experiment.

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Approved:

JAMES WILSON,
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