

## HORSERADISH

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Horseradish (*Armoracia rusticana*) is a perennial herbaceous plant which has its origins in south-east Europe; it has been cultivated for 2 000 years. The part of the plant which is consumed is the main root of the mature plant. The white fleshy roots have a sharp aromatic flavour due to the presence of the compound allyl isothiocyanate. After being harvested, roots are grated or ground after drying, and used as a condiment, mainly with meat dishes.

Horseradish is a member of the crucifer family. It is grown as a summer crop in temperate climates. Plants are reasonably hardy to cold weather, being comparable to cabbage in this regard.

Ideally the soil in which the crop is planted should be a fertile light loam of moderate acidity, and which does not have a high content of undecomposed organic material. The presence of this organic matter encourages the development of hairy, forked roots, which are undesirable.

Soil should be worked to a good tilth and well fertilized with a suitable mixture. Row centres are drawn 900 mm apart, and plants are spaced about 400 mm within the row, to give a population of about 28 000 per ha.

Seeds of horseradish are sterile, so the planting material used is root cuttings, usually 100 mm to 150 mm lengths of small diameter side roots. Cuttings are planted in an upright position, with the upper tip about 50 mm from the soil surface after covering. The roots are a fairly uniform diameter, so the lower end could be marked by cutting it at an angle.

Cuttings are established in early spring, preferably in moist soil. Lack of moisture results in growth setbacks and loss of production, so irrigation should supplement summer rainfall during dry spells.

Some growers believe that when above-ground growth is about 300 mm high, plants could be individually forked out, the side roots trimmed off, and the plant then firmed back into the soil. Branch root removal encourages optimal development of the main root.

Horseradish plants have oblong, serrated leaves and produce small white flowers.

The plants are reasonably free of disease and pest problems and no agricultural chemicals are registered for specific use on this crop.

Plants are harvested in late autumn to early winter. The plant tops and side roots are cut from the main roots, which may be stored at about 0°C and high relative humidity. Normally, though, the roots are sent immediately to a processor, where they are finely grated and mixed to a rough paste with vinegar. Alternatively, sour cream and other liquids are used. Good yields are about 9 t of raw root per ha.

The branch roots should be set aside for use as planting material at the commencement of the new season. Ideally they should be stored over the winter at 0°C and humidity above 85%.

The raw root has reasonably high concentrations of potassium and ascorbic acid (vitamin C), but its nutritional value is negligible because of the small quantities consumed. Its value lies rather in stimulation of the appetite from its flavour enhancement.