DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Agriculture and Natural Resources

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Home Gardening Series

Horseradish

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Vegetables

Environment

Light – sunny
Soil – well-drained, deep
Fertility – medium
pH – 6.0 to 7.0
Temperature – cool
Moisture – moist

Culture

Planting – root cutting in spring
Spacing – 2 x 4 inches
Hardiness – hardy perennial
Fertilizer – light feeder

Horseradish – *Armoracia rusticana* – Perennial

Horseradish is native to southeast Europe, but it is grown all over the world, even in the tropics where it is limited to higher altitudes. It has been used by the Egyptians and Greeks for over 3,500 years and is one of the bitter herbs at Passover.

Horseradish is a hardy perennial vegetable used for condiments. It is savored for its hotness when ground or grated and mixed in sauces for seafood, pork and beef dishes. Most home gardeners do not grow horseradish today because the prepared product is readily available in grocery stores. The connoisseur, however, continues to grow horseradish for the freshness. A few plants provide ample roots.

Cultural Practices

Horseradish is started from crown divisions or root cuttings. Plant whenever the soil can be worked in early spring. Place roots at a 45 degree angle 18 to 24 inches apart in shallow trenches. Cover with a ridge or mound of soil to a depth of 4 to 5 inches.

Horseradish grows best in deep, loose, fertile soil with abundant moisture. The plants grow 2 to 2 1/2 feet high, and the roots make their greatest growth during the cool weather of fall.

Most gardeners grow horseradish as a perennial along one end of the garden and keep it weeded by shallow cultivation or heavy organic mulch. Horseradish should be fertilized in the spring. A fertilizer high in potassium and phosphorus but low in nitrogen levels, such as 5-10-10, should be used at the rate of 2 to 3 pounds per 100 square feet. Fertilizing later in the year with a high nitrogen fertilizer is not recommended. Apply water if the plants wilt during hot weather in late summer and early fall. Dig roots any time from late fall (after a hard frost) until growth starts in the spring. Leave some small, pencil-sized, roots for next year's harvest, or plant them in another row.

Prepare your favorite sauce soon after digging. Surplus sauce can be frozen in small containers for year-round use. The roots can be cleaned

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Cultivars -

Crop	Cultivar	Days to Maturity	Seed Per 100 Feet of Row	Remarks
Horseradish	Maliner Kren	180	50	True bohemian horseradish; large, white roots.
	Big Top	180	50	Wide adaptability, vigorous growth.
	Hybrid Horseradish	180	50	Big, smooth roots; pungent.

and stored in a cold (32 degrees F), moist space and used as needed. The prepared product must be kept in a closed container and refrigerated between servings. Even under these conditions, horseradish turns brown and develops an off-flavor in four to six weeks. For this reason, gardeners like to prepare fresh horseradish to meet their immediate needs.

Horseradish is grown commercially as an annual crop. Set roots, which are 10 to 12 inches long, are planted in early spring; the plants are dug up in the fall. "Lifting" the roots removes the side roots from the upper portion of the set root, forcing the plant to develop one large main root. These one- to two-pound roots are sold to commercial grinders. The sets, which grow from the bottom, are stored for planting the following year.

Frequently Asked Questions

Q. How is horseradish planted and grown?

A. Horseradish is grown from root cuttings. The root cuttings are planted with the small end down and the large end 2 to 3 inches below the soil surface. Plant in the spring and harvest the horseradish in late fall.

Q. How long does it take horseradish to mature?

A. Horseradish is planted in the spring for harvesting in late fall. If not harvested yearly, it can quickly turn into a weed and take over a garden. Connoisseurs of horseradish recommend the plants be dug each fall eliminating the chance for them to get out of control. Most agree this improves the quality of the horseradish.

Q. Why are the roots of horseradish "hot" when they are ground?

A. The same compounds that make mustard leaves and seed "hot" are found in horseradish roots. Glucosinolates in the roots are converted into isothiocyanates by the enzyme myrosinase. When the roots are ground, the substrate and the enzyme come together in the air, the pungent smell of horseradish becomes volatile and is released. The addition of vinegar slows this reaction and stabilizes the level of heat.

Q. When can I first harvest horseradish roots?

A. Roots can be harvested any time in the second fall after planting. The best roots for storage are harvested after the tops have stopped growing or have been frozen. Dig roots and use what you wish for ground horseradish. Store extra roots in a refrigerator or cold storage as close to 32 degrees F as possible. Roots will store for many months until being used or replanted. There are usually enough roots left in the ground to replace the plants that were dug.

Q. Why are the tops of my plants very vigorous and lush but the roots are very branched and of poor quality to use?

A. Plants have been fertilized too late in the season and with a fertilizer that is too high in nitrogen.

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