



Rhubarb is a popular early, cool-season, perennial vegetable. It's easy to grow in the home garden or as a commercial crop. A member of the buckwheat family, rhubarb makes a great addition to an edible landscape. It is big leaved, often brightly colored, and has excellent flavor. A mature rhubarb plant can easily reach a height of 2½ to 3 feet high and 3 to 3½ feet wide.

The underground portion of rhubarb is composed of a large, woody rhizome with fibrous roots. The edible portion of this plant is the leaf stalk (also called a petiole), which grows from buds found on the crown near the surface of the soil. The leaf stalk is harvested as an ingredient for pies, sauces, and jams. But rhubarb leaves are toxic to humans and animals due to the high concentration of oxalic acid and soluble salts. This low-calorie vegetable provides

vitamins A and C, thiamin, riboflavin, niacin, potassium, phosphorus, and dietary fiber.

Rhubarb originally came from China and Russia, where the fleshy roots were used medicinally. It was introduced to Europe in the early 1600's and became a commonly used vegetable in America early in the 18th century. The northern U.S. and Canada have good growing conditions for rhubarb. Washington and Oregon are among the top-producing areas in the U.S. In 2012, the most recent year for which agricultural census data are available, the two states had more than 650 acres in rhubarb production.

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Climate and growing region

Rhubarb is very hardy. Leaves can withstand temperatures as low as 35°F without damage, and the woody rhizomes and crown will stay in frozen or very cold, dry soil for months without any damage from cold or desiccation. Rhubarb needs at least 500 hours of winter temperatures between 28°F and 40°F to properly form new leaf buds. It requires spring temperatures above 40°F to break dormancy and to stimulate growth and summer temperatures averaging less than 75°F for vigorous vegetative growth. Low temperatures in spring combined with cultivar genetics aid the development of the pink-to-red external and internal stem pigment that most people like in this crop. High temperatures result in green petioles, which are less desirable to some users. In warmer areas of Oregon, such as the high-desert region, late afternoon shade in the summer helps keep the plant environment cooler.

Soil

A deep, rich, well-drained, sandy loam with a soil pH of 6.0 to 6.8 is ideal for rhubarb production. Soil of this nature with a southern exposure produces the earliest crop, while production from heavier (higher clay content) soils is usually later. Light soils require more fertilizer and more frequent water than heavier soils. Due to rhubarb's high water requirement and drainage needs, light soils should be amended well with organic matter to help hold moisture. Amending heavy clay soils will improve drainage. If manure is used as an amendment, it should be aged for at least one year. Because you won't be able to amend the soil deeply once the rhubarb plant is established, the best time to do this is before you plant. In well-drained soils, amend a site deep enough to accommodate the roots and up to 24 inches across for individual plants. In heavy soils, amend the entire rhubarb planting area to prevent moisture retention that could cause root rot.

Fertilizer

If your soil tests below a pH of 6.0, it should be limed at the rate of 5 to 8 pounds of agricultural lime per 100 square feet prior to planting. At planting time, mix a quarter cup of 5-10-10 fertilizer with amended native soil and backfill into the top 10 inches of each planting hole. If the rhubarb is being grown for ornamental purposes instead of stalk



Photo: Tomi Stephan, © Oregon State University

Rhubarb can get quite large. Give it room to grow.

production, compost added each following year may be enough to keep your plant growing adequately while reducing the size. Adding a layer of compost 2 to 3 inches thick each year will provide a continuous source of nutrients to the plants. This can be made in split applications in spring and fall, if desired, but wait until the plant has gone dormant in the fall to avoid stimulating new growth late in the season. When maximum stalk production is the goal, it may be necessary to increase nutrition beyond compost. If this is the case, after the first year, add $\frac{3}{4}$ to 1 cup of 10-10-10 or $\frac{1}{2}$ to $\frac{3}{4}$ cup of 16-16-16 fertilizer each spring along with compost to increase the available nutrients. Sprinkle the fertilizer around the plant, not over the plant, before the stalks and leaves get too big, then water to move the fertilizer into the soil.

Irrigation

Rhubarb is a very hardy vegetable and once established can withstand drought conditions well, though it is far less productive when moisture stressed. Mulching with clean straw or other light organic material will help reduce evaporation of soil moisture and keep the soil temperature more consistent. Mulch should be placed under the leaves but not over the plant crown. Rhubarb grown in areas that are cool and rainy may not need additional irrigation until after the first harvest. Areas that are hot and dry will need additional irrigation most of the time. Rhubarb stores moisture in its large root system and needs to have good soil moisture to 12 inches deep. Water rhubarb long enough to get the moisture several inches deep and allow the soil surface to dry to a depth of 2 inches in between watering. Wilting or limp leaves is an indication of

inadequate water. Lighter, well-drained soils will need more frequent but shorter irrigation times than heavier soils. Newly transplanted plants will need more frequent watering than established ones.

Propagation

Vegetative propagation by crown division is the recommended method of rhubarb propagation. Large vegetative buds are found on the upper portion of the crowns. Rhubarb should be divided when the plant starts developing 25 to 30 or more smaller stalks instead of 12 to 18 larger stalks. This is often around the fifth or sixth year after planting but can vary depending on variety and growing conditions. Divide the crowns when the plants are dormant. You can cut each crown into several pieces, each with at least one large bud on it. In the coldest areas, plants should be divided in the spring to allow enough time after division for the root to build reserves before the following winter. When crowns are divided in the fall, it should be late enough in the season that the leaves won't try to "push" new leaves but early enough for roots to develop before the soil freezes. The parent crown should be left with 3 to 5 buds once fully divided. Five- or 6-year-old crowns should give 8 to 10 nice divisions. Divided pieces or purchased plants should be planted in the ground as soon as possible.

You can plant rhubarb in the spring and late fall, but where the winters tend to be severe it's best to plant in the spring. In large plots, fertilize and work up to 4 inches of compost thoroughly into the soil to a depth of 8 to 10 inches before planting, or mix compost with the excavated native soil and use this to backfill individual planting holes. All weeds should be removed from the planting site. In the home garden, rhubarb roots should be spaced 3 to 4 feet apart to give ample room for the plant to grow to full size and to allow for good air flow. This spacing will help reduce the spread of disease. Plant the top of the crown 1 to 2 inches below the soil surface. Pack the soil around the newly planted division so that there are no air pockets that might allow the new plant to dry out. Water thoroughly once you are finished planting.

Seed stalks frequently emerge or "bolt" from rhubarb crowns. Bolting can be brought on by age or environmental stress. Low soil fertility, high heat, alternating periods of hot and cold temperatures,



Photo: Toni Stephan, © Oregon State University

The large leaves of rhubarb are bold in the ornamental landscape and are useful as molds for bird baths and other craft ideas.

drought, and long nights may increase seed stalks. Some varieties form seed stalks yearly while others don't produce them as much. Victoria and MacDonald produce seed stalks more often and at younger ages while Valentine and Ruby Red produce fewer seed stalks and are usually older before seed-stalk production begins. Cut seed stalks off as they appear because they take energy from the plant and may reduce bud formation for the next growing season. Because the plant is cross-pollinated and seedlings seldom resemble the parent strain, the seed is used mainly by plant breeders. When allowed to develop, the seed stalks grow several feet high and are covered with white flowers. If the plant is being grown specifically as an ornamental, this could be a nice feature in the landscape. If you want to keep seed for breeding trials, it usually matures by the first part of July and can be started in a greenhouse or cold frame at the same time you would start tomato seed.

Varieties

There are over 60 species of rhubarb. Many of these are culinary types (*Rheum x hybridum*). The leading variety for outdoor production is Crimson, also known as Crimson Cherry, Crimson Red, or Crimson Wine. Grown both for fresh market and processing, it's a vigorously growing variety that produces bright red stalks. The internal color of the stalk is also red. Other varieties occasionally grown in Oregon are Valentine, Canada Red, and MacDonald—all red varieties—and Riverside Giant, a green variety. Victoria is a variety that produces green stalks with pink to red speckles. Ornamental

rhubarb (*Rheum palmatum*) has deep red foliage and is beautiful in the landscape, but the stalks are not edible.

Pests

Rhubarb does not attract many pests in Oregon. Red leaf, a bacteria, and phytophthora crown rot, a fungus, are the two most serious diseases west of the Cascades. Growers can prevent the spread of red leaf by roguing out infected plants, and they can stop phytophthora by rotating plants and ensuring good drainage in the garden. Slugs can damage new stands of rhubarb. Rhubarb does not grow as well in a weedy environment, so the area should be kept free of weeds as much as possible. For information on specific types of pests of rhubarb, consult the most recent version of the Pacific Northwest plant disease or pest management handbooks or go to <https://pnwhandbooks.org/search/site/rhubarb>. Though rhubarb is generally considered to be deer resistant, some growers in parts of the Pacific Northwest have had deer eat their entire planting. In this case, an exclusionary fence or use of repellents may be necessary.

Harvesting

Wait until at least the second year after planting to harvest your first stalks, then harvest only 3 to 4 stalks per plant. In the third and following years, a half-dozen or so stalks should be left on the plant at all times. To pick the stalks, grasp them down near the crown and give a slight twist and sideways pull to remove the stalk so as not to break or injure the primary bud. It's important to avoid bud damage because each bud will produce several stalks.

A normal harvest season lasts about 8 weeks. Rhubarb is often harvested in May and again in early to mid-July for use in pies, sauces, or other products. It can also be picked at random intervals during the growing period to meet the gardener's needs. Rhubarb should be allowed to regrow from late July onward without being harvested. As plants decline in August and September, the roots begin to store food reserves, and the plant becomes dormant. These food reserves will provide growth for the following spring.

If you harvest in late July or August, the rhubarb's maturity may be delayed the following spring. Late summer harvest also may reduce yields and



Photo: Toni Stephan, © Oregon State University

A rhubarb plant begins regrowth after a harvest.

plant vigor the following year. The number of years you may harvest a rhubarb planting depends on a number of factors, but usually productivity declines after 5 or 6 years, and then it's time to divide, replant, or both.

Rhubarb can be managed to produce a few days early, if desired. Mature crowns covered in early February, or after the ground thaws in colder areas, will produce usable rhubarb about 10 days earlier than uncovered plants. This is achieved by covering plant crowns with 2 mil plastic or straw. Row cover that increases temperature by at least 4-6°F may also be used as a cover. Clear plastic gives the best results. When covering the crown with plastic or row cover, secure the edges by digging a 4-inch trench around the crown or along the row, placing the edges of the cover in the trench, and covering it with soil. Stay about 12 inches away from the crown. Allow about 10 inches of slack in the material covering the dormant crown to give room for stalks to lift the cover as they grow, or place wire hoops over a row to support the cover. If using plastic, cut quarter-inch ventilation holes in the cover as the rhubarb begins to grow. This is not necessary if row cover is used as it is already breathable. When stalks push tightly against the cover, you may cut an opening to allow leaves to expand through or take it off. Harvest may begin as soon as stalks are of sufficient size. You can use black plastic, but your yields will be lowered. Your rhubarb stalks will be a bright red color and leaves will be yellow due to the exclusion of light. The oxalic acid in the leaves can move into the stalks



Photo: Toni Stephan, © Oregon State University

Rhubarb grower and rhubarb cookbook author Linda Stephenson, right, with a friend at the annual Rhubarb Festival in La Pine, Oregon.

if the leaf gets damaged by frost or freeze. If the stalk has any softness or becomes limp, both the stalk and leaf tissue should be discarded and not consumed by humans or animals. The damaged plant material can be composted, however.

Rhubarb is a nutritious, easy-to-grow vegetable that can easily be part of a backyard garden. Its large leaves and colorful stalks make it a great addition to the ornamental garden as well. It has been grown in home gardens for many years and should continue to give pleasure to gardeners for its food and ornamental value for years to come.

If you have never tried using rhubarb in a recipe before, here is a simple one to try. It's a favorite of Linda Stephenson, of La Pine, Oregon.

Recipe: Strawberry-Rhubarb Upside Down Cake

- Preheat oven to 350°F.
- 9 x 13 x 2-inch greased pan
- 4-6 cups of rhubarb, cut into 1-inch pieces
- 1½ cups sugar
- 1 small package strawberry gelatin
- Mix above ingredients together and pour into baking pan. Spread out evenly.
- 1 white or yellow cake mix

Follow package directions and pour over mixture.

Bake 50-60 minutes.

A recipe for [rhubarb blueberry crisp](#) is on OSU Extension' Service's [Food Hero website](#). Food Hero is an initiative of Oregon Supplemental Nutrition Assistance Program Education (SNAP-Ed), which was developed by OSU Extension.

For information on preserving rhubarb, check out *Preserving Rhubarb* (SP 50-882), Oregon State University Extension Service at http://extension.oregonstate.edu/lane/sites/default/files/documents/sp_50_882_preservingrhubarb.pdf.

For commercial production of rhubarb, refer to *Oregon Vegetables—Rhubarb* at <http://horticulture.oregonstate.edu/content/rhubarb-0>

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