

Growing Raspberries

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Raspberries can be an enjoyable crop for the conscientious gardener. A well kept raspberry bed can provide fruit for 10 to 20 years. Red raspberries grow well throughout New England, but black and purple raspberries and blackberries lack the hardiness to be grown north of well sheltered sites in southern Maine and New Hampshire.

Selecting a Planting Site

To get the most out of your raspberry planting, you must choose your planting site carefully. Raspberries prefer full sunlight and grow best in well-drained, sandy loam soils rich in organic matter. Avoid low areas that remain wet late into the spring, but select a site with access to a water supply. Irrigation is important for good plant growth during dry periods and can improve fruit size and yield. Do not plant raspberries where tomatoes, potatoes, peppers or eggplant have been grown within the past four years, because these crops carry a root rot, called Verticillium, which can also attack raspberries. Destroy all wild bramble plants within a distance of 600 feet of the site if possible, to reduce the possibility that viruses might spread to your planting.

Preparing the Soil

Getting the soil ready for raspberries may take up to two years, depending on its condition. Test the soil to determine its pH and fertility levels. Soil testing information is available from your county Cooperative Extension office.

Raspberries grow best in a soil pH of 5.6 to 6.2; this may require applications of ground limestone. To improve the level of organic matter in the soil, and to kill out perennial weeds, sow a cover crop, such as buckwheat, rye, millet or oats, and plow it into the soil before it goes to seed. There should be time enough for two sowings in a single season. Applications of barnyard manure or compost and repeated tilling for a full season can be substituted for cover cropping. However, be aware that animal manures may contain weed seeds that can later become a problem in your planting.

In the spring of the planting year, spread 25 pounds of 10-10-10 garden fertilizer per 1,000 square feet of the planting site. If you prefer organic fertilizers, use 50 pounds of cotton-seed meal, 15 pounds of lambeinite (sul-po-mag), and 50 pounds of rock phosphate per 1,000 square feet. Fifteen bushels of cow or horse manure, or eight bushels of poultry, sheep or rabbit manure can be substituted for one quarter of these fertilizers. Cultivate the soil several days before planting to incorporate the fertilizer and break up any clumps or clods.

The Raspberry Plant

The crowns and roots of raspberry plants are perennial, but individual canes live two years. Each spring, plants produce canes from buds on the crown and underground lateral stems. These canes grow vegetatively during the first season, overwinter, and produce fruit during the summer of the second year, while new canes emerge to provide a crop for the following year. Second-year canes die shortly after fruiting. Everbearing raspberries bear a crop on first-year canes in the fall, followed by a typical summer crop the second year.

Suggested Cultivars

Although a wide selection of raspberry cultivars (varieties) is available, only a few will do well under the short growing seasons and severe winters of northern New England. Select only those that are rated very hardy and early or mid- season ripening.

In general, red raspberries are the hardiest type, followed by purple raspberries, black raspberries and blackberries. Temperatures below - 5° F will kill blackberry and most purple and black raspberry canes, so these should only be planted in southern parts of Maine and New Hampshire, on protected sites.

Order your plants from a reputable nursery or garden dealer. Specify disease-free, virus-indexed stock. Most raspberries are sold as dormant, one-year-old canes,

but some nurseries offer plants generated by tissue culture, or micropropagation. Tissue cultured plants may be more expensive, but they are less likely to have disease problems.

RED RASPBERRIES

Boyne: Early ripening. Large crops of medium-sized, dark red berries with good flavor. Short, spiny canes. Very hardy.

Reveille: Early ripening. Soft, medium-large fruits with good flavor. Hardy for southern Maine and New Hampshire only.

Newburgh: Ripens mid-season. Large, round, bright red fruit with fair flavor. Good for freezing. Vigorous plants. Hardy.

Kilarney: Ripens mid-season. Medium-sized, bright red fruit with good flavor. Short, spiny canes with many fine thorns. Very hardy.

Latham: Mid-to-late ripening. Medium-large fruit, prone to crumbling, with fair flavor. Plants are vigorous with few thorns. Very hardy.

EVERBEARING RASPBERRIES

August Red: Earliest ripening everbearing type. Soft, medium-sized fruit with fair flavor. Short, spiny canes.

Fall Red: Early ripening first year crop, but may be too late for all but extreme southern Maine and New Hampshire. Medium-small fruit, soft with good flavor. Vigorous, short, spiny canes.

PURPLE RASPBERRIES

Royalty: Late ripening. Large, round reddish purple fruit, soft, with good flavor. High yielding. Large vigorous canes with thorns. Susceptible to root rot. Moderately hardy.

Success: Mid-to-late ripening. Small, dark purple fruit with good flavor. High yielding. Slow spreading plants, with thorns. Difficult to propagate. Hardy.

BLACK RASPBERRIES

Jewel: Mid-season ripening. Firm, glossy fruit with good flavor. Vigorous, erect plants. Moderately hardy.

BLACKBERRIES

Darrow: Large, glossy fruit with good flavor. Vigorous, erect plants with large thorns. Moderate hardy.

ILLINI: medium red, good quality fruit. Reported to be hardy to - 20°F.

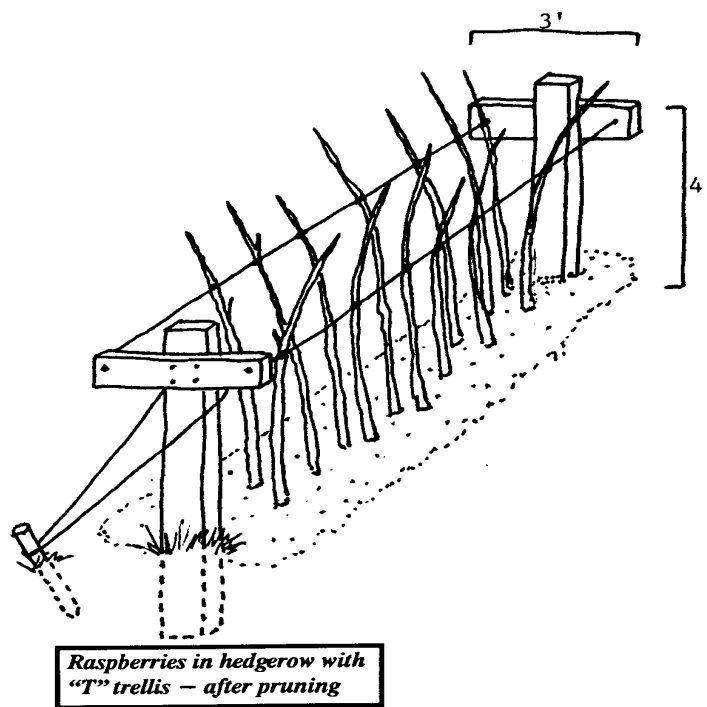
Planting and Management Systems

Raspberries plants should be planted early in the spring after the danger of severe frost is past (in late April to early May). Do not allow plant roots to dry out prior to or during planting. Plants should be set at the same depth or slightly deeper than they were in the nursery. Firm the soil around the roots and water the plants. If one-year-

old canes are used, cut them back to a height of four to six inches above the ground.

Red raspberry plants are typically grown in a hedgerow. Crowns should be planted about two feet apart in rows that are eight to 12 feet apart. Choose the wider spacing if you'll be using large equipment, such as tractors, in the planting. The plants will soon send up suckers from the roots and crowns to form a hedge, which should be maintained at 12 to 18 inches wide.

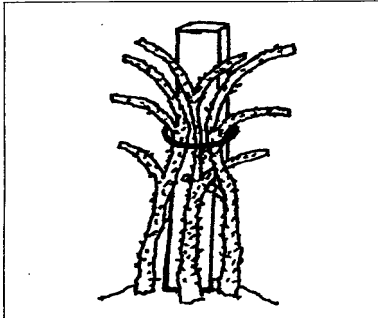
Purple and black raspberries and blackberries only produce suckers from the base of the crown and will not fill out a hedgerow as red raspberries do. For this reason, they are frequently grown in the hill system to get the most production out of individual plants. For this system, plants should be set four feet apart in rows eight to 12 feet apart.



All raspberries should be grown with some sort of a trellis. For plants grown in a hedgerow, the "T" trellis system is recommended. Sturdy posts should be set in the row with 3 1/2 foot long cross arms affixed at a height of 3 1/2 feet. The posts should be set at least two feet deep in the ground and anchored at each end of the row. Secure heavy gauge wire along the length of the row on each side of the cross arms. Tie fruiting canes to the wires on each side to make harvest easier and reduce fruit loss. The "T" trellis also makes pruning easier by encouraging new cane growth to occur in the middle of the row, rather than the outside edges.

For black and purple raspberries and blackberries grown using the hill system, a sturdy post is set next to each

plant (four feet apart in the row). A wire can be run along all the posts in the row, about 4 1/2 feet above the ground. The fruiting branches of each plant should be spread along the wire, or the canes of each plant can simply be tied to the post next to them.



Black raspberries in hill system — after pruning

Care and Fertilization

Keep the planting completely free from weeds with shallow cultivation and hand pulling as necessary. Make sure the plants receive one to two

inches of water a week for best growth. Mulch can be used to reduce weed problems within the plant rows. Spread sawdust, bark, pine needles or rotted leaf mulch over the plant rows and maintain at a depth of three to four inches. In addition to weed control, mulch will help retain soil moisture and add valuable organic matter; however, the use of mulch will increase the risk of winter injury by delaying plant hardening in the fall.

Starting the second year of the planting, a cover crop can be planted between the rows. An annual cover crop, such as spring oats, can be sown just after harvest. The oats will aid in hardening off the raspberry plants for winter by using up excess water and nutrients in the soil and will also reduce weed growth. Oats will be killed by low winter temperatures, and the dead sod cover will reduce soil erosion and weed seed germination in the spring.

A permanent cover crop may also be sown following harvest the second year. A non-competitive grass cover, such as a bluegrass-fescue mix, can be sown between the plant rows. Take care to prevent grass from spreading within a foot of the raspberry plants, or it will compete with the raspberries for water and nutrient. Permanent sod covers provide easy access in the raspberry planting, prevent soil erosion and weed growth and can be easily maintained by regular mowing.

Raspberries should be fertilized each year in the early spring (mid-April). Apply 20 pounds of 10-10-10 per 1,000 square feet of the planting. Increase the rate to 25 pounds if a heavy mulch is being used. If organic sources of fertilizer are preferred, use 50 pounds of cottonseed meal, plus 15 pounds of lambeinite (sul-po-mag), plus 50 pounds of rock phosphate per 1,000 square feet.

Pruning

Pruning is a vital part of maintaining a healthy raspberry planting. This practice greatly inhibits the spread of raspberry diseases and improves fruit quality and yield. Pruning red raspberries should begin immediately following harvest by removing all the canes that fruited. This improves light penetration and air circulation of the canes that will fruit next year. Also, remove any new canes that are growing outside of the 12-to-18 inch row width, or show obvious symptoms of insect or disease damage. In the spring before the buds break, thin remaining canes, leaving only four to five of the sturdiest per foot of row. Spread the canes that are left onto the wires of the trellis and tie them with twine or some other soft material.

Everbearing or fall bearing red raspberries bear a late season crop on first-year canes. If they are pruned in the same manner as the summer bearing types, they will bear two crops per season; one in the summer on the second-year canes, and one in the fall on the first-year canes. Everbearing raspberries are usually managed to produce only the fall crop. Simply mow the canes down early each spring. During the summer, cut down any new canes which develop outside the 16-inch row width and thin the remaining canes to about six inches apart, leaving the sturdiest. This technique greatly reduces pruning labor, but also eliminates the summer crop. Unfortunately, most everbearing cultivars, such as Heritage, produce the fall crop too late in the season to escape damage from frost in most of northern New England.

For black and purple raspberries, pinch off the top four inches of new canes when they reach about three feet in height. Blackberries should be pinched when they reach four feet. This encourages these canes to form side branches, or laterals, which will bear fruit the following year. Remove all canes that fruited immediately following harvest. In the early spring, thin remaining canes, leaving only five to seven of the sturdiest per hill. Cut side branches back to 12 buds (usually about 12 inches in length) and tie the canes to the wire or post for support.

Remove all plant waste from the field after pruning and destroy it, preferably by burning. Leaving dead canes in the planting will encourage the spread of disease.

Harvesting Raspberries

Raspberries are ready to pick when they easily separate from the receptacle or core. Blackberries do not separate from the core, so ripeness should be judged by color and taste. All bramble fruit are extremely perishable and should be harvested frequently. To maintain fresh

quality, place fruit in shallow containers, no more than three fruit deep, and cool the fruit to 33° F as quickly as possible. Fruit properly harvested and held at this temperature can maintain fresh quality for three to seven days. If the fruit is to be made into jam or jelly, process it immediately, or freeze it until ready to use.

Insect and Disease Management

Raspberries are subject to attack by viruses, fungi and several types of insects, but many problems can be prevented by proper planning and care. Select only raspberry cultivars that are very hardy, and plants that are certified virus-free. If possible, destroy all wild brambles within 600 feet of the planting. Encourage good air circulation by having at least eight feet between your plant rows and keeping the hedges to a 12-to-18 inch width. Prune your plants regularly to promote healthy new growth and reduce the spread of diseases. Keep the planting weed free to discourage insect pests and prevent competition for water and nutrients.

For specific pest identification and management techniques, contact your county Cooperative Extension office.

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