

Raspberries in the Home Garden

Resource: U of M Extension

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Raspberries belong to a large group of fruits known as brambles, all in the plant genus *Rubus*. Three main types which can be grown in the home garden are red, black, and purple. (Yellow raspberries are albino red raspberries.) Raspberries can be grown successfully in most areas of Minnesota.

Raspberries have perennial roots and crowns, but their canes live for only two summers. Most raspberries are summer-bearing varieties. During the first year, the new green cane (primocane) grows vegetatively. The cane develops a brown bark, is dormant in winter, and during the second growing season is called a florican. The florican produces fruit and then dies. New primocanes are produced each year, so fruit production continues year after year.

Red and yellow raspberries produce numerous new canes from the base of the floricanes and from buds produced on the roots. The plants can spread in any direction. Thus "raspberry patch" is an apt name if the canes are not controlled through pruning.

Black and most purple raspberries produce primocanes only from the buds at the base of the floricanes. These clumps or "hills" remain in the original planting location.

Ever-bearing red raspberries, also called "fall-bearing" or "primocane-fruiting" raspberries, are able to initiate flowers during the first year. These cultivars produce fruit at the tips of the primocanes. During the second year, they can produce a summer crop on the same canes. One problem with this type of raspberry in Minnesota is that in areas of the state where the growing season is short, many fruits may be lost to early freezes. Pruning of fall-bearers may be adjusted to allow for both a fall and following summer crop, or to take just the fall crop.

Grow raspberries in a part of the garden that has good air circulation, good drainage, and full sunlight. Good air movement helps foliage dry faster, thereby reducing disease problems. Standing water will increase the likelihood of disease problems and death of the plants due to a lack of oxygen to the roots. Any well-drained soil is satisfactory for growing raspberries. Irrigation will be needed on a sandy soil, and even on more moisture-retentive soils during dry spells. Raspberry canes are sensitive to desiccation, so avoid a windswept site.

Cultivars

The list of cultivars below is based on research done through the Minnesota Agricultural Experiment Station. Most of the cultivars on the list are hardy throughout Minnesota; those with hardiness described as "fair" or "poor" will perform best in protected sites and in the southern part of the state. If raspberries

typically suffer from winter injury in your garden, primocane-fruiting varieties may be the best choice. (Some of the newest cultivars have not been fully tested for freezing quality.) This is only a partial list.

Red Floricane-Fruiting								
Cultivar	Hardiness	Harvest Season	Productivity	Fruit Size	Attractiveness	Firmness	Flavor	Freezing Quality
Boyne	very good	early	very good	medium	fair	fair	good	very good
Nova	good	early	very good	med-large	very good	good	very good	very good
Prelude	fair	early	good	medium	good	good	very good	good
Latham	excellent	mid	very good	med-large	very good	good	good	very good
Red Primocane-Fruiting								
Cultivar	Hardiness	Harvest Season	Productivity	Fruit Size	Attractiveness	Firmness	Flavor	Freezing Quality
Autumn Bliss	fair	early	very good	large	very good	fair	very good	very good
Redwing	very good	early	excellent	medium	very good	good	good	good
Caroline	fair	late	fair	large	very good	very good	very good	—
Yellow Primocane-Fruiting								
Cultivar	Hardiness	Harvest Season	Productivity	Fruit Size	Attractiveness	Firmness	Flavor	Freezing Quality
Anne	fair	mid-late	fair	large	good	good	excellent	—

Planting and Care

Early spring is the best time to plant raspberries. Purchase disease-free plants from a reputable nursery. Viruses can be readily transmitted into a planting through infected plants, and there is no way to “cure” the plants once they are infected. They can only be destroyed to control the spread of the virus.

The favored planting system for red raspberries is the narrow hedgerow. Set red or yellow raspberries

every 2 to 3 feet, in rows at least 6 feet apart. Allow new primocanes to spread along the row but not wider than 12 inches. Wider rows invite fungal diseases because of slow drying conditions.

Set black and purple raspberries with 4 feet between plants and 8 feet between rows. Because these cultivars do not produce root suckers, they should be maintained in a hill system. The "hill" does not mean mounding the soil; it refers to the cluster of canes that develops from a single plant. Although black and purple raspberries do not send up new primocanes outside the hill, they can spread: the long, vigorous canes often arch down to the soil surface, where they may take root. It's important to keep the canes controlled and trellised.

Raspberry plants need to be fertilized. When primocanes emerge in new plantings, scatter $\frac{1}{4}$ cup ammonium nitrate (33-0-0) around each plant. Once the planting is established, fertilize yearly by the first of May. Evenly distribute fertilizer such as ammonium nitrate ($\frac{1}{5}$ cup) or 10-10-10 ($\frac{1}{2}$ cup) per plant. Do not apply all fertilizer at the base of the plant, but spread it over the entire area.

Composted manure is a good source of nutrients and can be incorporated prior to planting at a rate of $3\frac{1}{2}$ cu. feet per 100 sq. feet, to improve soil structure and provide nutrients. On established plantings, apply the same rate for plant nutrition.

Raspberries benefit from mulching. Good mulches for use in the home garden include leaves, lawn clippings, and wood chips or shavings, because they are usually free of weed seeds. Add $\frac{1}{4}$ to $\frac{1}{2}$ cup of ammonium nitrate per bushel of wood shavings to speed decomposition and protect against nitrogen deficiency in the plants.

Plentiful water is important for raspberries from spring until after harvest. Because the root system is in the top two feet of soil, watering regularly is more beneficial than an occasional deep soaking. Raspberries need 1 to 1.5 inches of water per week from flowering until harvest. Use a rain gauge or check reported rainfall, and irrigate accordingly.

Raspberries will begin to bloom in late May or early June. Bumblebees, honeybees, and other wild bees are enthusiastic pollinators of brambles. The more bees working your planting, the more fruit you will harvest.

Pruning and Training

All raspberries benefit from some type of support system, because canes are susceptible to wind whipping, particularly when the fruit is present. Such a system can be as simple as posts with twine tied between them, or more elaborate with permanent posts and wire.

With the narrow hedgerow system, the simplest trellis system uses single or double wires or twine. Place posts about every 10 to 12 feet. Then place the canes between the wires and tie them loosely to the wire. The wires can be tied every 2 feet to prevent spreading. Remember, the rows need to be kept narrow.

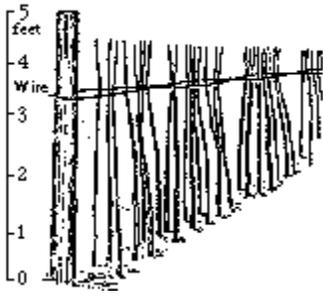


Figure 2. Wire trellis-hedgerow system.

Black and purple raspberries grown in the hill system need to have a support system as described above. Since there are no primocanes coming up between hills, canes need to be tied along the wire to fill the space on the trellis.

Raspberries grow vigorously and need to be pruned yearly. Pruning practices depend on the type of raspberry grown.

Summer-bearing red and yellow raspberries: After the last harvest, cut all canes that have produced fruit to ground level and remove them. This eliminates a disease source and gives primocanes more room to grow. Thin primocanes to 4 to 5 sturdy canes per foot of row. In areas where winter injury is common, you may delay thinning the primocanes until the following spring, when you will be able to tell which canes have survived. Primocane growth may be somewhat less under this delayed-thinning method, due to competition among new canes. Before growth starts in spring, cutting the canes to about 12 inches above the wire is desirable. Don't cut back more than 25% of each cane, to avoid reducing yield.

Fall-bearing raspberries: If only a fall crop is desired, cut all canes off at the base before growth begins in spring. Fruit will be produced on primocanes in late summer or fall. If both fall and summer crops are desired, thin the canes as described for summer-bearing raspberries. The primocanes that produced the fall crop should not be removed, as they will produce fruit the following summer. Prune them back in spring to about 12 inches above the wire, or to the last visible node that had fruit, cutting off the dead tips.

Black and purple raspberries: When primocanes are between 24 to 30 inches in height, pinch out the tip of each shoot to induce branching. This will make the fruit easier to pick and increase production. After harvest, cut down all canes that bore fruit to ground level. Before growth begins the following spring, cut back all side branches so they are 12 to 18 inches long. Select 4 to 5 canes per hill, and prune out the rest. Tie these canes to the support system.

Pests and Problems

Good cultural practices will usually reduce insect and disease problems, as healthy canes recover rapidly. A number of insect pests induce wilting of the cane, either at the tip or along the entire cane. Removal and disposal of infested canes is sufficient control in most instances. Picnic beetles, also called sap beetles, can become a severe nuisance soon after berries begin to ripen. They are attracted to all types of overripe fruit, as are wasps. Frequent picking will help reduce the amount of overripe fruit and decrease the area's attractiveness to insects.

A limited number of diseases affect raspberries. Cultural practices that limit the spread of diseases include planting certified disease-free plants, destroying wild or abandoned brambles near the garden, and removing weak and diseased plants in established plantings. After harvest, remove and destroy canes that have fruited or are weak; improve air circulation by proper thinning and pruning and by controlling weeds. For additional information refer to University of Minnesota Extension Service FS-1152, item *Raspberry Diseases*.

Weeds are difficult to control in raspberry plantings, yet the rows must be kept weed-free. Pull any weeds that come up in the rows, and use a thick layer of mulch to discourage more.