

Growing Raspberries

Donald E. Janssen, Extension Educator – Horticulture and Paul E. Read, Extension Viticulture Specialist

Raspberries, blackberries, boysenberries and other members of the genus *Rubus* are referred to as **brambles**. This NebGuide focuses only on raspberries and their culture.

Raspberries are an excellent small fruit to grow in the home garden. They have vigorous growth, are seldom injured by spring frost and produce high-quality fruit. The fruit is used for jams, jellies, pies and as a fresh fruit. Fresh raspberries are expensive in the marketplace and may be hard to find, making them an excellent small fruit to grow.

Raspberries can be divided into two types based on fruiting time and frequency. The summer bearing type produce fruit only once during the year in midsummer; whereas the everbearing or fall bearing types produce one light crop in summer and a heavier crop in the fall. Raspberries can further be divided according to color and growth habit.

Summer-bearing, red-fruited raspberries produce one large crop of fruit in the summer. They usually reproduce by root suckers, have an erect growth habit and therefore may produce a thick hedge after three or four years.

Black-fruited raspberries are not as productive because of their susceptibility to diseases, especially anthracnose. They usually do not produce root suckers and are propagated by tip or simple layering. Their canes are not very erect and require trellising.

Purple raspberries are hybrids of red and black raspberries and mature later in the summer than the red-fruited raspberries. They are vigorous, intermediate in growth habit between red and black raspberries, and usually require trellising. They are propagated by tip or simple layering.

Fall-bearing (sometimes called “everbearing”), red-fruited raspberries produce both a fall crop and an early summer crop. The fall crop is the largest and produced on the upper portion of the first-year canes (“primocanes”), while the smaller summer crop is produced on the lower portion of the cane in its second year of growth. Fall-bearing raspberries are often managed for a fall crop only. They reproduce by root suckers and produce a hedge.

Yellow-fruited raspberries are not usually recommended, but newer cultivars for trial plantings are noted later in this NebGuide.

There are many cultivars (“varieties”) of raspberries to choose from when planting, however, not all of them are adapted to Nebraska’s climate. Below are cultivars to strongly consider.

Summer Red

Killarney — Considered to have excellent cold-hardiness, medium-size berries with an attractive bright red color and very pleasant raspberry aroma. It is an early season cultivar and a favorite for making pies.

Latham — Plants yield well and have fair winter hardiness and few spines. They are resistant to fungal diseases and virus. Fruit is medium-sized, round, firm and light red. Fruit ripens midseason and has an extended harvest period.

Titan — An early maturing, large-fruited, mild flavored cultivar with a high level of aphid resistance. May require trellising. Plants are susceptible to crown gall and root rot and should be grown on raised beds or light (sandy) soils.

Black

Cumberland — Considered by many to be the best flavored of the black raspberries. Canes are vigorous and productive. Fruit is a medium-large berry with excellent flavor and ripens in midsummer.

Bristol — Heavier producer than Cumberland, with larger, glossy, high-quality flavorful fruit. Susceptible to anthracnose but tolerant to powdery mildew.

Jewel — The berries are large, with glossy skin, firm, of superior quality and excellent flavor. The plant is vigorous, erect, consistently productive and somewhat resistant to anthracnose.

Mac Black — A late-season cultivar worthy of trial for extending the season, ripening after Jewel. Good berry size, excellent flavor and benefits from use of a trellis system.

Purple

Brandywine — Berries are reddish-purple, large, round-conical, firm, tart and of good quality — excellent for jams, jellies and pies. The canes are vigorous, fairly erect, strong and form large hill-system plants.

Royalty — Large fruited berries that are as sweet as red raspberry fruit. Berries have a long picking season because they can be picked in full red to purple stage. Vigorous plants with multiple resistance to insects and the raspberry aphid, which carries the mosaic virus. Usually more productive and longer-lived than Brandywine.

Fall-bearing Red

Heritage — Fruit is brilliant red, large, firm and high-quality. The berries are excellent for freezing and delicious

for table use. Canes are vigorous, hardy, erect, sturdy and sucker prolifically.

Caroline — This vigorous cultivar begins to fruit earlier than Heritage, with greater tolerance to root rot. Berries have an intense rich raspberry flavor and are larger than Heritage. Caroline is very productive and possesses excellent disease resistance.

Autumn Bliss — Fruit is large, skin is slightly dark red with mild flavor good for processing. Fruit matures earlier than Heritage and is of higher quality. Plants are less vigorous than Heritage with fewer root suckers produced but show a tolerance to heat. Resistant to mosaic virus.

Fall-bearing Yellow

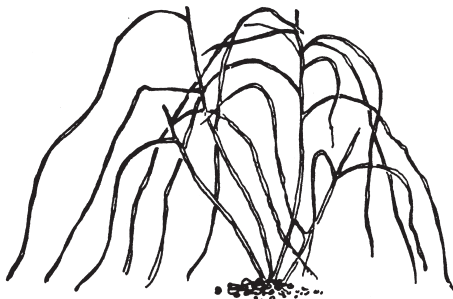
Anne — large-fruited cultivar that ripens in the same season as Heritage. The berries are a pale yellow color and are very sweet. Anne can be mowed for fall production but can be managed for both a summer and fall crop.

Fallgold — Considered to be hardy to -25°F, with vigorous canes that adapt well to a range of soil conditions. Berries are golden in color, conical and extremely sweet.

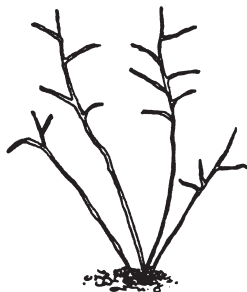
Planting

When selecting a planting site, choose an area as far away as possible from wild or existing plantings of brambles to reduce the potential for disease problems. To reduce the potential for verticillium wilt, avoid areas where tomatoes, potatoes or eggplants have recently been grown. Plant on a north-facing slope or hillside to reduce injury from spring frost.

Prune black and purple raspberries when dormant

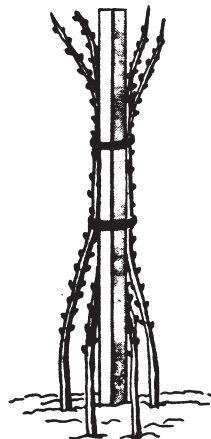


Before Pruning



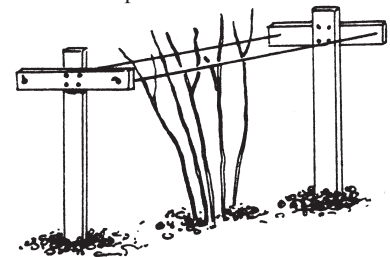
After Pruning

Support System Red raspberry pole



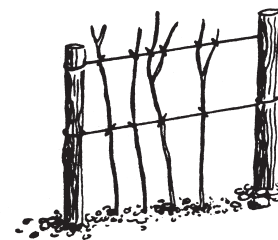
Support System

Typical trellises used with raspberries



Crossarm System

Support System



Two-Wire System

Almost any soil type, except those that are poorly drained or excessively well-drained (e.g., droughty sands), is suitable. The desired soil pH range for brambles is 5.8-6.5. Fall tilling is recommended to avoid having to work the soil under wet conditions in the spring.

Lay out the row area and kill any weeds or grasses within that area. This should be done well in advance of planting so any weed regrowth can be killed.

Raspberries can be planted any time they are dormant. They are best planted in the early spring as soon as the soil can be worked.

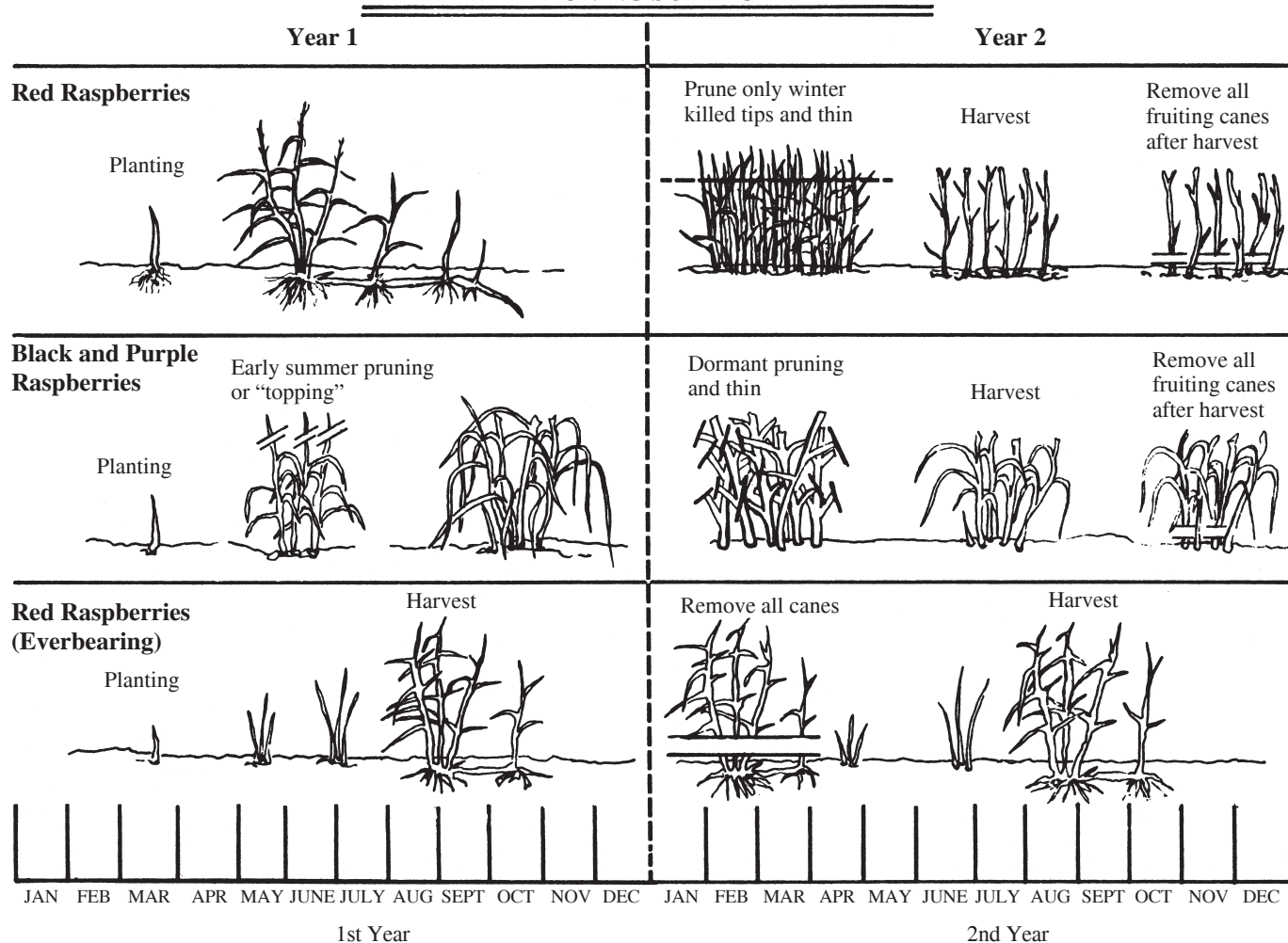
Either root cuttings or root suckers can be planted. Set red raspberry plants about 2-3 inches deeper than they were in the nursery row. Other brambles should be planted about an inch deeper. A dark gray line on the upper root or lower stem area indicates the nursery planting depth.

The roots should be spread out in the planting hole, then the soil firmed over them. Once planting is done, firm the soil around the plant and water thoroughly.

After planting, cut red raspberry canes back to about 8-12 inches. On black and purple raspberries, "handles" (the original stems) should be cut off at ground level and removed from the planting site as a sanitary measure to control diseases.

Plant spacing depends on the type of raspberry. Red raspberries are planted about 2 feet apart in the row. The rows are generally planted 6 to 8 feet apart. Black and purple raspberries generally need more space than reds and are set about 3 feet apart in the row, in rows 8 to 10 feet apart. If they are planted in hills, the spacing can be 6 feet by 6 feet. Erect

PRUNING SCHEDULE



blackberries can be spaced the same as black and purple raspberries, whether planted in rows or hills.

Fertilizer can be applied around each plant about two to three weeks after planting if the soil was not fertilized earlier. Apply 1 ounce (1 tablespoon) of 12-12-12 or 13-13-13 or similar analysis fertilizer around each plant. In the second and following years, the plants can be fertilized before growth begins with one of the above fertilizers at the rate of three-fourths to 1 pound per 100 square feet broadcast along the hedgerow, or about one-fourth cup around each plant in the hill system.

Raspberries should be hoed or cultivated during the early part of the first summer while young roots are developing. In the late summer, after plants are established, they may be mulched. Mulching helps to control weeds, conserve soil moisture, reduce soil temperatures in summer, prevent winter injury to the crowns, and promote a fibrous root system.

Raspberries require 1 to 1 and one-half inches of water per week. Fall-fruiting cultivars need adequate moisture throughout the summer to help them form primocanes and fruit. Low winter soil moisture is a major cause of damage and plant loss, so irrigate thoroughly before the soil freezes in late fall. Apply enough water to wet the soil to a depth of about 10 inches, soaking the ground.

Irrigate raspberries with overhead sprinkler irrigation or with drip or trickle irrigation. Drip or trickle systems apply water more evenly and directly to the root system. Added benefits include fewer disease problems because foliage remains dry and fewer weed problems because between-row areas are not watered.

Pruning and Training

Canes of raspberries are biennial in nature; the crowns are perennial. New shoots (primocanes) grow from buds at the crown each year. Late in the summer, the new canes develop lateral branches with fruit buds on them. In the second growing season these canes are called floricanes. Early in the second season, fruit-bearing shoots grow from these canes. After fruiting, the old canes die and should be removed as soon as fruiting has been completed. New shoots (primocanes) arise and emerge from the crowns.

Red or Yellow Raspberries (Summer Fruiting)

Pruning During the Growing Season

Do not pinch back (reduce the height) the current season's growth. If the canes are too tall to support themselves, it is better to construct a trellis than to reduce the height. Remove floricanes

after harvesting the fruit. This is usually in late June through early July, depending on the cultivar and weather. Removing canes allows better light penetration into the hedgerow for the newly developing shoots (primocanes) and will significantly reduce disease problems.

Dormant Season Pruning

Prune in late winter or early spring after the danger of severe weather has passed and before bud swell. Pinch back (remove) the winter-killed portion of the canes. Usually, this will be 1 to 3 inches of the cane tip. However, after severe winters or if you have attempted to grow non-hardy cultivars, 3 to 4 feet of the cane may have been killed.

If the plants are grown in hedgerows, keep the width of the rows to 18 inches or less and remove all plants outside the row areas. Remove small spindly canes, leaving those that are one-half inch or more in diameter.

Summer red raspberries should be pruned twice a year, first in the spring and immediately after harvest. The spring pruning, in late March or early April, consists of removing all weak canes. The second pruning, right after harvest removes canes that produced fruits. The new shoots or suckers should be reduced in number (thinned) immediately after fruit harvest. Leave four or five strong canes, one-half inch in diameter or greater, per foot of hedgerow. If no such canes are present, leave the two largest canes per foot of row.

Fall-bearing Red Raspberries

This raspberry can be managed to produce two crops per year, with one crop in early July and the other in late August or September. However, it is generally better to obtain one crop a year. This method sacrifices the lighter and lower quality summer crop in order to obtain a heavier fall crop and can reduce disease problems.

During its first year, do not prune but allow your planting to establish itself. The following year and each year thereafter, prune the stand in late winter (early to mid-March) while the ground is frozen and before new growth begins. By hand, rotary mower, or other mechanical device, remove all above-ground growth. A 1- to 2-inch stub will usually remain after mowing. In August or early September, fruiting will occur on the current season's growth.

Black and Purple Raspberries

Dormant Season Pruning

Do this pruning in late winter or early spring after the danger of severe weather is past and before bud swell. Reduce the length of lateral branches. For black raspberries, leave laterals 12 inches long after pruning. Be prepared to remove a sizable amount of plant material, as the laterals may have grown to 8 feet or longer. Purple raspberries are more vigorous than black so leave laterals 18 inches long. Remove all spindly laterals. This severe pruning practice improves both the size and quality of the fruit.

Since black and purple raspberries do not produce many suckers or none at all, the canes are located in clusters or "hills" where the original plants were set. Canes less than one-half inch in diameter at the base should be removed during the dormant pruning. Five to eight canes per hill should be selected for fruiting.

Pruning During Growing Season

Black and purple raspberries require summer pruning or pinching back of the current season's new canes or primocanes. Remove the top 4 inches of the new shoots by hand (wearing gloves) or with pruning shears when the shoot is 30 to 36 inches tall for purple and 18 to 24 inches tall for black raspberries. This pruning promotes the development of strong, lateral branches.

Remove all fruiting canes (floricanes) after harvest. This helps to eliminate disease and insect problems.

Harvesting

The best gauges of maturity are fruit color and ease of separation. Full color often develops before the berries separate easily. If the berries are picked too soon, berry size and flavor will be reduced. To harvest at peak quality, berries should be picked every two to three days. Avoid harvesting when berries are wet. Pick by gently lifting the berries with the thumb and finger. After picking, keep berries in the shade or preferably the refrigerator, to extend shelf life.

Berries should be harvested into shallow containers so they are not piled up or the bottom berries will lose their shape and leak juice. Cool the berries as soon as possible after picking, preferably within one hour, to minimize moisture loss, fungal growth and fruit breakdown.

Support System

The wire trellising system is practical with the hedgerow planting system in Nebraska. This is important where high winds are a problem. A trellis will also help make the crop easier to manage and keep the canes off the ground so that berries are cleaner and easier to pick.

A trellis can be constructed with posts set at 15- to 20-foot intervals in the row with crossarms 18 to 20 inches long. Attach a No. 9 wire to the ends of each cross arm along each side of the row. The wires should be about 36 inches above the ground for red raspberries and 40 inches high for the black and purple types. Train the canes between the wires or tie the canes to the wires. Wire clips between posts will keep wires from spreading.