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Raspberries for North Dakota

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Raspberries are one of the most popular small fruits grown in North Dakota. The berries have exquisite flavor, contain high nutritive value and are relatively easy to grow. Just 100 feet of a well-tended row of red raspberries will yield 50 to 75 quarts of this irresistible fruit.

Raspberries can be classified as either summer-bearing or fall-bearing depending upon their fruit habit. Fall-bearing raspberries, also called everbearing, produce fruits on the current year's canes (primocanes) in fall, while summer-bearing raspberries produce fruits on last year's canes (floricanes) in summer. Fall-bearing raspberries usually ripen from late August to late November. The fall crop may be cut short by the first frost in North Dakota. Therefore, summer-bearing raspberries are often recommended for this region. However, summer-bearing raspberry floricanes must be hardy enough to survive the harsh winters to produce fruit the following year. The recommended summer-bearing cultivars in this publication are the product of a North Dakota State University field trial. The red, purple and black raspberries discussed are all summer-bearing. In addition, the field trial identified a limited number of early ripening, fall-bearing raspberry cultivars for Zone 4 regions of North Dakota.

While not all raspberries can survive North Dakota winters, the microclimates adjacent to tree plantings or buildings can provide a sheltered area to establish a few plants. While protection from temperature and wind extremes is important in growing raspberries, plantings should be at least 50 feet from shade trees or windbreaks to avoid shading. Raspberries require full sun exposures (8 hours or more) to produce bountiful yields. In addition, sun exposure dries leaf wetness to prevent fungal diseases.

Remove any wild raspberries within 200 feet of the intended planting because they can harbor viral diseases that can spread to the new plants.

Raspberries do best in well-drained soils. Avoid low spots where water collects. Fortunately, raspberries are more tolerant of high pH soils than blueberries. If the soil is high in clay, incorporating compost or other organic matter can improve drainage and provide more aeration for the root system. Similarly, adding compost can improve water retention in sandy soils.

Avoid sites where potatoes, tomatoes or strawberries were previously grown to mitigate the risk of verticillium wilt infection. Check also to be sure that the area is free of invasive weeds such as Canada thistle, quackgrass or field bindweed (creeping jenny). While herbicides exist to eradicate these and other weed species, problems will be greatly reduced if the site is free of the worst weeds before planting raspberries.

Red Raspberry Cultivars



Prelude raspberry.

(Photo by Wenhao Dai, NDSU)

Prelude – Released by Cornell University, this cultivar is the earliest of the summer-bearing raspberries and will start fruiting in mid- to late June. Prelude is Zone 4 hardy, but the buds may not be winter-hardy for northern regions of North Dakota. In addition, this cultivar can produce fruit from new growth in fall (double cropping).

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Boyne – Developed in Canada, this cultivar’s fruit ripens in late June to early July (5 to 7 days after Prelude). Boyne is excellent for home gardens. The tender, glossy, dark red, medium-large fruit is good for processing and freezing. Canes are moderately vigorous, sturdy, winter hardy to Zone 3 and very productive.

Killarney – Killarney is hardy to Zone 4, and the berries are firmer than Boyne. The large berries begin production in late June to early July (5 to 7 days after Prelude) and are excellent quality whether fresh or frozen.

Nova – This cultivar starts fruit production in late June to early July. The canes have fewer thorns and are Zone 3 hardy.

Latham – This University of Minnesota cultivar is winter hardy to Zone 3 and produces medium-size fruit with excellent flavor in mid-July.

Encore – Released by Cornell University, Encore is a late summer-bearing cultivar that is hardy to Zone 4. The fruit ripen in mid- to late July. Encore produces large, firm berries with good flavor.

Purple Raspberry Cultivars

Purple raspberries are hybrids between red and black raspberries. They possess an intense fruit flavor similar to black raspberries. In general, purple raspberries are usually less hardy than red raspberries. The cultivar Amethyst does not sucker, is the hardiest cultivar of the purple raspberries and may rival red raspberries in its winter hardiness. North Dakota State University has tested this cultivar and found it very hardy in Zone 4 locations. While not formally trialed in Zone 3, anecdotal evidence shows that it can survive and produce berries near Fairbanks, Alaska, and in northern North Dakota. Released in the 1960s by Iowa State University, Amethyst is being rediscovered and is now available commercially. Amethyst starts producing berries in early to mid-July. The fruit has a firm texture if picked when purple. Royalty is another commonly grown, purple-fruited raspberry. Unfortunately, it is less hardy than Amethyst.

Polana raspberry.
(Photo by Wenhao Dai, NDSU)

Black Raspberry Cultivars

Black raspberries are not as popular in North Dakota as the red-fruited types. In general, they are not as hardy and should be given winter protection.

In addition to fruit color, the black raspberries differ from the reds in the method of propagation. While new red raspberry plants are produced by suckers, black raspberry plants are produced by bending over the long, willowy canes and covering the tips with soil. A new plant results when the cane tip takes root.

Pequot Lakes black raspberry was developed in central Minnesota and is reported to be Zone 3 hardy. Harvest is limited to two weeks in late July. Jewel is also commonly recommended but is not hardy in Zone 3.

Fall-bearing Raspberry Cultivars

Fall-bearing cultivars produce fruit on the new canes (primocanes). If the primocanes are allowed to overwinter and become year-old floricanes, the plant can produce two small crops in the second year. A summer crop can be obtained from the floricanes, and the new primocanes could produce a sparse, late fall crop. This late fall crop may not always ripen before the first fall frost.

Floricanes cropping is not recommended in North Dakota. For best yields, mow all the canes off at ground level in early spring every year and forgo the summer floricanes crop in favor of a larger and slightly earlier fall crop.

The cultivars Polana, Joan J and Anne are recommended for planting in Zone 4 only. Some winter damage may occur to the buds, but this damage will not greatly impact the fruit yield. Polana produces red raspberries in early to mid-August. Joan J is unique in that it is thornless. Anne is a yellow raspberry. Both Anne and Joan J start producing raspberries in mid-August.





Raspberries growing in a hedgerow.

(Photo by Wenhao Dai, NDSU)

Planting

Plant raspberry starts in early spring. Cut the canes to within 6 inches of the ground for best results. Spacing for raspberry plants depends on the system of training you plan to use and on the type of cultivating equipment you own.

Raspberry plants can be set in hills and cultivated on all four sides or set in rows and cultivated on two sides. For planting in hills, space the plants far enough apart to allow cultivation between them. Check the plants for spacing in each direction.

For planting in hedgerows, space the rows far enough apart to cultivate with available equipment. Set plants 3 to 4 feet apart within the row. If you plan to cultivate with a garden tractor, 6 feet is the minimum distance between rows. The use of farm tractors requires greater distances between rows for cultivation.

General Pest Controls: Integrated Pest Management (IMP)

Sanitation practices will help limit pest problems and dependence on pesticide use. These practices include:

- Use mechanical cultivation or plastic mulch to limit weed populations at their earliest stage
- Avoid overhead sprinklers; instead, invest in drip irrigation to minimize fungal diseases
- Remove the fruit-bearing canes as soon as they finish producing fruit
- Regularly monitor the planting for pest buildup
- Harvest fruit frequently before it becomes overripe to prevent insect infestation
- Dispose of berries dropped on the ground.

Weed Control

Raspberry plantings should be cultivated thoroughly and frequently. If weeds and grasses get a start, they are difficult to control. Alternatively, plastic or wood mulch can be used to prevent weeds.

Approved herbicides can be used for weed control in raspberry plantings. See *The Midwest Vegetable Production Guide* at <https://mwvegguide.org/> for a comprehensive listing of pre- and post-emergent herbicides for use in brambles. Follow all labeled instructions and avoid restricted-use pesticides unless you have an applicator's license. Herbicide use supplements cultivation and does not replace it.

Pruning

Pruning is one of the most important parts of raspberry culture, and it is often neglected or done improperly. Proper pruning makes fruit picking easier and the individual fruits will be larger.

In the hedgerow system, pruning should consist of thinning the canes to 6 inches apart or eight to 10 canes per 2 feet of row. Keep in mind that the row should be only 18 inches wide. The remaining canes should be pruned back to 3 to 3½ feet tall because shortened canes are less likely to break under a load of fruit. This pruning should be done in the early spring before any growth takes place.

In the hill system, spring pruning consists of selecting six to 10 canes per hill and removing all others. The selected canes should be pruned to 3½ to 4 feet in height. At this time, the canes should be tied to the stake in the hill system.

The first year in summer-bearing raspberries, each cane grows as a shoot starting from the root; these tender green canes are called primocanes. The second year, each cane

(now a floricanes) becomes woodier and produces fruit on a lateral branch. In midsummer, after the summer-bearing raspberries have finished fruiting, these floricanes that bore fruit should be removed. The canes that fruited will not produce any more fruit. If left in place, they would compete with the young canes for moisture and nutrients. In addition, they would prevent proper air circulation, and would harbor insects and diseases. Destroy or bury all the refuse removed after pruning.

Fall-bearing raspberries are different and set fruit on first-year canes (primocanes) as well as floricanes. Usually, all the canes are pruned back to the ground annually during early spring in northern states to encourage a single large fall crop. Thin the cane density as advised in previous paragraphs.

Winter Protection

Raspberries grown in exposed or difficult sites and the less hardy cultivars should be provided winter protection. This can be done by bending the canes over and shoveling soil over the canes to pin them to the ground. The bent-over canes trap snow, which insulates them. This usually results in fewer buds being winterkilled and better fruiting the following summer.

Insects and Diseases

Red spider mites are one of the most common insect pests of raspberries in North Dakota. The mites are tiny sucking insects found under the leaves. The damage appears as small, light-colored spots on the leaves and possibly a cupping of the leaves.

A relatively new invasive insect pest called spotted wing drosophila was discovered in North Dakota and has a devastating effect on the crop. This tiny fly lays its eggs in firm raspberries that are just starting to turn colors. The eggs hatch and the larvae begin to consume the interior of the fruit. Early summer-bearing raspberries may escape spotted wing drosophila infestations. This insect does not overwinter in North Dakota. Research at North Dakota State University showed that the insect usually arrives in the state during the first week or two of July. Fall-bearing raspberries are more prone to infestations.



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Spotted wing drosophila flies lay their eggs in raspberries. Note the white, c-shaped larva in the fruit.

Hannah Burrack, North Carolina State University, Bugwood.org, Creative Commons Attribution 3.0

As spotted wing drosophila spreads throughout North Dakota, insecticide applications and other management practices may become necessary. Refer to NDSU publication [E1715](#), “[Integrated Pest Management of Spotted Wing Drosophila in North Dakota](#),” for information on insect identification and treatment options.

In general, raspberries have fewer disease problems in North Dakota compared to warmer states. The most serious diseases of raspberries in North Dakota are mosaic virus diseases. Virus symptoms may include cupping of the leaves, yellow-green leaf mottling, yield loss and decreased fruit quality. Virus infections may be avoided partially by purchasing new plants from a reliable, regularly inspected nursery. Raspberry plants from a neighbor’s old patch often are infected.

Sources

- Kalb, T., K. Wiederholt, C. Elhard, J. Good. 2019. [Starting a Community Orchard in North Dakota](#). NDSU Extension Publication H1558.
- McGinnis, E.E., J.J. Knodel, P.B. Beauzay, K. Wiederholt, H. Hatterman-Valenti, and C. Krueger. 2018. [Integrated Pest Management of Spotted Wing Drosophila in North Dakota](#). NDSU Extension Publication E1715.

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