COLORADO STATE UNIVERSITY
EXTENSION

Raspberries for the Home Garden

Fact Sheet 7.001 Gardening Series | Fruits & Vegetables

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Selected varieties of red and yellow raspberries (*Rubus idaeus)* may be successfully grown in Colorado. Native raspberries can grow to 10,000' elevation. Colorado's climate is not especially favorable for bramble fruit production, and only red and yellow raspberries are recommended for cultivation statewide. Several varieties of blackberries can be grown in the lower-elevation areas of the state. New hardy varieties of black raspberries including Niwot and Pequot can work in some areas of Colorado. Purple raspberries (see variety table), boysenberries, loganberries and dewberries require special winter protection and are not recommended for Colorado.

Types

There are two growth-types of raspberries: "summer-bearing" (floricane or "June bearing") and fall-bearing (Primocane or ever-bearing"). Summer- bearing varieties produce flowers and fruit once per season on second-year canes. This means that a given cane will grow vegetatively in its first year, followed by fruiting on that cane in its second year. Fall-bearing raspberries flower and fruit along the upper portions of canes that are in their first year of growth. These canes may overwinter and produce a light summer crop on their lower portions, followed by a second crop on the tips of the current season's growth in the fall (up until freezing temperatures).

Varieties

Based on Colorado State University tests, with a few exceptions, fall-bearing types seem best adapted to the Front Range. Both fall-bearing and summer-bearing varieties do well on the Western Slope. Hardy varieties with mid-season production should be chosen for short-season, high elevation areas. Growing a variety of types may ensure a better crop. (See the variety chart for recommended varieties for Colorado).

Soil Preparation

Red raspberries grow in most garden soils if they have ample organic matter and adequate drainage. For summer-bearing raspberries in good garden soil, apply only a maintenance amount of fertilizer of a nitrogen fertilizer in

Quick Facts

- Of all bramble fruits, only red and yellow rasp-berries are recommended for general cultivation in Colorado. There are now a few hardy varieties of black raspberries.
- Blackberries are considered marginal, due to inadequate hardiness, but some varieties can be successful.
- Red raspberries grow well in most garden soils that are amply supplied with organic matter and adequately drained.
- Bramble plants are perennials, but their canes are either annual or biennial structures.
- Plant only true-to-name, disease-free stock from reputable sources.
- Twenty-five feet of row should produce 15 to 20 pounds of raspberries per year.

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Raspberry Variety Chart for Recommended Varieties for Colorado

Summer Bearing Red Raspberries (Floricane)[2]	**Description**
Boyne[1]	Fruits early; very hardy; short plants with good yield and flavor
Killarney	Fruits early- mid-season; hardy; productive, long canes need to be trellised. Good flavor.
Nova[1]	Fruits mid-season; has few thorns: good, slightly tart flavor
Canby	Fruits mid-season; has few thorns; ranks high in taste tests; does better in warm long-season areas of western Colorado.
Fall Bearing Red Raspberries (Primocane)[1, 2]	
Jaclyn	Fruits early; often wins taste tests; lower yield
Polana	Fruits early; good flavor; short plants
Autumn Britten	Fruits early-mid season; produces fewer canes so plant more closely
Caroline	Fruits early- mid season; good yield; large firm fruit with tart but good flavor
Heritage	Old standard; often found growing in mountain towns; fruits mid-late season (can get a lower yield due to lateness of ripening); long-lived, shorter plants may not require support; good flavor.
Plainsman[3]	Recommended for high elevations; shorter, upright canes; good flavor
Anne	Yellow fruit (mutation of red); mid- late season (ripens later than Heritage)
Fall Gold	Yellow fruit; very hardy plants; good flavor
Black Raspberries	
Niwot[5]	Produces both primocane and floricane crops; good yield- fruits earlier and longer than Jewel; vigorous plants require wider spacing and trellis; hardy to at least Zone 5
Pequot	Very hardy (Zone 3); early-mid season; fruits once per season; well-balanced flavor
Jewel	Standard very hardy purple variety; mid-season; produces only a primocane crop
Purple Raspberries[4]	
Royalty	Hardy purple raspberry; fruits late-season; pick when red (firm and tart) or purple (softer and sweeter); large plants (space accordingly). Self-pollinating.
Blackberries	
Chester	Thornless; good yields of large tasty fruit; does well in warm, long-season areas of western Colorado.

[1] Recommended for the Front Range of Colorado.

[2] Recommended for Western Slope

[3] Recommended for high-elevation, short-season areas.

[4] Cross between red and black raspberries.

[5] Bred along the Front Range of Colorado. Being tested in different areas of the state and country.

spring. Some areas in CO may require phosphate fertilizer. A soil test is recommended to determine what other nutrients are needed. Use cane growth to determine if there has been enough N applied. The space between the buds (internode) optimally is 4". Less you need N, greater the plant is too vigorous so reduce or skip adding nitrogen. Soils over 7 pH may be low in zinc, iron and manganese. In general, fall bearing raspberries require 1.5-2 times more nitrogen then summer bearing. The chart refers to good soil, new bed or untested refers to the amount of organic matter. Soils with higher organic matter 5%, need little to no fertilizer. Test every 3 years. An application of organic matter will help to conserve water and reduces N need.

Apply enough water to maintain a moderate moisture level in the root zone. During flowering and fruiting, more water is required. Withhold water after the first frost to help harden off the plants. A late November watering reduces winter drying.

Planting Raspberries

Red and yellow raspberries are commercially propagated by rooted suckers. These can easily be purchased from a variety of online and mail-order sources. They are typically sold as "handles." A handle consists of a 12-18 inch section of a dormant cane with a large root mass attached. Soak bare-root plants in a bucket of water 1 hour to help them get prepared for planting. Plant them in the spring, 2 to 3 feet apart in rows 5 to 10 feet apart, depending on the varieties growth characteristics, how much pathway space you desire and the width of any cultivating equipment that may be used. After planting, cut the tops to within 4 to 6 inches of the ground.

After one or two years, suckers fill in the row to form a hedge of canes. During dormant-season pruning, thin the resulting collection of canes so that you leave five to six of the strongest canes per linear foot. The hedgerow should not be more than 2 feet wide at ground level. An application of organic mulch will conserve water and decrease weed competition.

Trellising

Trellising is advisable for all bramble crops in Colorado. Without some type of support, canes will flop and sprawl in such a way as to make weed control and harvesting much more difficult (and prickly). Stretch a wire on

Figure 1: Raspberry trellis with dormant canes secured to wires.

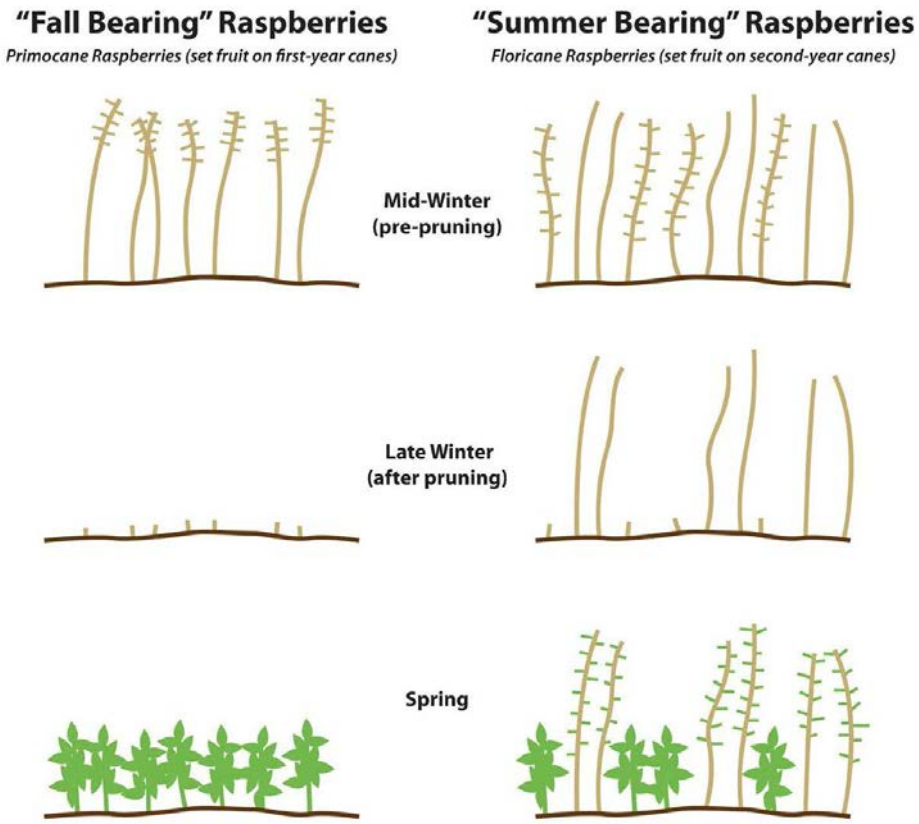
Nitrogen Fertilizer	% Organic Matter	At planting	Spring	June	August	Notes
Summer Bearing	Good OM	NA	.3 lb N or 1/3 cup/100 ft	1/3 cup/100 ft		Maintenance amount
Summer Bearing	New bed/untested	1/3 cup/100 ft	1/3 cup/100 ft	1/3 cup/100 ft		100 ft of hedgerow
Fall Bearing	Good OM		2/3 cup/100 ft	2/3 cup/100 ft	2/3 cup/100 ft	Maintenance amount
Fall Bearing	New bed/untested	2/3 cup/100 ft			1 lb N/1000 sf	

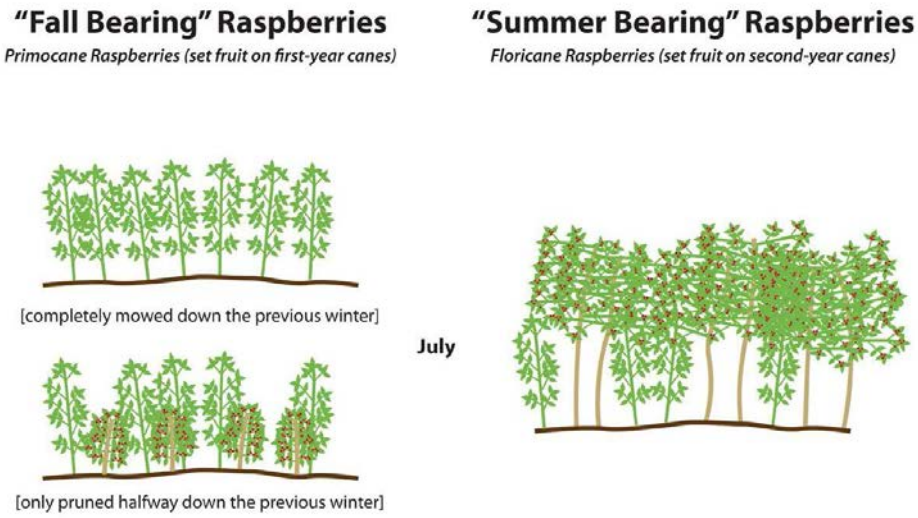
NOTE: Liquid measuring cups are very close in estimating the weight of dry granular fertilizers. 1 cup=8oz.
This recommendation bases on 21-0-0 fertilizer

either side of the hedge row, 3 feet above the ground depending on the variety and trellis structure. These wires confine the canes to the hedge row. To make them stand erect, you may have to tie the canes to the wire with soft twine. See Figure 1. For larger fruit size, tip canes at a convenient height. For larger yield, do not tip canes.

Pruning

For of summer- bearing varieties, remove the spent floricanes by cutting them off at the ground after they bear fruit. Dispose of these canes – they often harbor insects and disease. In the spring, remove the dead, weak and small canes. Remove winter- killed tips of the re-maining canes. There are two methods to prune fall-bearing varities. The first, and easiest method is to mow or cut all the canes to ground level after the fall harvest and before spring growth. New canes will be produced in the spring. This eliminates the summer crop but also eliminates hardiness problems and cane borers and gives a larger harvest overall, unless an early frost occurs. The second is to remove the parts of the canes that fruited the previous year, which leaves the bottom portion of the cane to produce the following summer. New canes that grow from the crowns that spring will produce a fall crop at the tips. This method allows for two harvests, giving at least one harvest in short season areas. The disadvantage is that it will result in a reduced fall crop.





Winter Protection

To obtain a crop of summer-bearing raspberries in many areas of Colorado, it will be necessary to protect the canes during the winter. This does not appear to be necessary for the varieties 'Nova' and 'Boyne,' as they appear to have adequate winter hardiness in all but the coldest locations. For all other summer-bearing varieties, follow these steps: After November 1, lay the canes down in one direction and hold them in place with a shovelful of soil on their tips or apply mulch. Plow or shovel a shallow furrow along each row and roll the soil over the canes. In early April, use a pitchfork to lift the canes out of the soil. Put the soil used to cover the canes back into the furrow.

The advantage of fall-bearing varieties is that winter covering is not needed -- the canes are mowed off after harvest. However, if a summer crop is desired from these canes, they must be protected as described for summer-bearing rasp-berries. In areas with a lack of snow cover, mulch can help prevent desiccation and insulate the plants.

Yield

By the third year, a 25-foot hedge row of red raspberries should yield 15 to 20 pounds of fruit per year under optimum conditions. After this, it is likely that productivity will decline gradually. After eight to 10 years, relocate the bed at least 50-75' away, where no brambles or solaneous plants have been in four years. Start with new certified disease free stock.

Disease and Insects

Raspberries can be affected by a wide range of diseases and insects, as are most cultivated plants. You can avoid most of these problems for several years by purchasing only quality, true-to-name, disease-free raspberry varieties. This typically means mail-ordering bare-root plants. These should be planted mid-April through early May.

It is not uncommon, during hot, dry weather, for raspberries along the Front Range to be infested with spider mites. The mites themselves are not always obvious, but their presence is indicated by tiny yellow spots on the leaves, which eventually turn bronze and/or brown. The most effective way to avoid mite

problems is to maintain healthy plants. This means applying a balanced fertilizer at least once a year, in May. Many plantings will benefit from additional fertilizer in June and July. In addition, make sure plants are adequately watered. Drought-stressed raspberry plants are a great place for spider mites to feed and breed. It is also important to prevent the planting from becoming too dense, as an overcrowded planting makes life easy for mites. This can be achieved most effectively by removing the thinnest, weakest canes, thereby allowing more light and air to reach the center of the planting. Regularly watering the foliage during hot weather will also help control mite populations.

Insecticides tend to be ineffective against mites, and their use often makes mite problems worse by killing a variety of beneficial, predatory arthropods. If a spray is desired, best results are often achieved with a "summer weight" (2%) application of horticultural oil.

Raspberry cane borers can be an important pest in Colorado. Symptoms of this pest include a sudden wilting and drooping of the tops of canes. The white larvae of the borer, if left uncontrolled, burrow downwards through the center of the cane and kill it.

Management in the garden is best achieved by removing the affected canes at the first sign of damage. Depending on location, mid-May through June is when these pests tend to do their damage. If caught early enough, while the larvae is still near the tip of the cane, the undamaged portion of the cane may be saved, allowing it to produce fruit.

Spotted wing drosophila is a newer insect coming to Colorado around 2013. It is different from other fruit flies in that its ovipositor is like a saw so it can penetrate good fruit and lay eggs. Refrigerate fresh picked berries, clean up dropped fruit and trap and monitor to control.

References

Lawrence, F. T. Growing Raspberries. Farmer's Bulletin 2165, U.S. Government Printing Office, Washington, D.C. 20402. 1979.

Shoemaker, T.S. *Small Fruit Culture*, 5th Edition. AVI Pub. Co. Inc. Westport, Conn. 1977.

Bushway, L., Pritts, M.P. and Handley, D.T. (eds.) *Raspberry and Blackberry Production Guide for the Northeast, Midwest and Eastern Canada*. NRAES-35. Ithaca, New York. 2008.

Britney Hunter, Rick Heflebower, Shawn Olsen, Brent Black, Diane Alston and Thor Lindstrom. *A Comparison of 16 Summer-Bearing Raspberry Cultivars for Northern Utah*, Utah State University Extension, January 2015.