

replaces OMAFRA Factsheet #99-033, *Raspberries and Blackberries for Home Gardens*

## Growing Raspberries and Blackberries for Home Gardens

### Also available in this series

- *Growing Strawberries for Home Gardens*
- *Growing Elderberries for Home Gardens*
- *Growing Currants and Gooseberries for Home Gardens*

There are three kinds of raspberries available to the home gardener: red, purple and black. Blackberries may also be available, but differ from raspberries in that the “core” stays in the fruit when it is picked. The canes of red raspberries grow upright, while black raspberry and blackberry canes are long and trailing.

Red raspberries are available as:

- normal cultivars that produce a single crop in early summer
- everbearing (or primocane fruiting) cultivars that produce a second crop in the late summer and early fall

There are many red raspberry cultivars that are winter-hardy enough to withstand winter in most parts of Ontario. Blackberries are not winter-hardy and should be grown only in those areas with mild winters or where protection for the canes is possible.

Raspberries (Figure 1) and blackberries (Figure 2) are excellent fresh, frozen or canned or made into jam, jelly or juice.



**Figure 1.** Raspberry plantings can remain productive for several years.



**Figure 2.** Blackberries are not winter-hardy and should be grown only in those areas with mild winters or where protection of the canes is possible. *Photo source:* [Shutterstock.com](https://www.shutterstock.com)

### **GROWTH AND FRUITING HABIT**

The root system of raspberries and blackberries is perennial, but each shoot is biennial — it only survives for 2 years. During the first year, a shoot reaches its maximum height (and is called a “cane”). In the second year, it produces fruit and dies soon afterwards. Shoots may arise from 2 places: from buds at the base of the old canes and from buds on roots. Red raspberries and blackberries produce shoots or “suckers” from both places and will usually fill in a row very quickly. Purple and black raspberries do not produce suckers, so shoots occur in groups or “hills” instead of being scattered throughout the row.

### **LOCATION AND SOIL TYPE**

Good location and soil type are important for the successful growing of raspberries and blackberries. Choose a sunny site that is well drained with a deep, sandy loam soil with plenty of organic matter. Avoid clay soils. They are usually poorly drained, and good drainage is absolutely essential, as roots will die in wet soil. Gravelly soils can be improved by adding organic matter, but extra water and fertilizer will be needed for good yields.

Avoid planting in areas where eggplant, potatoes, tomatoes or strawberries have been grown. There may be root diseases present that can infect raspberries and blackberries. In more northerly areas, planting in areas that are protected from winds may reduce cane breakage and winter injury.

Also avoid low-lying areas that may be poorly drained and prone to frost damage.

### **SOIL PREPARATION**

Since plantings can remain productive for several years, special care must be taken to prepare the soil before planting. If possible, start preparation 1 year before planting.

### **Weeds Control**

All perennial weeds, such as quackgrass, Canada thistle and bindweed should be destroyed the year before planting. Do not permit weeds to go to seed. Additional information is presented under [Care of Plantings](#).

### **Organic Matter**

Raspberries will thrive in soils with a good supply of organic matter. Organic matter improves air and water movement, favours growth of helpful soil organisms, provides nutrients and increases the water-holding capacity of the soil. Apply well-rotted manure at the rate of 12–15 L/m<sup>2</sup> in late summer or fall before planting. Other organic materials, such as straw, can be used in place of manure, but should be well decomposed by planting time. If material other than well-rotted manure is used, add ammonium nitrate at about 6–12 g/m<sup>2</sup> to aid decomposition. Avoid sawdusts, especially cedar or hemlock.

### **Fertilizers**

If planting is done in the fall, no fertilizer is necessary at that time, but apply 10-20-20 or 10-10-10 at 40–50 g/m of row early the following spring. Spread it evenly, around and between the plants, covering a strip about 60 cm wide. Always follow label directions.

With spring planting, apply 10-20-20 or 10-10-10 at 50–60 g/m<sup>2</sup>. Work it into the soil several days before planting. A lime application is not necessary on most Ontario soils. Information on soil testing can be obtained from the [Agricultural Information Contact Centre](#) at 1-877-424-1300.

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## CHOICE OF CULTIVAR

The proper choice of cultivar is very important for successful production. Choose a cultivar suited to your location. For example, grow winter-hardy cultivars in colder regions. Locations with heavy soils should not be planted with cultivars susceptible to root diseases (e.g., verticillium wilt). Plant more than one cultivar to lengthen the harvest season.

### Red Raspberry Cultivars (Early to Late Season)

**Prelude:** A very early variety with medium-sized berries. Canes are vigorous with sparse but noticeable spines. Berries are round, medium-dark colour, with a mild flavour. Picking begins 4–5 days ahead of Boyne.

**Boyne:** Early mid-season, productive. Fruit is dark-red, medium sized, soft, good flavour, good cohesion of drupelets, fair for processing. Mean date of 5% harvest is July 3 in Vineland, Ontario (Niagara Region). Canes are of medium height, spiny, extremely hardy. Recommended for colder areas of the province.

**Nova:** A very productive, early-to-mid-season cultivar, introduced by Agriculture Canada, Kentville, Nova Scotia, in 1980. The berries mature 1–2 days after Boyne, are medium-sized, firm, bright, moderately dark. Flavour is fair. The plant is hardy with erect tall canes with few spines.

**Killarney:** First picking about July 16 at Vineland. The fruit are medium-light red, bright, very attractive, large, medium firm, with very good cohesion of drupelets but poor flavour and poor to fair for processing. The canes are medium in height, strong, very spiny, very hardy, somewhat susceptible to mildew, but mildew does not occur on the berries.

### Fall-Bearing Red Raspberry Cultivars (Early to Late Season)

**Autumn Britten:** Early fall-bearing variety, picking beginning 10 days ahead of Heritage. Berries are large with excellent fruit quality. This cultivar is a sparse cane producer and requires planting at closer spacing.

**Polka:** Early-season fall-bearing variety. Produces medium-large berries with high fruit quality and consistent drupelet size. Canes are self-supporting and semi-vigorous.

**Heritage:** The performance of this variety is very promising at Vineland. The fall crop starts to ripen at the end of August. A summer crop is also produced in mid-July. The fruit are medium-red, bright, attractive, small in the summer crop but of medium size in the fall crop, firm with very good cohesion of drupelets and fair flavour. It is good for processing. The canes are somewhat short, strong, spiny, fairly upright, hardy, fairly resistant to mildew but susceptible to leafhoppers. This cultivar is of interest mainly for the fall crop in parts of Ontario where severe fall frosts do not occur early in September.

### Purple Raspberry Cultivars

**Royalty:** The fruit are very large, purple, firm and have a sweet flavour. Canes tend to be sparse but very vigorous and winter-hardy. This variety is resistant to 2 types of aphids that are known to transmit virus diseases. This should extend the productive life of the planting. It has shown excellent promise in limited Ontario trials.

### Black Raspberry Cultivars

**Jewel:** Early-season, picking begins ahead of Boyne. Medium-sized, glossy-black berries with excellent fruit quality. May be more winter-hardy and disease-resistant than other black raspberries. Black raspberries are very susceptible to verticillium wilt.

### Blackberry Cultivars

**Chester Thornless and Illini Hardy (erect-spring):** May have potential under Ontario conditions. Blackberries are not winter-hardy and may be winter-killed in the colder areas of Ontario.

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## **ESTABLISHMENT**

The best time to plant red raspberries is in the fall: late October and early November. Take care to prevent wilting during spring planting. Plant other raspberries and blackberries in the early spring, once the soil is workable.

## **PLANTING STOCK**

Use only healthy plants that are known to be virus and disease free. Propagating diseased plants will cause the disease to spread and shorten the life of the planting. Nurseries, in cooperation with federal and provincial governments, specialize in growing red raspberry plants from virus-indexed stocks. These outlets are the most reliable sources available. Virus-indexed stock of purple and black raspberries and blackberries is usually not available from Canadian growers. A partial list of raspberry plant suppliers is available on the [ONfruit blog](#). Raspberries and blackberries are planted as dormant mature canes that have completed one season of growth. Young suckers may also be transplanted in early summer if they are well rooted. However, care must be taken to prevent wilting after transplanting.

Black and purple raspberries are propagated by “tip layering.” Shoot tips are bent downwards and inserted about 8 cm into the soil in late summer. Roots and shoots are produced by the buried portion of the shoot. The following spring, the “tip” plants can be severed from the mother plant, dug and transplanted.

Do not store plants any longer than necessary. Store plants for short periods by placing in a plastic bag in a refrigerator or other cool place. Sprinkle dry roots with water before storing. Do not leave roots soaking in water as this kills the plant. If plants must be held for more than 1–2 weeks, they can be placed upright in a hand-dug trench with the roots covered.

## **PLANTING DISTANCES**

Rows should be spaced 2–2.5 m apart, depending on available space, machinery needs and plant vigour. Plant red raspberries 60 cm and all others 75–90 cm apart in the row.

## **PLANTING METHOD**

Canes may be planted in individual holes or in furrows to save digging time. Set the plants as deep, or slightly deeper, than previously planted. Be sure to spread the roots out and cover with soil. Pack the soil carefully around the roots and water the plants. Prune red raspberry and blackberry plants back to 15–20 cm after planting.

Roots of “tip” plants of purple and black raspberries are covered with 2.5–5 cm of soil at first. Soil is gradually added to the hole as plants grow until the roots are finally covered with 10–15 cm of soil. The old piece of cane is pruned away after planting to avoid disease infection.

## **CARE OF PLANTINGS**

### **Blossom Removal**

After planting, remove blossoms that appear the first summer, to help plants establish.

### **Weed Control**

Weeds compete with raspberries and blackberries for moisture and nutrients and may interfere with harvesting the crop.

A dense sod between rows and around the patch will prevent weeds from establishing in those areas. It is desirable to seed a sod (e.g., fescue), rather than rely on a natural sod composed of grass and weed species, since the weeds will seed into the crop row.

A biodegradable plastic mulch could be used for weed control in the year of planting. Within established rows, a straw mulch helps control weeds if it is applied early in the season, before weed seeds germinate. Use mulch that is free of weed seeds. Additional nitrogen may be required for the crops as the straw decomposes.

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Control weeds within the crop and in adjacent areas by using cultural methods. Hoeing at regular intervals provides adequate control of annual weeds. Perennial weeds may have to be dug up and physically removed. Mowing weeds or using tools such as a weed whip in adjacent areas will prevent many weeds from flowering and setting seed. It is important to control weeds before they produce a new crop of weed seeds.

### **Mulching**

Mulching may be beneficial to conserve soil moisture, keep the soil cool and provide a stable footing while picking. Materials such as straw, wood chips or sawdust may be suitable. All materials should be free of weed seeds. Mulches tend to encourage late growth that could be winterkilled.

### **Fertilization**

Be careful not to over-fertilize the planting. Do not exceed fertilizer applications of 110–150 g/m<sup>2</sup> per row in the early spring. Spread it evenly around the plants and 60 cm or more on each side of the row. Concentrated applications close to the roots will burn roots and kill the plant. Manure is an excellent source of organic matter that may be applied at 12 L/m per row, if there is no mulch. Always follow label directions.

### **Watering**

The period from bloom until harvest is the most critical time for water. About 25 mm of water per week is required for good growth. Also water plants during any periods of prolonged drought. Do not water in the fall as it stimulates late growth that may be winterkilled. Trickle irrigation systems are available through many garden centres and are ideal for raspberries because the water is applied directly to the soil. This keeps the above-ground parts of the plant dry, discouraging cane and leaf diseases and fruit rot.

### **Training and Trellising**

Red raspberries and blackberries are usually grown in narrow rows (hedgerows) 20–45 cm wide at the base.

Purple and black raspberry canes grow in groups or “hills.” Purple and black raspberries and blackberries do not require support for the canes if they are pruned as outlined in the section [Pruning](#). Red raspberry canes can be trellised, if desired, in various ways.

The most common method is the “T bar” system:

- Install posts every 6–9 m along the row and attach wooden cross arms 45 cm long, centred on the post.
- Stretch strong twine along the sides of the row and attach to the ends of the cross arms for side support. The canes are encouraged to grow between the lengths of twine.
- Provide extra support between 2 posts by bending pieces of heavy gauge wire to form a hook at each end. The right wire length pulls the twine towards the centre.

Further information on trellising systems can be found in OMAFRA Publication 105, *Growing Red Raspberries in Ontario*.

### **Winter Protection**

Protect blackberries by bending the canes over in the late fall and covering with soil or other means to hold them down. A covering of straw or brush helps trap snow. Black raspberries growing in the colder regions of Ontario will also benefit from this protection.

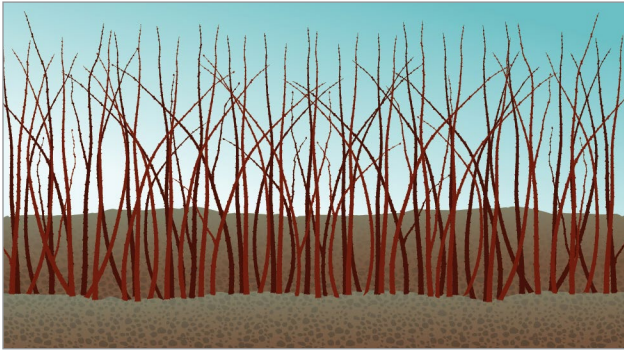
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## PRUNING

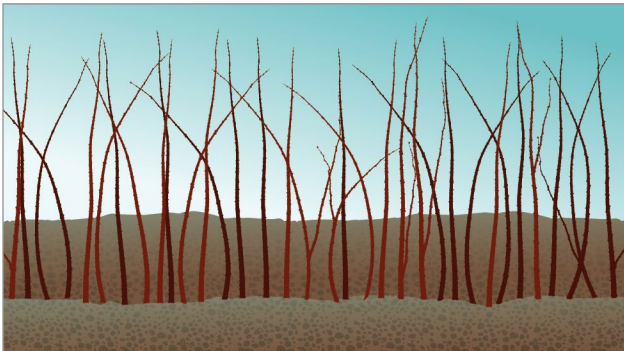
### Red Raspberries

**After Harvest:** Fruiting canes die when harvest is completed. Cut out and destroy them to prevent serious disease build-up by removing the sources of infection. Remove small and/or weak canes as well.

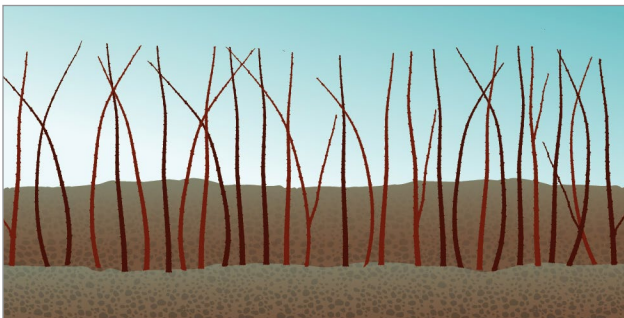
**Spring:** After the danger of winterkill has passed, further pruning is needed to remove weak canes and dead tips of canes (Figures 3, 4 and 5).



**Figure 3.** Red raspberry canes in the fall before any pruning. The old fruiting canes are still present.



**Figure 4.** The same canes after the old fruiting canes were removed in the fall.



**Figure 5.** Canes after pruning in the early spring. Weak canes were removed and the row was narrowed to confine row width.

Keep 15 canes per metre length of row. Remember to keep the rows narrow. Leave the strongest and most vigorous canes evenly spaced in the row.

### Fall-Bearing Raspberries

Fall-bearing raspberries are usually grown for just the fall crop. After fruiting, all canes are removed and destroyed. The next season, a new flush of primocanes appears and bears fruit in the fall. Thinning is not usually necessary.

If two crops are desired, fall-bearing raspberries are treated like red raspberries. After harvest, prune and destroy the portion of the cane producing the fall crop.

### Purple and Black Raspberries, Blackberries

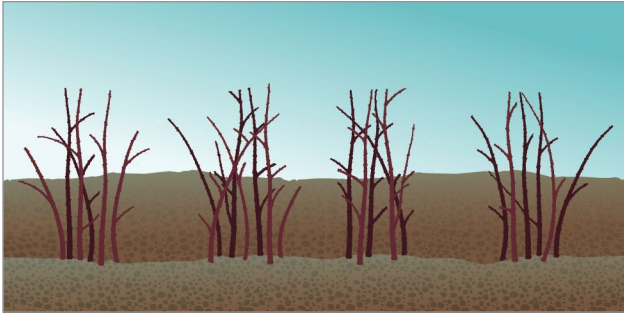
**Summer Tipping:** Early in the summer, pinch off the tips of new shoots when the shoots are 75–90 cm high. This forces growth of side branches. Do not tip shoots that have not reached the height for tipping by the time harvesting is started. Late tipping, after harvest, is not recommended. Do not prune new shoots any more for the rest of the growing season. (Do not summer tip Royalty.)

**After Harvest:** Remove and destroy fruiting canes as soon as harvest is completed.

**Early Spring:** Remove all dead wood. Shorten side branches of purple and black raspberries, leaving 8–10 buds per branch. Shorten side branches of blackberries to 30–45 cm (Figures 6 and 7).



**Figure 6.** Black raspberry canes before pruning in the spring. Shoots were tipped the previous summer to force the growth of side branches. Old fruiting canes were removed after harvest and do not appear here.



**Figure 7.** The same canes after pruning. Side branches have been shortened and weak canes removed.

## **HARVESTING**

Fully ripe red raspberries will easily separate from the core of most cultivars when mature. Harvest every 2–3 days. Refrigerate freshly harvested berries as soon as possible after picking to improve storage time. Avoid leaving containers of freshly picked fruit on the ground as this attracts sap beetles.

## **YIELD AND DURATION OF PLANTING**

Yields depend greatly on cultivar, climate and amount of winter injury. A yield of 4–5 L/m of row is considered very good.

No crop is obtained in the year of planting. A small crop is produced in the second year. Plants will reach full production in the third year. Healthy plants should remain productive for several years.

This factsheet was written by Ontario Ministry of Agriculture, Food and Rural Affairs fruit specialists.