



THE UNIVERSITY OF GEORGIA

COOPERATIVE EXTENSION

Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences

HOME GARDEN **RASPBERRIES BLACKBERRIES**

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Almost everybody likes blackberries and raspberries, and they are easy to grow and adapted to most back yards. Blackberries and raspberries come as either erect types (no trellis required) or trailing types (trellis required). Several varieties of erect and trailing blackberries do well in Georgia, but only the trailing raspberry Dormanred has proven itself suitable for growing throughout Georgia. Developed by Mississippi State, Dormanred is an ever-bearing trailing raspberry well adapted for growing in the South. Fruits are firm, red and have very good flavor. Heritage, an erect variety, is grown commercially in the Georgia mountains and has performed well in north Georgia. For this reason, it is recommended for planting in the mountain and upper Piedmont areas.

Growing Trailing Blackberries and the Dormanred Raspberry

Trailing blackberries and the Dormanred raspberry are called *brambles*. The culture of the two is similar.

Site Selection

Plant brambles in a sunny spot. They usually grow satisfactorily in soils ranging from sand to clay but do best on loamy sand, sandy loam or clay loam soils. Avoid planting in low areas where water may stand after heavy rains. Before planting time arrives, take a soil sample from the proposed planting site to your county Extension office for analysis to determine liming requirements. A pH of 6.0 to 6.5 is best for brambles.

Building the Trellis and Planting

Plant trailing brambles between December and March. If the plants arrive before you are ready to plant them, store them in a cool place (34 degrees to 40 degrees F) and do not allow them to dry out. If necessary, apply dolomitic lime to adjust the soil pH to the desired range and thoroughly work the soil to seedbed consistency. After a drenching rain has

firmed the soil and excess water has drained out of the soil, build the trellis and then do the planting.

Because blackberry and raspberry plants live for many years, treat trellis posts with preservatives and use No. 9 gauge wire. Set 6½- or 7-foot posts 1½ or 2 feet in the ground 10 to 20 feet apart. Plant trailing brambles at least 10 feet apart. Use three strands of trellis wire, with the first strand at the top and the other strands 18 inches apart. If more than one row is to be planted, space the rows at least 12 feet apart.

The diameter of the planting hole must be large enough to accommodate all the plant roots in their natural position. If you use container-grown plants, cut the roots off or untwine them so none remain in a circular position. When planting is complete, the crown (the origin of the mass of roots) of the plant should be ½ inch below the soil line. Some plants will have a “handle” (piece of old stem) attached to the plant, and this handle should be above the soil surface. Mulch the new planting to conserve moisture and reduce weeds.

Pruning and Training Trailing Brambles

Understanding the fruiting habit of brambles is necessary before they can be properly pruned and trained. Brambles produce biennial (two-year) canes, which grow one season (primocane), and flower, fruit and die the second season (floricanes). The biennial life cycle of bramble canes is as follows:

- **First Year: Primocane.** Canes grow vegetatively throughout the summer, and fruit bud initiation occurs in late summer to early fall.
- **Second Year: A floricane branch develops.** Buds' flower initiation is completed, and the blooms, fruits and cane die.

The dead canes need to be removed. New canes are produced each season, so fruiting canes are present annually after the first year of planting. Some varieties of raspberries and blackberries fruit on first-year canes. These are called primocane fruiting varieties.

First Year: Little pruning is necessary for trailing brambles the year they are planted. Place a mulch of pine straw, hay, newspaper or plastic on the ground around the plants.

Second Year: After the fruiting season, remove the old canes that are in the process of dying. Tie the new canes of trailing blackberries to the trellis and tip them 6 inches above the top wire to encourage branching. During the following winter, train canes in a fan pattern away from the crown, and place ties where canes cross each trellis wire. Lateral shoots may be shortened to lengths of 10 to 20 inches if necessary. In the second year, plants should have a total cane length of 20 to 50 feet, with larger, more vigorous plants retaining more wood. As the plants age, more canes can be left. Exceptionally vigorous plants may be able to support up to 100 feet of canes. Plants with low vigor should be pruned to retain fewer canes.

For Dormanred raspberries, let the canes lie on top of the mulch until late February, then tie them to the trellis. This will reduce winter damage to the canes. After the first fruiting season (second year of establishment), the canes that fruited will die. Prune out the dead canes.

Confine new canes (those that will produce fruit the next season) to the ground under the trellis so you do not run over them with a mower. In late winter, train the new canes to the wires. Because some of these new canes to be trellised may be 15 or more feet long, estimate the length of individual canes needed to fit on the trellis. While the canes are still on the ground, cut them to this estimated length, lift them off the ground and tie them to the trellis. Figure 1 shows a job well done with Dormanred raspberries. When lifting the canes, do not bend them excessively or they may break.

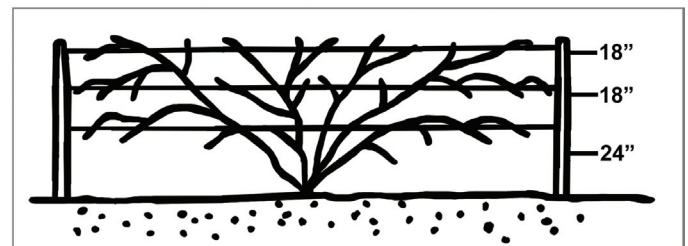


Figure 1. A proper trellis for trailing blackberries or Dormanred raspberries.

Harvesting

The berries are ripe and at the peak of flavor when they lose their high glossy shine and turn slightly dull. Harvesting is best when the berries are juiciest, which is during the late morning hours after the dew has dried.

The harvest season for the Dormanred raspberry is June 20 to July 10 in Athens, Ga. The Gem blackberry is ripe for picking from June 25 to July 15, and harvest of most trailing blackberries begins around July 1 and ends a month later. These bramble varieties begin harvest about two weeks earlier in south Georgia and one to two weeks later in the north Georgia mountains.

Fertilizing Brambles

Fertilize trailing blackberries, Dormanred raspberries and erect blackberries twice a year in most situations. Trailing blackberries and Dormanred raspberries should receive about 2 ounces of premium grade (containing micronutrients) 10-10-10 in April and July of the first year. Scatter the fertilizer evenly over a circle 2 feet in diameter centered on the plant.

| Recommended Varieties in Order of Ripening by Cane Type | | | |
|---|-----------|-----------|--|
| Fruit Type | Cane Type | Variety | Comments |
| Blackberries | Erect | Natchez | Early, thornless, large fruit size. |
| | Erect | Kiowa | Early- to mid-season thorny type; very productive; large fruit size. Moderately susceptible to Rosette disease. Probably the best home garden variety. |
| | Erect | Arapaho | Early- to mid-season thornless type; medium fruit size; resistant to Rosette disease but may have problems with leaf diseases and cane die-back. |
| | Erect | Navaho | Mid- to late-season thornless; medium fruit size; resistant to Rosette disease but may have problems with leaf diseases. |
| | Erect | Ouachita | Mid-season, thornless. |
| | Trailing | Gem | Thorny; excellent quality; good producer; resistant to Rosette disease; may be hard to find. |
| | Trailing | Hull | Thornless; semi-erect; good choice for late-season fruit; vigorous and relatively disease-free. |
| Raspberries | Trailing | Dormanred | Fruit must be very ripe to be sweet; good producer statewide; better cooked than fresh, makes good jam and pies. |
| | Erect | Redwing | Heritage cross; 10 to 14 days earlier than Heritage with similar quality; recommended for trial in mountains and Piedmont area. |
| | Erect | Caroline | A new variety from Maryland. |
| | Erect | Nantahala | A variety from North Carolina; late primocane fruiting. |
| | Erect | Latham | A floricanne (spring) fruiting cultivar. |
| | Erect | Heritage | For Georgia mountains and upper Piedmont. |

Erect blackberries usually are planted closer together, so a banded fertilizer application can be made from the start. The first year, apply 1 pound of 10-10-10 per 18 feet of row in April and 1 pound per 36 feet of row in June.

In future years, apply 1 pound of 10-10-10 per 9 feet of row in February or early March and 1 pound of 10-10-10 per 18 feet of row in June for all three types. Spread the fertilizer evenly over the row in a band 2 feet wide. Take a soil sample to your county Extension office for custom fertilizer recommendations for your soil.

Growing Erect Blackberries

Site Selection

Erect blackberries, like trailing ones, can grow in a wide variety of soils; they do best, however, on sandy loam or clay loam soils with a pH of 6.0 to 6.5. If you do not know the soil pH, take a sample of the soil to your county Extension office for analysis. Select a site with plenty of sunlight that is near a source of water in case irrigation is neces-

sary. Do not plant in low areas where water stands after heavy rains.

Planting

If necessary, apply dolomitic lime to raise the pH to the desired range. Thoroughly work the soil to seedbed consistency. Allow the soil to be firmed by a drenching rain before planting.

Plant erect blackberries in late February and early March. If your root cuttings or plants arrive before this time, store them in a cool place (34 to 40 degrees F) until you are ready to plant. Do not allow these root cuttings or plants to dry out; keep them damp but not wet during storage. Plants or root cuttings (which are 4 to 6 inches long and about pencil size in diameter) can be used to establish erect blackberry plantings. Root cuttings cost about a third as much as plants, but not all of them will come up.

Fifteen plants, if properly cared for, will supply all the berries an average family will need. For a hedgerow of blackberries, plant the root cuttings

or plants 2 to 4 feet apart in the row. If you want to keep the plants separated, set root cuttings or plants 8 feet apart in the row. Set the root cuttings horizontally 2 inches below the soil surface. If plants are used, plant them with the root system approximately 2 inches below the soil line. Do not fertilize at this time; wait until after a drenching rain settles the soil. If more than one row is to be planted, plant the rows 12 feet apart.

Pruning Erect Blackberries

The year of planting, canes produced by erect blackberry plants will be semi-erect or trailing. Contain these semi-erect or trailing canes to the row area and do not prune them. They will provide some fruit the following year.

Although erect blackberries can be grown without a trellis, a trellis is very useful in years one and two to keep the trailing canes off the ground. This allows for herbicide applications around the plant and keeps soil from splashing on the fruit. Consider constructing a lightweight trellis made with small posts and plastic baling string for the first year. Tie the trailing canes to the trellis. Most commercial growers of erect blackberries in Georgia use trellises to help support heavy crop loads.

Several types of trellises are being used, but the V trellis helps produce high yields. For details on trellis construction, see <http://www.smallfruits.org>, Commercial Bramble Production.

New canes produced the second and succeeding seasons will be erect. Cut these to a height of 40 to 42 inches in early summer to encourage lateral shoot development. This practice reduces excessive height of the canes and increases the stability of the hedge. Several prunings may be necessary.

During the dormant season, prune out the dead canes that provided fruit the previous summer. While winter pruning, it is a good idea to shorten any long, lateral branches. Reduce these by one-third to one-half of the length of the branch.

Harvesting

Just like trailing blackberries or Dormanred raspberries, erect blackberries are ripe and at their peak of flavor when they lose their high, glossy shine and

turn slightly dull. Harvesting is best when berries are juiciest, during the late morning hours after the dew has dried. The harvest season for Cherokee and Cheyenne is June 10 to July 5 in Athens, Ga. Harvest begins about two weeks earlier in south Georgia and one to two weeks later in the north Georgia mountains.

Growing Primocane Raspberries

Heritage, Caroline, Nantahala and Redwing are erect “fall” raspberry varieties that produce fruit in late summer and fall. Confine planting to Piedmont and Mountain areas of the state for these red raspberry varieties.

These varieties differ from erect blackberries, trailing blackberries and the Dormanred raspberry because they produce fruit on primocanes (first-year canes). Canes emerge from the ground in early spring, grow to 3 to 4 feet tall, and form flower clusters in the terminals of the canes. Once the terminals flower, flower clusters are produced one at a time progressively back down the canes. The first fruits of Redwing to ripen are generally ready for harvest in Athens, Ga., about July 15. Harvest continues until a killing freeze.

Cultural Requirements

Prepare the soil as described for erect blackberries. Set the plants 2 feet apart in rows 12 feet apart. Raspberries perform poorly in heavy clay soils. It is critical that they be on good soil with irrigation and mulching.

Fertilize erect raspberries with 1½ ounces of premium grade (containing micronutrients) 10-10-10 per foot of row in March and 3 ounces of calcium nitrate (or 3 ounces of 10-10-10) per foot of row in June of the first year. From the second year on, increase the March application to 3 ounces of 10-10-10 and continue to use the June application of 3 ounces of calcium nitrate.

Pruning

The best part of growing primocane raspberries is ease of pruning. In winter, cut all canes off at the ground line. Primocane varieties can be treated exclusively as a fall fruiting variety when all of the canes are removed each winter. Commercial producers mow the canes at the ground line with

a sickle bar mower and rake the old canes out for burning.

General Culture Requirements

Watering

Water brambles during dry parts of the season. Apply enough water to wet the soil at least 8 to 10 inches below the ground surface. This is particularly important for raspberries.

Mulching

Brambles will benefit from mulching, which prevents extremes in soil temperature and helps conserve moisture.

Diseases

Anthracnose — This disease first appears as small, purplish spots on the new canes. As the disease progresses, the spots enlarge and become grayish in the center with purplish, slightly raised edges. Cracking bark on diseased canes is common. Badly infected canes may wilt and die. Infections in the berry clusters will cause withered, dry berries.

Rosette (Double Blossom) — This fungus disease is becoming very serious in Georgia. Buds on vegetative canes become infected during the spring and summer. During the following season, numerous short, leafy shoots develop from the infected leaf buds. These shoots become broom-like in appearance. Infected flower buds tend to be larger than normal. Blossoms from infected buds are obviously abnormal, often with numerous extra petals. These flowers do not produce fruit. Of the recommended blackberries, Gem, Arapaho and Navaho are the only varieties resistant to double blossom.

Orange Felt Alga — Also known as **orange cane blotch**, this is a blackberry disease caused by the parasitic alga *Cephaleuros virescens*. Orange felt is especially prevalent on blackberries grown in very hot, wet and humid environments, such as those encountered in much of the Coastal Plain areas of the Southeast. Damaged tissue has been observed within the plant cortex region as well, opening the door for the possibility that the plant may be “girdled” by the infections or that they may cause subsequent damage. Since stem cracking also accompanies infection, this may also account for death of black-

berry canes due to secondary attack by opportunistic fungi such as *Botryosphaeria* species.

Orange Rust — Leaves on infected canes turn yellow soon after they unfold in the spring. The undersides of the leaves will quickly be covered with orange pustules. In late summer, plants may appear to grow out of the disease, but infected canes will tend to be spindly and bear poorly. Remove infected plants, including the roots, as soon as the disease is detected because it spreads readily from one plant to another.

Crown Gall — Crown gall causes tumorous growths in plant crowns and root systems. Once infected, plants cannot be cured. Crown gall reduces plant vigor, which, in turn, can increase mortality and decrease productivity. Do not transplant any plants with galls on them. Do not transplant apparently healthy plants out of fields where crown gall is present.

Viruses — Viruses can be a problem in blackberry production. Buy plants with healthy, bright green foliage. Ask for tissue cultivars and virus-free varieties.

Disease Control

Sanitation is the most important means of bramble disease control. The following suggestions will improve your chance of producing healthy berries. If cane diseases become a problem, cut off all plants at the soil line just after harvest. For varieties with double blossom, cut canes back to 12 inches above the ground immediately after harvest. Fertilize and irrigate the vines to get new growth in the current year for next year’s crop. If diseases are absent, maintain conventional pruning practices.

- Set out only disease-free plants.
- Remove as many wild blackberries growing nearby as possible.
- Practice good weed control around the plants. Weed removal allows good air circulation, which helps reduce conditions favorable to disease development.

Bramble Insects

Brambles are attacked by two primary insect pests in Georgia — the strawberry weevil and the red-

necked cane borer. Cultural control and minimal “as needed” sprays normally control these pests. There are a number of sporadic but occasionally harmful pests. Plant bugs, leaf-footed bugs, stink bugs, blackberry psylla, aphids, Japanese beetles, mites, thrips and raspberry crown borers all are potential problem insects.

Strawberry weevils are small, 1/10-inch long weevils or snout beetles. They vary from dull red to nearly black with a dark spot just behind the center on each wing cover. Strawberry weevil females injure brambles by laying eggs in flower buds and girdling bud stems, which kills the buds. They are normally present just before and during bloom. Treat when weevils are present and an excessive number of cut buds are found.

Red-necked cane borers are 1/4-inch long black beetles that have a red “neck” or thorax. Adults are generally present from May to early June. Larval feeding causes 1- to 3-inch-long swellings of the canes. The bark often splits in the swollen area. Cane borer is controlled by pruning. Infested canes are not productive and, if not destroyed, may re-infest other canes for years. Always remove infested canes and burn them as they appear.

Blackberry psyllids are 1/8-inch-long, aphid-like insects with three reddish stripes running lengthwise on their wings. Adult psyllids jump when disturbed. Blackberry psyllids overwinter in conifers and move to brambles in the spring. Feeding stunts plants and causes leaves to be tightly curled. Treat if leaf distortion is severe and psyllids are present.

Japanese beetles are 1/2-inch-long, metallic green to greenish-bronze beetles. They feed on and may defoliate a variety of plants. Defoliation may cause stunted, unthrifty plants. Treat as needed.

Raspberry crown borer is a black, clear-winged moth. The females have yellow legs and rings around their abdomens. The larvae are yellowish-white with brown heads and brown on the tip of the thoracic legs. Larval feeding causes weak, spindly canes that break off easily. Pull up and burn infested canes and roots.

Spider mites are 1/50-inch-long spider-like creatures that feed on leaves, causing white speckles and then discolored blotches to develop. Close examination reveals silken threads on the leaf surface. Mites do well in hot, dry weather. Treat if a sharp population increase is noted or if leaf damage appears.

Learning *for* Life

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