

Bramble Production Basics & Variety Notes

David T. Handley, Vegetable and Small Fruits Specialist
University of Maine Cooperative Extension
Highmoor Farm, P.O. Box 179, Monmouth, Maine 04259
Tel. (207) 933-2100

Many people have tried growing raspberries as a commercial venture in the Northeast, yet few seem to have been able to sustain a long-term success. What goes wrong?

First and foremost, a raspberry planting requires a lot of planning, attention and labor. Failure in any of these areas will likely jeopardize its success. People who start raspberry plantings often do not fully consider the true costs and potential pitfalls this crop entails. However, those who have, and also possess good management skills, have found that raspberries can be a very profitable, albeit demanding crop. Some basic requirements for success are reviewed below.

Choosing a site

Site selection is critical to successful raspberry production. The wrong choice will generate chronic problems which, at the very least, will tax management skills and reduce profits, and may result in a failure of the planting.

A good raspberry site should have an excellent soil. It must be well drained. A site that holds too much water will reduce the vigor of the plants and greatly increase the probability of *Phytophthora* root rot infection. Avoid soils heavy with clay. A sandy loam with acceptable levels of organic matter will provide the greatest chance of success. The site should receive full sunlight and have good air circulation. This will encourage a dry microclimate within the planting which will reduce the incidence of fungal diseases.

Preparing the soil

Have the soil tested to determine what amounts of nutrients need to be added to the soil to encourage optimum growth of raspberries. Applications of lime to adjust the soil pH and fertilizers should be made according to soil test recommendations. Prior to planting, organic matter levels can be increased by incorporating compost, animal manures and/or plowing down cover crops. The use of cover crops prior to planting can also be an effective technique to reduce weeds and improve the nutrient status of the soil. Cover cropping should be carried out for at least two years to effectively reduce weed populations and improve soil conditions.

Planting Raspberries

Raspberry plants are often started from dormant one-year-old canes, however, plants are now also available as tissue-cultured, virus-free plantlets from several nurseries. Although the cost of plants propagated this way is somewhat higher (50-100%) than conventionally propagated

plants, the exceptional vigor and uniformity of these plants, in addition to virus indexing, may make them a worthwhile investment for the commercial grower.

Raspberries are best planted in the early spring, usually from mid-April to early May. Fall plantings are possible, but usually experience higher plant mortality, prolonging the time necessary for the planting to reach its full production potential.

Plants should initially be spaced two to three feet apart within rows, with a minimum of ten feet between rows. Spacing rows too close together is a common mistake. There must be adequate room between the rows to allow equipment through once the planting has reached its full size. Wide row spacing will also encourage air circulation, which will reduce disease problems.

Irrigation and Mulch

Trickle irrigation should be put in place immediately after planting. A well-designed trickle irrigation system will greatly speed the establishment of the planting and encourage consistently good growth and yields. If tissue-cultured plants are used, they should be mulched immediately after planting with a three-inch layer of straw. This will help to conserve soil moisture and reduce the germination of weed seeds in the soil, both critical to a quick establishment of the raspberry plants. The straw should be removed early the next spring to prevent root rot. A permanent mulch, such as wood chips or shavings can be applied at that time to provide long-term benefits. As the plant rows become established, they should not be allowed to become wider than one and a half feet. Wide rows will not allow enough light penetration for healthy fruit buds to form in the row centers, and will increase disease problems due to poor air circulation.

Trellis

Summer-bearing raspberries should be trellised. Current research indicates that a “V” type trellis optimizes yields and fruit quality and is relatively simple to manage. The idea is to train the fruiting canes out from the center of the row at approximately a 30-degree angle. This is accomplished by tying fruiting canes to wires supported by posts set in the ground at the appropriate angle. Two strands of wire are run along the posts, one approximately one foot above the ground and the second at three to four feet above the ground, depending on the expected height of the canes. Spreading the fruiting canes out in this manner encourages new cane growth to come up from the center of the row, rather than the edges. Spraying, harvesting and pruning are simplified because the fruiting canes are limited to the outside of the row. Increased light penetration and air circulation within the row as a result of the V trellis may also reduce the incidence of diseases such as gray mold and spur blight.

Pruning

Pruning should be given special attention. Every season, regularly prune out any first year canes that emerge outside of the desired one and a half foot row width. This opens up the planting to encourage growth of the other first year canes, which are setting fruit buds for the next season. Dormant pruning should be left until the late winter or early spring. All canes that fruited the previous summer should be pruned out. Any canes that are outside of the desired row width or showing signs of insect or disease injury should also be pruned out. Only the most vigorous

canes, those with the greatest height and basal diameter, should be left in the row. Thinning should continue until the desired cane density of four to five canes per foot of row length is attained. The remaining canes should be attached to the trellis wires. Finally, all of the prunings should be removed from the field. These may harbor diseases and insects that may attack the healthy canes.

Everbearing Raspberries

Consider putting part of your planting into everbearing (primocane fruiting) varieties. These will bear a crop on first year canes in the late summer. The canes can then simply be mowed down late in the winter, eliminating the need for selective pruning. This technique also nullifies the danger of winter injury to the canes and may reduce the threat of several diseases and insects that use the canes as over-wintering sites. Although this practice also eliminates the conventional second year crop from two-year-old canes, many growers prefer this method to reduce labor and risk while still providing profitable yields. Allow plants to become established for at least three years before beginning to mow them. This will allow the plants time to establish a healthy root system and reduce stress caused by mowing. Most everbearing varieties mature their fall crop late in the season, making it susceptible to frost. Select varieties that can successfully mature the primocane crop in your area.

Pest Management

It is critical that raspberry growers become familiar with the major pest species that effect their crop, including insects, diseases and weeds, and know what management options are available for each. Weeds and diseases are two of the most common reasons for the failure of raspberry plantings. A grower should be well aware of the pest situation in the planting at all times through frequent and regular monitoring.

In the end, it is the growers who take the time to educate themselves thoroughly in raspberry production, pest management, and business management who will be successful. This education should begin well before a plant is put in the ground and never stop.

Bramble Variety Notes

Red Raspberries, Summer-bearing

Boyne: From Manitoba. Ripens early, excellent winter hardiness, high yielding. Plants are spiny and produce many suckers. Fruit is small to medium in size, dark and soft, with fair flavor and good freezing quality. Susceptible to anthracnose. Highly recommended for colder sites.

Canby: From Oregon. Ripens midseason, only moderate hardiness. Plants are tall, nearly thornless, and moderately productive. Fruit is medium to large, firm, bright red with excellent flavor. Limited success in cold climates

Encore: Recent release from New York. Ripens late season, with long harvest season. Hardy and free suckering with vigorous, erect, nearly spineless canes. Fruit are medium-large and firm with good flavor. Encore shows a moderate tolerance to Phytophthora root rot.

Haida: From British Columbia. Ripens mid to late season. Hardest of the Pacific Northwest types. Vigorous plants with moderate spines. High yielding. Fruit are medium-sized, with good flavor; berries are firm, sweet, and freeze well.

Hilton: A New York release. Ripens midseason, moderate hardiness. Plants are tall and vigorous, and moderately productive. Fruits are quite large, attractive, dark red, firm, with fair to good flavor. May be difficult to pick unless fully ripe.

K-81-6: From Nova Scotia. Ripens mid-late season, very hardy. Vigorous, tall canes. Medium-large, bright red fruit are firm with good flavor.

Killarney: From Manitoba, sibling of Boyne. Early ripening, slightly behind Boyne. Plants are very hardy, spiny, produce many suckers, and are susceptible to mildew. Plant is short to medium. Fruit is medium-sized, and bright red. Flavor and freezing quality are good, but berries may soften in warm weather. Susceptible to anthracnose. Highly recommended for colder sites.

Latham: A Minnesota release. Midseason ripening, very hardy. Plants are vigorous with few spines. Small fruit with good color, but crumbly with only fair flavor. Ripens over a long period of time. Less susceptible to viruses than some varieties. Recommended for colder sites.

Lauren: A recent release from Maryland. Mid-late season ripening, only moderate hardiness. Tall, vigorous canes. Fruit are very large and fairly firm with fair flavor.

Newburgh: From New York. Midseason ripening, hardy. Plants tall but not highly vigorous. Some spines. Partially resistant to common cane diseases. Fruits are medium in size, light red with good flavor. May be crumbly, and tends to ripen unevenly.

Nova: From Nova Scotia. Very hardy plants with good vigor and few thorns. Appears to be resistant to most common cane diseases. Fruit ripens midseason, is medium sized, firm, bright red, and somewhat acidic.

Reville: From Maryland. Early ripening. Hardy. Plants are vigorous, producing many suckers. High yielding. Fruits are medium to large with good flavor, but very soft. Poor shipping and freezing quality.

Taylor: From New York. Late ripening. Moderately hardy. Plants are vigorous with some spines. Very susceptible to mosaic virus, leaf spot and fungal diseases. Fruit is medium to large with excellent flavor, good color and firmness.

Titan: From New York. Mid to late season ripening, only moderate hardiness. Large canes, suckers emerge mostly from the crown, i.e. slow spreading. Extremely productive. Plants have very few spines, but are susceptible to crown gall and *Phytophthora* root rot. Fruits are extremely large and dull red, with mild flavor. Difficult to pick unless fully ripe.

Red Raspberries, Everbearing (primocane-fruiting)

August Red: From New Hampshire. Earliest ripening of the primocane-fruiting types. Canes are short and spiny, with moderate vigor. Fruit size is medium-sized, somewhat rough, and mildly flavored.

Autumn Bliss: From East Malling, Scotland. Early ripening primocane crop. Moderately vigorous canes with few spines, suckers develop near the crown. Productive. Fruit is large and highly flavorful.

Autumn Britten: East Malling, Scotland, similar to Autumn Bliss. Early ripening primocane crop. Limited cane production, close planting recommended. Medium to large fruit with very good quality.

Caroline: A recent release from Maryland. Mid-early ripening primocane crop. Vigorous with tall canes. Large, firm fruit. Ripens over a long harvest season. Moderately hardy for floricanes crop.

Dinkum: From Australia. Similar to Autumn Bliss, early ripening primocane crop on moderately vigorous canes. Large, firm flavorful fruit.

Fall Red: From New Hampshire. Early ripening primocane crop. The medium to short canes are very vigorous, and produce many suckers. Moderately spiny. Fruit size is medium. Good flavor, but soft. Recommended for most sites in Maine.

Heritage: A New York release. Primocane crop ripens relatively late. Tall, rugged canes with prominent thorns. Very high yielding. Fruit size is medium. A good color and flavor, firm, good freezing quality. Due to the late ripening of the primocane crop, this variety is not recommended for regions with a short growing season, i.e. frost before September 30 or cool summer temperatures.

Prelude: A recent release from New York. Although everbearing, primarily grown for its very early ripening floricanes (second year) crop. Plants are vigorous and sucker freely. Medium-sized fruit, dark red, good quality. Primocane crop ripens late.

Ruby (Heritage x Titan): New York. Primocane crop ripens slightly ahead of Heritage. Plants moderately vigorous, good productivity. Fruit is large, but flavor is mild. Susceptible to root rot. Suggested for fresh market or shipping in areas with longer, warmer growing seasons.

Redwing: From Minnesota. Primocane crop ripens earlier than Heritage in some years and sites. Canes not vigorous with moderate spines. Moderately productive with medium fruit size. Flavor is fair to good, but fruits tend to be soft.

Yellow Raspberries, Everbearing (primocane fruiting)

Anne: A recent release from Maryland. Mid to late season ripening primocane crop. Vigorous, tall canes. Medium to large light yellow fruit, variable quality.

Fall Gold: From New Hampshire. Primocane crop ripens relatively early. Canes very vigorous, produce many suckers. Fruit is medium-sized, yellow with a pink blush, soft, but with excellent flavor. Poor for freezing or processing.

Goldie: Yellow sport of Heritage and similar in ripening season, productivity and growth habit. Fruit actually are more of a pink color when ripe and are prone to sun bleaching.

Kiwi Gold: New Zealand. Another yellow sport of Heritage and similar in ripening season, productivity and growth habit. Good fruit quality, develops pink blush when over-ripe.

Purple Raspberries, summer-bearing

Purple raspberries are not adequately hardy to be commercially viable in most of northern New England.

Brandywine: A New York release. Ripens later than most red varieties. Canes very tall with prominent thorns, suckers from crown only, will not fill in. Susceptible to crown gall, but partially resistant to many other diseases. Fruits are large, reddish-purple, and quite tart. Best used in jams or jellies.

Royalty: From New York. The best purple raspberry. Extremely productive. Ripens late. Canes are tall and vigorous, with thorns. Immune to the large raspberry aphid, which decreases the probability of mosaic virus infection, but plants are susceptible to *Phytophthora* root rot and crown gall. Fruit are large, reddish-purple, irregular. Fruit tends to be soft, but sweet and flavorful when eaten fresh.

Success: From New Hampshire. Ripens mid to late season. Canes not as vigorous as other purple types and produces few suckers, but is very hardy. Difficult to propagate. Fruit smaller than other purple varieties, but yields quite well. Dark purple color and excellent flavor. Good fresh quality and for jams or jellies.

Black Raspberries

Black raspberries may winter kill to the snowline if temperatures drop to -10°F in combination with desiccating winds. They are also quite susceptible to virus infections, *Verticillium* and rust. They are not considered commercially viable for northern New England.

Allen: Early-midseason. Relatively hardy. Plants are vigorous and high-yielding. Fruit ripens uniformly, short harvest period. Fruits are the largest and most attractive of the black types, but flavor is mild.

Blackhawk: From Iowa. Vigorous plants, relatively hardy and productive. Fruit is medium-large, glossy, with good flavor.

Early Sweet : From USDA (Maryland). Vigorous, productive plants. Firm fruit is medium- to large-sized and sweet. Early season. For trial.

Jewel : A New York release. Midseason. Possibly the hardiest black raspberry variety. Plants are vigorous, erect, and productive. Appears to have somewhat more disease resistance than other varieties. Fruit is firm, and glossy with good quality.

Blackberries, Thornless (trailing)

Thornless blackberries have vigorous canes which must be trellised. They are not hardy below -10°F and are not commercially viable for northern New England. They ripen later than most red raspberries.

Chester: From USDA (Maryland). Late season ripening, possibly hardier than other varieties. Resistant to cane blight. Large, high quality quality fruit with good shelf life.

Dirksen: Late season, relatively hardy. Plants are very vigorous. Resistant to anthracnose. Fruit are large, firm, slightly tart with good flavor.

Hull: Mid to late season ripening. Fruit are very large, firm, holds color under high temperatures. Sweeter than other varieties.

Triple Crown: From USDA (Maryland). Vigorous, semi erect type plant, somewhat sturdier than other varieties. Productive, midseason ripening. Large fruit with excellent flavor.

Blackberries, Thorny (erect)

Erect blackberries have tall, rugged canes with prominent thorns. The canes have very limited hardiness. They are not recommended for commercial production in northern New England.

Darrow: From New York. Hardest blackberry variety. Canes are vigorous with large thorns. Good yields with long harvest season. Fruit are large and glossy, excellent quality.

Illini: From Illinois. A hardy, thorny blackberry with good quality fruit. Suggested for trial where Darrow can be grown successfully.