

Selecting Caneberries for Residential Production in Tennessee

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Blackberries and raspberries are some of the most common and successful crops available to residential fruit growers. These crops have moderate care requirements, less specific soil needs than blueberries, and can come into production sooner than many other fruit crops. Additionally, residential production provides healthy and nutritious harvests of a tasty homegrown fruit crop.

Selecting the Best Site

Caneberries (plants in the genus *Rubus*) require full sun (6 to 8 hours) and well-drained soils. A few additional key notes are not to plant in sites where strawberries, potatoes, tomatoes, peppers or eggplants were recently grown because of the danger of transmitting *Fusarium* wilt. Also, new plantings should not be planted near wild caneberries as this poses a risk for disease and pest issues. More detailed site selection considerations are discussed in other UT Extension publications.

Selecting Caneberries for Tennessee Climates

Caneberries are discussed here in terms of the type (raspberry, blackberry), fruiting habit, growth habit and thorniness. Most caneberries have roots that are perennial and shoots that live for parts of two growing seasons (biennial). The shoots are called canes, and they produce vegetative growth (stems, leaves) the first year and fruit the second year before dying. Canes are referred to as primocanes the first year and floricanes the second year. Primocane fruiting types are an exception to this rule because they produce new canes from the ground in the spring that grow, flower, and fruit in the same season. Primocane fruiting raspberries and blackberries are now commonly grown in commercial and residential areas, and new cultivars continue to be released.

As with other fruit crops, chilling hours are an important aspect of caneberry physiology. In terms of selection of cultivars, raspberries tend to have higher chilling hours overall than blackberries (more than 600 hours). Therefore, most raspberries will have sufficient chilling for locations across Tennessee. The limitation for raspberries in Tennessee is more likely to be summer heat. Blackberries are native to warmer regions, and cultivars have a range of chilling hours from 200-900. In Tennessee, we can grow most of these cultivars, but gardeners in higher elevation or colder climates should use caution with the lower chilling cultivars (less than 400 hours) as they can have an earlier bloom that risks flower damage and lower fruit yield.



Table 1. Comparison of different attributes of common caneberries.

	Red raspberry	Black raspberry	Blackberry
<p>Winter Hardiness/Heat Tolerance:</p> <ul style="list-style-type: none"> Blackberries have moderate chilling requirements and often tolerate hot summers best, so they are grown throughout much of the Southeast. Raspberries can be weakened over time by exposure to hot temperatures, and fruit will be more perishable in the hotter summer temperatures. They are often recommended for locations with elevation over 2,000 feet. 	<p>Most winter hardy type, as well as most common in the Southeast. Requires good management and cultivar selection.</p>	<p>Does better in cooler parts of the region, but winter hardy to only -5 F. Challenging to grow in many parts of TN.</p>	<p>Less hardy than raspberries (0 to -10 F).</p> <p>Thornless types may be more cold sensitive but with many newer cultivars being developed and evaluated, hardiness is still under investigation.</p>
<p>Growth habit:</p> <ul style="list-style-type: none"> Trailing habit — Canes run along the ground. Semi-erect — Thick, arching canes that should be pruned in summer and winter. Erect — Stiff canes that are upright and need summer and winter pruning. 	<p>Produce canes (suckers) from roots (so grown in hedgerow).</p>	<p>Produce canes from the crown of the plant.</p> <p>Most cultivars are semi-erect.</p>	<p>Produce canes from the crown of the plant.</p> <p>Cultivars common in Tennessee are either erect or semi-erect.</p>
<p>Thorniness:</p> <ul style="list-style-type: none"> Thorny or thornless are available. Thornless are becoming more common, especially in blackberries because they have larger thorns. 	<p>Most cultivars are thorny, but thorns are less troublesome on raspberries.</p>		<p>Most newer cultivars are thornless to provide easier picking.</p> <p>Thornless types are also resistant to double blossom disease.</p>
<p>Fruiting Habit:</p> <ul style="list-style-type: none"> Floricanes fruiting - vegetative growth in 1st year and flowering and fruiting followed by death in 2nd year (biennial cane). Primocane fruiting — Fruits on upper portion of cane in late summer and fall in first year. The tip of the cane where fruit was produced dies first, then the lower portion flowers and fruits prior to the entire cane dying in the second year (also called everbearing or fall bearing). 	<p>Most older cultivars are floricanes fruiting with several newer primocane fruiting cultivars available.</p>	<p>Most cultivars are floricanes fruiting.</p>	<p>Most cultivars are floricanes fruiting. Newer primocane fruiting cultivars now are becoming quite available on the market.</p>



Blackberry Cultivars for Tennessee

Blackberries are dependable plants that have the potential to produce for many years. They tend to be more tolerant to different soil types and pH levels than other small fruits, such as blueberries. Blackberries are found in thorned and thornless cultivars with thornless blackberries being easier to prune and maintain. Many newer thornless, upright blackberry cultivars that grow well in Tennessee conditions have been developed at the University of Arkansas, but these cultivars should still be considered to require trellising for optimum plant management, performance (yield) and health.

Cultivar	Cultivar Description	Harvest season
<i>Floricanes Fruiting</i>		
Caddo	Thornless, erect plant that is a newer cultivar release from University of Arkansas. It is an early bearer (around the time of Natchez). Fruit flavor is similar to Osage but a bit larger and earlier to harvest. Size maintains well through season with comparable yields to Ouachita and Osage. Low acidity and high soluble solids, as well as excellent flavor, ability to store and plant health are assets.	Early
Darrow	Early season producer with sweet fruit yielding an old-fashioned flavor. Winter hardy thorny plant with erect growth habit. Older cultivar grown across the Midwest as well as the South.	Early
Natchez	Erect plant with thornless canes. Has large fruit and high yield potential. Winter hardiness can be poor in cooler or higher elevations parts of the state. May require pruning to prevent over production.	Early
Ponca	Erect plant with thornless canes that bears early (around time of Natchez and slightly before Caddo). Newest Arkansas release selected for high soluble sugars (10-13 percent), low acidity and excellent flavor. Can produce basal fruit crop a few weeks after primary. Good reports of plant health.	Early
Kiowa	Erect, thorny plant with large fruit size that is moderately susceptible to rosette disease. It has a long fruiting period for home harvest. Lower chilling hours requirement than several other listed cultivars.	Mid
Ouachita	Erect growth habit on a thornless plant. High yield potential and fruit with excellent flavor. This cultivar is one of the most widely grown in the southeast, so it is a standard for yield, and quality.	Mid
Osage	Erect, thornless canes produce fruit with very good flavor. A newer cultivar which may be desired by the home producer for flavor.	Mid
Shawnee	Erect, thorny canes provide medium to large fruit with good flavor. This cultivar has resistance to anthracnose.	Mid
Apache	Erect thornless canes with late bloom, large berry size and sweet flavor. White drupelets may be severe on the fruit.	Mid to late
Navaho	Erect, thornless canes with moderate yields of medium-sized fruit with excellent flavor that can be tart and good storage potential. This cultivar is resistant to rosette disease but susceptible to orange rust. Higher chilling hour requirements, so widely adaptable.	Mid to late
Von	Thornless cultivar recently released by NC State. Fruits around same time as Navaho with a clean plant. Does not get orange rust. Fruit are low in acid with 9-10 percent soluble sugars.	Mid-late
Hull	Semi-erect plant with thornless canes. The fruit is good quality, but berries get soft when ripe, so there is a short window for harvest and use. Older cultivar.	Late
Chester	Semi-erect plants with thornless canes. Berries have a tart flavor and average quality. High yields are possible. Older cultivar.	Late
Triple Crown	Thornless canes are semi-erect, bearing large, sweet fruit. Requires trellising for support.	Late
<i>Primocane Fruiting (newer cultivars that have not been extensively trialed in Tennessee, so they should be used in smaller trial plantings)</i>		
Prime-Ark Freedom	Erect plant with thornless canes. Fruit is soft. Recommended for home production or local sales.	Early floricanes and late primocane crop
Prime-Ark Traveler	Erect plant with thornless canes. Fruit is firmer than Prime-Ark Freedom as the cultivar was developed for higher shipping potential.	Early floricanes and late primocane crop
Prime-Ark 45	Erect plant with thorny canes. Released after Prime Jim and Jan and reported to be more productive and have lower impact of summer heat for the primocane crop. Small- to medium-sized firm fruit that had soluble solid levels close to Ouachita.	Early floricanes and late primocane crop
Prime-Jim and Prime-Jan	Erect plants with thorny canes. Primocane yields are variable while floricanes yields are similar to other cultivars. Fruit has low storage potential, so good for a home garden cultivar.	Late crop on primocane

Raspberry Cultivars for Tennessee

Raspberry types differ in fruit color, growth habit, cultural practices and disease issues. Raspberries are usually less susceptible to winterkill than blackberries, but more susceptible to anthracnose and viruses, so purchase of virus tested plants is important for longevity and productivity. Additionally, raspberries generally perform poorly in heavier or poorly drained soils. Raspberries are negatively impacted by summer heat and should be considered a more challenging crop than blackberries in many parts of Tennessee.

Red raspberry cultivars are either summer-bearing or primocane-bearing. Summer-bearing red raspberries bear fruit in the early summer and have the typical biennial lifecycle with second-year floricanes canes dying after fruiting. Primocane-bearing types produce fruit on the upper portions of the canes during the late summer or fall. These fall-bearing or “everbearing,” plants can fruit again on the canes (now second year floricanes) in the following spring on buds closer to the base of the plant.

Red raspberries produce new canes (suckers) primarily from the root system, so they usually are grown in a hedgerow and require support. Red raspberries are the most winter-hardy and survive temperatures as low as -20 F when properly acclimated. Winter hardiness temperatures can be withstood only when fully dormant. Once a plant begins to lose its dormancy, it can be injured at much higher temperatures. Spring in Tennessee often creates these conditions.

Black raspberries initiate new canes from the crown of the plant, rather than from root suckers. They usually grown in a “hill” system. Unlike the hedgerows of red raspberries, each black raspberry plant is grown, pruned and maintained as an individual. Black raspberries require summer tipping because individual canes will grow to unmanageable lengths.

Purple raspberries are hybrids of red and black raspberries. They initiate new canes predominantly from the crown, but they may sucker between plants showing characteristics of both black and red. Essentially, they are grown as black raspberries and are intermediate in cold hardiness between red and black. Gold raspberries are a type of red raspberry that do not produce red pigments. They are available, although not as widely grown.

Name	Description	Season
<i>Red Raspberry – Floricane Fruiting</i>		
Titan	Trailing cultivar with large berries, mild in flavor, and harvested over a long period of time. Has a high level of aphid resistance. Susceptible to Phytophthora root rot, so not suited for heavier soils.	Early summer
Latham	Older trailing cultivar produces good yields of somewhat crumbly but firm medium sized fruit. Susceptible to mosaic virus.	Early summer
Dormanred	Trailing cultivar widely adaptable across the Southeast. Fruit is attractive, but better used for cooking than for fresh eating.	Mid-summer
Nova	Fruit have a better than average shelf life and are slightly acidic in taste. Plants have shown some heat resistance. Thornless canes are somewhat erect.	Mid-summer
<i>Red Raspberry – Primocane Fruiting</i>		
Heritage	An older but well-known fall-bearing red raspberry. Plants have upright and sturdy canes. Often used for a single fall crop. Berries are small to medium sized, attractive, firm and average in quality.	Late summer to early fall
Ruby	This cultivar has bright red fruit that is very large. It has both Heritage and Titan as parents. Similar to Heritage in terms of yield and flavor, but with canes that are more trailing. Like Titan, it should not be grown on heavier soils.	Late summer
Caroline	Newer fall bearing cultivar with large sweet and firm fruit. Long harvest season. Medium vigor and good disease resistance.	Mid fall
Nantahala	Newer cultivar with light red medium-sized berries. Very good flavor and storage potential.	Late fall
<i>Black Raspberry – Floricane Fruiting</i>		
Bristol	Medium to large attractive fruit. Fruit has good flavor and quality. Yield not likely to equal red raspberry.	Early summer
Jewel	Fruit size is generally larger than Bristol (a parent of Jewel). Better disease resistance than many other black raspberries. Yield not likely to equal red raspberry.	Early summer
<i>Purple and Gold Raspberry</i>		
Brandywine	Floricane fruiting. Berries are large, firm, tart, purple in color and good quality. Best used for jams and jellies. Trellising recommended.	Late summer
Royalty	Floricane fruiting. Berries are sweet, purple in color, soft and large in size. Vigorous plants resistant to mosaic virus transmitting aphids. Canes have thorns and suckers like red raspberries.	Late summer
Anne	Primocane fruiting. Berries are medium sized, yellow/gold in color and very soft with low storage potential.	Mid fall

References and Further Reading:

Cultivar information from recent Extension publications in the southeast and lower Midwest were used to develop these tables.

- www.uaex.edu/publications/PDF/FSA-6130.pdf
- content.ces.ncsu.edu/southeast-regional-caneberry-production-guide/cultivars
- www2.ca.uky.edu/agcomm/pubs/ho/ho15/ho15.pdf
- extension.uga.edu/publications/detail.html?number=C766&title=Home%20Garden%20Raspberries%20and%20Blackberries
- extension.tennessee.edu/publications/Documents/SP284-C.pdf
- extension.tennessee.edu/publications/Documents/SP284-G.pdf

Potential Suppliers:

- Blackberry — docs.google.com/spreadsheets/d/1_G3KloWKIbFD4f8YwFue7b7nbO-IV-siBhT5IICvoz8/edit#gid=1935902762
- Raspberry — docs.google.com/spreadsheets/d/1_G3KloWKIbFD4f8YwFue7b7nbO-IV-siBhT5IICvoz8/edit#gid=1372509333



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