Selecting Plants for Virginia Landscapes:

Edible Landscape Species – Shrubs, Vines, and Groundcovers













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Selecting Plants for Virginia Landscapes: Edible Landscape Species – Shrubs, Vines, and Groundcovers

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Introduction

This publication provides information on edible landscape species and cultivars for shrubs, vines, and perennial groundcovers. For example, the kiwi vine can offer a bounty of fruit (fig. 1). Readers interested in basic horticultural information on edibles and on edible fruits from trees may also want to see Virginia Cooperative Extension's companion publication, "Selecting Plants for Virginia Landscape: Edible Landscape Species – Trees," Publication SPES-316.

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Figure 1. Fruit cluster of fuzzy kiwi (A. chinensis var. deliciosa)

Shrubs

Pomegranate

Landscape appeal: Medium to high

Fruit production: Medium

Pomegranate (*Punica granatum*) is generally thought to have originated somewhere from the eastern Mediterranean to Central Asia and has been cultivated for thousands of years. As a large deciduous shrub, the pomegranate is primarily used for its tasty and nutritious fruit but has equal value as an attractive landscape plant.

There are numerous cultivars; cultivar selection criteria are plant size, hardiness, and flower and fruit characteristics. In terms of mature plant height, many cultivars are large shrubs (fig. 2) or small trees, either of which can be 8 to 15 (or more) feet tall, but there are cultivars that are medium size (less than 8 feet) and some that are considered "dwarf" (less than 5 feet). While the leaves are not generally touted as a feature, they are lustrous and certainly handsome during the growing season (fig. 3).



Figure 2. A large pomegranate shrub (*Punica granatum*) with red flowers.



Figure 3. A close view of the lustrous leaves of the pomegranate.

For the state of Virginia (hardiness zones ranging from 5 to 8), hardiness is the most important cultivar selection criteria. Most cultivars are rated as being hardy in zone 7, but there are some rated for warmer portions of zone 6 (6b) and some for warmer portions of 7 (7b) and zone 8. In the event of unusually low winter temperatures for any one region, plant shoots may be partially or mostly killed (usually at 2 degrees Fahrenheit) but will likely regrow from roots.

Carnation-like bell-shaped flowers (fig. 4) with crinkled petals are especially attractive and, depending on cultivar, can have shades of red, scarlet, pink, orange, yellow, white, or variegated (multi-colored); they can be single or double-petaled (though pomegranate flowers with more than one row of petals typically do not bear fruit). Flowers emerge in late spring and can be continually produced into the early fall.



Figure 4. Pomegranate flowers are double-petaled and come in many colors, depending on cultivar.

Sphere-shaped fruit, about 3-plus inches in diameter, are similarly attractive and decorative turning from green to various shades of red from bright to pale (fig. 5). Cultivar selection criteria of fruit include size, sweetness/ tartness, soft- or hard-seeded, and ripening time; softseed cultivars are considered ideal for eating the pulp (gel around the seed) and the entire seed, although soft-seeded cultivars are generally less cold hardy. Fruit ripens in the fall. Commercial growers regard fruit as ripened when they make a metallic sound when tapped. When totally ripe, fruit will turn inside out exposing the seed, but should be harvested before that time.



Figure 5. Pomegranate fruits are spherical and lose their green color as they ripen.

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Pomegranates require a full sun exposure and a welldrained soil. They are relatively drought tolerant, but lack of water reduces fruit production. Flowers are produced on new growth (newly produced stems in the spring), so, if needed, pruning should occur in the dormant season. Pruning young plants in the first three years is recommended to develop multiple main shoots that will produce a high number of flowers. Even though pomegranates are self-pollinating, cross-pollination has been reported to increase fruit set. Fruit ripening will not occur if picked prematurely, so they must be ripened on the tree.

A video extolling pomegranate fruit and landscape aspects featuring co-author Michael McConkey is online at <u>https://www.youtube.com/watch?v=5aroACpWUas</u>.

Pomegranate Cultivars

Cultivar	Hardiness zones	Fruit/seed	Notes
'Salavaski'	7 to 10	Large size; hard/semi- soft seeded	Young plants may require a protected site for winter weather
ʻCrimson Sky'	7 to 8	Sweet-tart taste	Abundant yield
'Parfianka Russian'	7b to 9	Large size; soft seeded	High quality fruit; not as hardy as oth- er cultivars
'Makedo- nia Red'	6 to 9	Medium size; hard seed- ed; sweeter than most hard seeded cultivars	Compact shrubby hab- it; cold hardy
'Bala Mursal'	7 to 9	Medium to large size; hard seeded; high juice content	High yielding
'R-35 Surh-anor'	7 to 9	Large fruit size; pink skin color; sweet	Vigorous
'Favorite Lyubimy' aka Favor- ite	7 to 9	medium size; hard seeded; similar tart- ness to store bought	One of the hardiest clones; dwarf, compact form

Fig; Edible Fig

Landscape appeal: Medium

Fruit production: Medium

Figs (*Ficus carica*) are native to warm climates in western Asia and the southeastern Mediterranean area. This species is one of the oldest cultivated fruits with domestication occurring thousands of years ago, and plant parts have been used in traditional medical practices for a variety of ailments. Figs are either small trees or large shrubs depending on how they are trained and how cold the winters get. Without pruning they have a wide-spreading habit (fig. 6). In the growing season, large bold-looking lobed leaves up to 12 inches long (fig. 7) cloak the plants. This species works well wherever a bold plant feature is needed in the landscape.



Figure 6: The shrub form of fig (*Ficus carica*) grows large without pruning.



Figure 7: Fig leaves can grow to 12 inches long.

Fig flowers are not visible since they are enclosed within stem-like flower parts. They have an interesting wasp-pollinated fruit formation. Some fig cultivars do not require pollination (termed parthenocarpic) and thus will produce figs without pollination. Fruits are about 2 inches long depending on cultivar and are attractive, green pear-shaped orbs prior to ripening. They ripen to a green, yellow, or handsome purplish to light brown color (figs. 8, 9). Fruit production usually occurs after the third year from small plants, but can occur earlier under vigorous growing conditions.



Figure 8. Fruits of the fig shrub are about 2 inches long, depending on cultivar.



Figure 9. As they ripen, figs can be green, yellow, or purplish to light brown.

In spring, figs have been known to fruit on one-year old stems if they were undamaged by low winter temperatures. On the previous year's stems, figs can produce an early first crop, known as breba, but this usually results in a minor harvest. The second crop, the major crop, is produced on newly emerged shoots and ripens in the late summer/early fall. When fruits are ripe, they can be picked from stems without oozing a milky sap. Figs can be eaten out of hand and are sweet and delicious, but once picked they have a shelf life of only one or two days unless refrigerated, in which case they will keep for up to four weeks. The entire fig fruit (skin and flesh) is edible, but many people only eat the flesh since the skin can cause a tingling sensation on the

lips and tongue if the fruit is not fully ripe. There are several "how to eat a fig" videos on the web for eating suggestions. Figs only ripen on the plant and therefore cannot be harvested when immature.

There are numerous fig cultivars (hundreds of them). Cultivar characteristics are determined by plant forms (compact to spreading) and fruit characteristics (color, size, shape, and taste).

Winter hardiness is a big issue with growing figs for fruit. All figs will become stem-damaged by winter temperatures less than 7 degrees Fahrenheit. Figs will only reliably and consistently produce fruit in hardiness zones 7 and higher; some cultivars are only hardy in zone 8. For those in zones 6 and lower, there are two exceptions to the winter hardiness issue that allow for fruit production. First, fig stems (trunks) that are partially or mostly killed by low winter temperatures can rejuvenate themselves, produce a new shoot system, and flower and fruit, albeit in a limited fashion. If plants are damaged by low winter temperatures, newly produced stems or surviving stems may produce fruit but this fruit may not ripen. An exception to this is the cultivar 'Chicago Hardy' which can produce fruit in late fall if warm weather prevails. To reduce the risk of plant damage due to low winter temperatures, figs can be planted next to south-facing walls.

Second, a fig can be grown in a large container (about 25 gallons or larger) and in early winter moved to a protected location, such as a garage or basement where winter temperatures do not get below 20 degrees Fahrenheit. When they get large, container-grown figs will require daily irrigation or even multiple irrigations per day during the growing season. Fig cultivars known for their small plant size (dwarf) are better suited to container culture. Of course, hauling containers in and out of storage is a chore due to the weight and size of the container. Some growers take elaborate measures to protect their figs during winter by covering plants with burlap or tarps or with some type of mesh such as chicken wire and filling inside area with leaves or straw. These measures will only be protective in non-windy locations if one can trap some of the ground heat inside the covering; otherwise, the temperature inside the covering will be the same as the ambient air temperature. Another protection method for low-growing shrub forms is to bend and stake branches to the ground, cover them with soil, and mound soil on the main trunk. To facilitate stem bending, cut roots on one side (opposite side of bend direction). This procedure should be done in December when small stem-chewing mammals have entered their winter residences.

Leaves and stems of this species contain a milky sap that can irritate skin, so use of gloves is recommended for pruning, fruit harvesting, and other such handling.

Figs require a full sun exposure. To aid in surviving low winter temperatures, select the part of your landscape that tends to be a bit warmer than surrounding areas (microclimate) such as against a south-facing wall. If more than one plant is to be grown, space plants about 8 feet apart with lesser or greater spacing dependent on the mature size of the cultivars being grown. Figs can be grown in most soil types except poorly drained soils. They prefer warm soil so spring mulching is not recommended.

Cultivar	Hardiness zone	Ripe Fruit	Notes
'Chicago Hardy'	6 to 8	Dark; early	Shrub form; hardy cultivar
'Celeste'	7 (6) to 9	Brown/violet; sweet; early	Shrub form
'Brown Turkey'	6 to 9	Brown/yellow; late; sweet	Hardy cultivar
'LSU Purple'	7 (6) to 9	Dark; early	Prolific fruiter
'Conadria'	8 to 9	Sweet; yellow	Vigorous; prolific fruiter
'Violet de Bordeaux' AKA 'Negronne'	8 to 9	Dark; sweet	Dwarf plant size
'Petite Negri'	7 to 9	Large; dark	Dwarf; one of best for con- tainer grow- ing; prolific fruiter
'Lattarulla'	7 to 9	Large; green; sweet; yellow; early	Susceptible to damage in warm winter spells
'Verte' AKA 'Green Ischia'; 'Strawberry'	7 to 8	Green; very sweet; late	Shrub form
'Kadota' AKA 'Peter's Honey'	7 to 9	Yellow; very sweet	Common cultivar in produce section

Fig Cultivars

Cultivar	Hardiness zone	Ripe Fruit	Notes
'Panache' AKA Tiger	8 to 10 Striped yellow ar green; la		Similar taste to 'Verte'
'Marseilles'	6 to 9	Large; yel- low; early	Hardy cultivar
'O'Rourke'	6 to 9	Purple; early	Hardy cultivar
'Olympian'	7 to 9	Very sweet; purple	Very delicious
'GE Neri'	8 (7) to 9	Very large; sweet	Suitable for zone 8
'Little Ruby'	6 to 9	Red; sweet	Hardy and compact form

Che

Landscape appeal: Medium to high

Fruit production: High

Che (pronounced chay; *Cudrania tricuspidata*), is native to China and a relative of the mulberry. This species has historically been used for its nutritional and medicinal attributes. It is an uncommon and little-used fruitbearing attractive deciduous small tree/large shrub (fig. 10). This species deserves attention since it produces an abundant crop of tasty, sweet fruit in addition to being ornamental. Its attractiveness primarily is attributed to its glossy leaves during the growing season (fig. 11) and showy and decorative 1-inch red to red-maroon fruit in the fall (figs. 12, 13). A video with co-author Michael McConkey showing a most attractive plant in full fruit is online at <u>https://thefruitnut.com/tag/cudraniatricuspidata</u>.





Figure 11. Che's glossy leaves are particularly attractive during the growing season.



Figure 12. In fall, che ripens to a red to red-maroon fruit.



Figure 13. Che fruits grow to be about 1 inch in diameter.

The plant requires full sun exposure and well-drained

soils. It is hardy from zone 6 to 9. This plant's only disadvantage is that stems may have sharp thorns, especially on juvenile stems, but much less so or no thorns on mature branches and grafted plants. This species is relatively carefree and has a reputation for being tolerant of adverse conditions, including drought, but there are reports that drought results in premature fruit drop.

The species has separate male and female plants (dioecious), so both a male and a female near each other will be needed to produce fruit. However, there are cultivars, noted in the table below, that set seedless fruit without the need for a male plant (parthenocarpy). Fruits are prolifically produced on the current year's stem (on "new wood"). Very little pruning is necessary unless a short plant size is desired for ease of harvest. Fruits ripen on the tree in the fall and ripeness is indicated when they darken to a maroon color and easily separate from the branch. They are round, raspberry-colored, and about the size of a quarter. They have seeds, but some seedless cultivars are available. Fruit can be eaten out of hand or used in preserves and baked goods. Taste is likened to that of a fig or watermelon. Two other major advantages of this plant are that it is pest-free and, reputedly, birds do not eat the fruit.

Che Cultivars (hardy in zones 6 to 9)

Cultivar	Fruit
'Seedless Che'	Seedless; sweet, juicy, and tasty
'Norris'	Seedless; sweet, juicy, and tasty

Blueberries

Landscape appeal: High

Fruit production: High

Blueberry shrubs (*Vaccinium* species) are equally valuable at producing bountiful and delicious fruit as they are being an ornamental landscape plant throughout spring, summer, and fall. There are several types that can be planted, and these types pertain to USDA plant hardiness zones and the necessity for more than one cultivar to serve in pollination.

Blueberries, in general, are shrub species (fig. 14) with numerous cultivars that vary in size from low-growing (dwarf) to large shrubs. Forms vary from upright to wide-spreading. They can be used in landscapes

anywhere a deciduous shrub is appropriate; they can function as short or tall walls as hedges, in mass displays, or as accent plants (adding emphasis to adjacent landscape elements). Depending on their fruiting time, they flower in the late spring into the summer. Flowers are white or pinkish, urn-shaped, and relatively small (about one-third of an inch) but are borne in abundance so that the overall flower display is quite showy (fig. 15). As a result of the abundant flowers, there is a copious amount of attractive fruit that transition from a waxy blue (fig. 16) to a dark blue color (fig. 17). Most cultivars have attractive foliage throughout the growing season with the highbush blueberry (V. corymbosum) leaves having a bluish hue (fig. 18). Leaf color in the autumn is spectacular with leaves showing stunning shades of red and maroon (fig. 19).



Figure 14. Blueberry shrubs (*Vaccinium* species) can be large and wide-spreading, but it depends on the cultivar.



Figure 15. The flowers of the blueberry shrub only grow to about one-third of an inch.



Figure 16. Blueberries that haven't fully ripened.



Figure 17. The dark color of these blueberries indicate they have ripened. (Photo courtesy of Edible Landscaping LLC.)



Figure 18. The highbush blueberry (*V. corymbosum*) with its slightly bluish leaves.



Figure 19. The blueberry shrub provides excellent fall color.

Blueberry Species and Cultivars

Hardiness

There are several blueberry species but only a few are commercially available; numerous blueberry cultivars are available via garden centers and mail order nurseries. While there are several selection criteria (noted below), the most important is selecting the cultivar that is **best suited to your plant hardiness zone**. In terms of hardiness zones in Virginia (5, 6, 7, and 8), the majority of the state is rated as zones 6 and 7.

Highbush blueberry (*V. corymbosum*), native to most of the eastern U.S., is commonly grown. Within the highbush species, there are two groups:

- Northern highbush (zones 3/4 to 7).
- Southern highbush varieties (zones 5 to 9/10).

Other species are lowbush blueberry (*V. angustifolium*; zones 3 to 5/6; small fruit) native to New England and Canada, and rabbiteye blueberry (*V. ashei*; zones 7 to 9), native to the southeastern U.S. Many interspecific hybrid cultivars have also been developed by blueberry breeders.

Chilling hours

Blueberries, like most temperate woody plants, require a minimum amount of "chilling hours"; these are the hours of winter temperatures lower than 45 degrees Fahrenheit but higher than 32 degrees Fahrenheit. Exposure to these chilling hours during the winter is necessary for plants to flower, produce leaves, and to grow in the following growing season. For example,

northern highbush cultivars require about 900 to 1200 hours, moderate-chill southern highbush cultivars require 400 to 900 hours, and low-chill southern highbush cultivars require 250 to 400 hours. While not usually sold by chilling hour designation, choosing a cultivar in its designated hardiness range will generally satisfy the minimum amount of required chilling hours. In some cases, vendors will list the required number of chilling hours. There are a number of chilling hour calculators on the web in which you enter your zip code and the winter period dates.

There are a few blueberry species and within these numerous cultivars in the trade. Blueberry species and cultivars vary in terms of their:

- Plant size, form, and vigor.
- Cold hardiness.
- Fruiting season (early, midseason, late season).
- Fruit characteristics (size, flavor, sweetness, and tartness).
- Pollination requirements.
- Pest (insect and disease) resistance.

While pest issues are generally not a problem when growing blueberries for the home garden, pest management information for blueberries is available in Virginia Cooperative Extension's "Home Grounds and Animals Pest Management Guide" (Home Fruit Diseases and Insects section) at <u>https://www.pubs.ext.vt.edu/456/456-018/456-018.htmls.html</u> and Rutgers University's "Blueberry Pest Management for Home Gardens" at <u>https://njaes.rutgers.edu/pubs/publication.php?pid=fs106</u>.

Blueberry culture

An important aspect of having and maintaining a healthy and well-established blueberry planting is to purchase quality and pest-free plants. Young plants begin to produce fruit at about two years old and harvest amounts increase thereafter.

Blueberry plants require full sun exposure. They are in the heath family, *Ericaceae*, and plants in this family, such as azaleas and rhododendrons, require an acidic, well-drained, preferably high organic content soil **with a pH of 6.0 or less**. Soil that is not acidic should be amended with organic matter or, following recommendations on the labels, with iron sulfate or sulfur to reduce pH. Gardeners who do not know their soil pH can get soil tests done by the Virginia Tech Soil Testing lab, a commercial lab, or occasionally at local garden centers. Mature blueberry plants, older than five years, should be pruned yearly to remove the largest stem or stems (stems are known as "canes"); cut these canes off at ground level in the dormant season. Canes older than six years produce less and smaller fruit than younger stems, and in some cases may be more prone to diseases. As with all shrubs, prune plants yearly to remove dead or weak canes.

Blueberry pollination

Most highbush blueberries are self-fertile (do not require another cultivar to cross pollinate for fruit set). If a cultivar requires a pollinizer (a mate to supply pollen), be sure to select a second cultivar that flowers at the same time to ensure successful pollination. Blueberry nurseries usually indicate if a cultivar requires a pollinizer, and in some cases will recommend appropriate pollinizer cultivars. Even for cultivars that do not require another cultivar for pollination, planting another cultivar with a concurrent flowering time in close proximity, approximately 4 feet apart, enhances fruit size, ripening, and yield.

Blueberry fruit production

There are early, midseason, and late-season fruitproducing cultivars which approximately correspond to early June, mid-June to mid-July, and mid-July to late August, respectively. Harvest season for each variety lasts about two weeks. For a continual supply of fruit throughout the summer, one should select early, midseason, and late-season cultivars. These seasonal types should be grouped together so at harvest time they can be conveniently covered with netting (for bird control). A high-yielding vigorous mature cultivar (five-plus years old) can yield in excess of about 10 pints of fruit per plant.

Blueberry Cultivars

In addition to the cultivars listed in the table, specific blueberry cultivar and cultural information can also be found on the web in Virginia Cooperative Extension's "Small Fruit in the Home Garden," Publication 426-840, online at <u>https://www.pubs.ext.vt.edu/426/426-840/426-840.html</u>.

Cultivar	Hardiness zone	Туре	Fruit	Pollinator need	Notes
'Northland'	3 to 7	Northern	Midseason; medium size	No	Low plant form
'Yadkin'	6 to 9	Southern	Midseason	No	High taste appeal
'Tifblue'	6 to 9	Southern	Late season	No	Large shrub; dependable
'Climax'	7 to 9	Southern	Midseason; large	No	Large shrub; blue leaves; highly rated
'Powderblue'	6 to 9	Southern	Large powder-blue fruit; mid- to late season	No	Large shrub; adaptable
'Oneal'	5 to 9	Southern	Large fruit; high flavor rating; early season	No	Excellent fruit; popular cultivar
'Star'	7 to 9	Southern	Midseason; large fruit; very sweet	No	Fairly adaptable
'Sunshine Blue'	5 to 10	Southern	Mid to late season; high yielding	No	Compact, dwarf plant
'Trentberry'	6 to 10	Southern	Multi season; large glossy black fruit; high yielding	No	Vigorous and adaptable; blueberry-huckleberry hybrid
'Legacy'	5 to 8	Northern	Midseason; very sweet	No	Excellent fruit; adaptable
'Columbus'	7 to 9	Southern	High flavor rating; large fruit; high yield- ing; midseason	No – some sourc- es say yes for increase in yield	Highly rated for flavor
'Premier'	7 to 9	Southern	Early season; high yielding	No	Large shrub; popular cultivar
'Reka'	4 to 7	Northern	Early season	No	Adaptable
'Pink Lemonade'	6 to 8	Southern	Mid to late season; very sweet; pink fruit color	No	Vigorous
'Vernon'	6 to 8	Southern	Mid-season; large fruit; high yielding	No but other cultivars improve fruit set	Vigorous
'Bluebelle'	6 to 9	Southern	Early season; large fruit	No	Vigorous
'Ochlockonee'	7 to 10	Southern	Late season; high yielding	Yes; Powderblue, Tifblue, and Ver- non are suggested pollen source	Vigorous
'Alapaha'	7 to 9	Southern	Early to later season; very sweet	Early to mid-sea- son; Vernon is suggested pollen source	Vigorous
'Arlen'	5 to 8	Southern	Late season; high yielding	No	Vigorous
'Draper'	5 to 8	Northern	Midseason	No	Popular cultivar

Raspberries: red and black

Landscape appeal: Low

Fruit production: Low

Raspberries, like blackberries, are a type of bramble, a large group of plants in the genus *Rubus*. There are two main species of *Rubus* for fruit production: black raspberry (R. occidentalis), native to the eastern U.S., and red raspberry (*R. idaeus*), native to Europe and northern Asia, although some claim this species is also native to North America. Both species are deciduous medium-sized shrubs and have a "wild" appearance (fig. 20) due to their sprawling branch habit, and many types have thorns. Due to their informal appearance and thorniness on some cultivars, landscape use is usually relegated to placement on borders or out-of-the-way portions of the landscape. Beauty is in the eye of the beholder; a rectangular plant bed is quite attractive fora at least three to five years. Fruit yield is relatively low, about one or two quarts of fruit per plant, but the fruit is delicious, nutritious, and attractive (fig. 21). The distinguishing factor between a raspberry from a blackberry is that the inner top portion of the raspberry fruit is hollow and the inner top portion of the blackberry fruit is solid.



Figure 20. The sprawling branches of the raspberry (*Rubus occiden-talis* or *R. idaeus*) can take on a disorderly appearance.



Figure 21. A red raspberry ripens.

A lack of landscape appeal is offset by delicious and nutritious fruit. Most cultivars have thorny stems, but there are some thornless cultivars. Plantings will consistently produce fruit for about five to eight years. Raspberries require a full sun exposure and are typically spaced about 4 feet apart but that could fluctuate depending on cultivar.

The main types of raspberries can be described in terms of fruit color, stem flowering and fruiting capacity, presence or absence of thorns, and season of fruit production — summer-bearing and everbearing. The term "everbearing" refers to cultivars that have two crops each growing season, one on floricanes ripening in late spring to early summer, and one on primocanes ripening in late summer to early fall.

As for fruit color, there are three main types:

- Red raspberries generally produce more fruit than black raspberries; yellow-fruited types are actually red raspberries without red pigment.
- Black raspberries.
- Purple raspberries are hybrids of red raspberry and black raspberry.

Raspberry plants have two types of stems, referred to as canes, based on stem age:

- Primocanes are newly produced in the spring from rhizomes (underground stems). They are green for the first part of the season and darken by the end of that season.
- Floricanes are two-year-old stems (the previous year's primocanes) that have a dark color; floricanes usually die after fruiting and should be removed.

The growth habit, depending on cultivar, may be upright or cascading. If upright, staking is not required. If cascading, staking is required.

Raspberries can be classified by the season in which they produce fruit.

- Summer harvest (single harvest season) produce fruit on floricanes in the late spring/early summer for about two to four weeks.
- Everbearing (dual harvest) produce fruit on floricanes in spring/summer (just like the summer harvest type) and also on the primocanes in late summer/early fall.

Specific cultivar and cultural information can be found in Virginia Cooperative Extension's "Small Fruit in the Home Garden," Publication 426-840, online at <u>https://www.pubs.ext.vt.edu/426/426-840/426-840.html.</u>

When buying raspberry plants, select the garden center or mail order nursery wisely due to the importance of purchasing disease-free plants; raspberries have a problem with viruses, more so than any other fruit crop, for which there is no cure.

Raspberry Cultivars

Cultivar	Hardiness zones	Thorns or thornless	Fruit (Red unless noted)	Notes
'Heritage'	3 to 9	Thorns	Medium to large size; light late spring yield and heavy fall yield	Popular cultivar; can be mowed to the ground in early spring for heavy crop in August until fall; staking unnecessary
'Caroline'	5 to 9	Thorns	Large size; sweet; late spring yield and late summer yield	Requires staking
'Jewel'	5 to 8	Thorns	Black; large size; early yield; summer yield	Rated as best of the black types
'Ohio Treasure'	3 to 8	Thorns	Black; spring and fall yield	If mowed to ground in early spring, the heavy summer crop produces until frost; staking unnecessary
'Crimson Night'	4 to 8	Thorns	Dark red; large size; spring and fall yield	Attractive dark purple stems
'Joan J'	3 to 8	Thornless	Large size; spring and fall yield	Compact plant grows to 5 feet tall; suitable for container culture
'Raspberry Shortcake'	5 to 10	Thornless	Summer yield	Dwarf plant grows to 3 feet tall; suit- able for container culture

Blackberry

Landscape appeal: Low

Fruit production: High

Like raspberries, blackberries are deciduous medium to large shrubs and are commonly described as brambles. The taxonomy of blackberries is unsettled and it is most appropriate to describe them as *Rubus* spp. (multiple species of Rubus) since they are apparently a hybrid of several species. They have a "wild" appearance due to their sprawling branch habit (fig. 22), and many types have thorns. White flowers are attractive, albeit a minor aspect (fig. 23). This lack of landscape visual appeal is offset by a relatively high yield of delicious, nutritious, and showy fruit (fig. 24). Due to their informal appearance and the fact that some cultivars have thorns, landscape use is usually relegated to placement on borders or out-of-the-way portions of the landscape. Most cultivars produce fruit for about four weeks in the late summer; some cultivars produce for six weeks (e.g., 'Kiowa' https://morningchores.com/growingblackberries/).



Figure 22. The blackberry shrub (*Rubus* spp.) can be large and sprawling.



Figure 23. A white blackberry blossom.



Figure 24. Blackberries at various stages of ripening.

Since brambles require pruning to maintain fruiting, readers are encouraged to review Virginia Cooperative Extension's "Small Fruit in the Home Garden," Publication 426-840, for specifics and for cultivar information. It is online at <u>https://www.pubs.ext.</u><u>vt.edu/426/426-840/426-840.html</u>.

Blackberries can be described based on their growth habit (orientation of stems called "canes"), stem flowering and fruiting capacity, presence or absence of thorns, and season of fruit production (summer-bearing and everbearing).

In terms of growth habit, the three main types of blackberries are:

- Erect type, with upright self-supporting stiff canes.
- Arching/semi-erect type, with thick, arching canes.
- Trailing blackberries, sometimes referred to as "dewberries," with non-supporting canes that lay on the ground; this type is less cold hardy than most others.

The growth habit type will dictate the type of support, trellis or otherwise, that is needed. Erect types require the least support or none at all, while other types require a structure to support heavy crop loads and to keep fruit on lower branches off of the ground. Trailing types do not require support if they are pruned to develop upright stems.

Within these growth habit types, there are thorny cultivars and thornless cultivars.

Two types of blackberry stems flower and produce fruit:

- Primocanes a few varieties fruit on first year's canes (see raspberry text for description).
- Floricanes most varieties produce fruit on the second-year growth (see raspberry text for description).

In terms of fruiting, there are:

- Summer-bearing (one main harvest).
- Ever-bearing (spring and summer harvest).

Cultivar	Growth habit	Thorns or thornless	Fruit
'Triple Crown'	Semi-erect	Thornless	Summer-bearing; good flavor; high yield
'Kiowa'	Erect	Thorns	Very large size; long summer harvest season; high quality and yield; low chill requirement
'Arapaho'	Erect	Thornless	Earliest cultivar to set fruit; high summer yield; low chill requirement
'Apache'	Erect	Thornless	Very large size; high summer yield
'Chester'	Semi-erect	Thornless	Sweet; high early summer yield
'Prime Ark Freedom'	Erect	Thornless	Large size; fruits in summer and on primo- canes again in fall

Blackberry Cultivars (most hardy in zones 6 to 8)

Vines

Kiwi

Landscape appeal: High

Fruit production: High

The two main types of kiwi plants are hardy kiwi and fuzzy kiwi. The hardy kiwi, *Actinidia arguta*, is known as bower actinidia and is native to Asia. The fuzzy kiwi (*A. chinensis* var. *deliciosa*; previously known as *A. deliciosa*), the fruit of which we typically find in the produce section of grocery stores, is known as kiwi fruit or Chinese gooseberry and is native to China. Both types are attractive deciduous vines that climb by stems attaching to a structure (figs. 25, 26). They also have attractive lustrous foliage (figs. 27, 28 and fruit (figs. 29, 30). Both are fast-growing twining vines which require a support system, such as a trellis or arbor. They are both prolific producers of delicious fruit but have a distinct difference in their tolerance of low winter temperatures and fruit type (see below).



Figure 25. A hardy kiwi (Actinidia arguta) vine.



Figure 26. A fuzzy kiwi (A. chinensis var. deliciosa) vine.



Figure 27. Foliage of the hardy kiwi.



Figure 28. Foliage of the fuzzy kiwi.



Figure 29. Hardy kiwi fruit.



Figure 30. Fuzzy kiwi fruit.

With a few notable exceptions, most kiwis are dioecious, which means that a female plant and a male plant are needed for pollination and fruit set. A single male plant should be within 25 feet of the female plant to ensure pollination. While recommendations vary, a single male plant will pollinate 6 to 8 female plants. These two species will not cross-pollinate; thus, a hardy kiwi male will only pollinate a hardy female, and a fuzzy kiwi male will only pollinate a fuzzy female. The hardy kiwi cultivars 'Issai' (less vigorous) and 'Kokuwa,' as well as its clone sold under the brand name Vitikiwi, produce fruit without pollination (parthenocarpic). For the fuzzy kiwi, the cultivar 'Jenny' and its clone sold as Sweet 'n Solo are also parthenocarpic and do not need a male to produce fruit. However, for parthenocarpic cultivars, if a male is in the vicinity to supply pollen (a pollinizer), then crop load and fruit size will be larger.

Hardy Kiwi (bower actinidia)

The hardy kiwi cultivars are most suited to cultivation in a Virginia garden or landscape setting due to their cold hardiness. In contrast, the fuzzy kiwi is only suited to the warmest regions of Virginia (zones 7b/8 and 9), and they require ample time in the growing season to allow for fruit ripening.

Caution: Hardy kiwi has recently gained attention as an invasive species and has invaded woodland areas in New York and Massachusetts. For more information, see <u>https://www.northeastipm.org/ipm-in-action/publications/</u> <u>invasive-hardy-kiwi/</u>.

Hardy kiwis require full sun exposure and are hardy in zones 3 to 9 (depending on cultivar). Most soil types are acceptable as long as they are well-drained, which is

important since kiwi root systems are susceptible to root rot. They are a commercial fruit crop in the U.S. (mostly in the Pacific northwest) and especially in Europe. Hardy kiwi produces clusters of small attractive flowers in June but they are typically hidden by the foliage. Smooth-skinned fruit, borne in clusters, mature in the late summer and early fall (depending on cultivar). Fruit on this type are about 1 inch long and look like large grapes, and do not require peeling to be eaten (unlike the fuzzy kiwi). Fruit production depends on pruning practice. Unpruned vines will produce in about six to eight years while vines that are spur pruned in the summer will produce in two to three years (except for the cultivar 'Issai,' (which requires less pruning because of its early fruiting). Fruit should be allowed to ripen on the vine to develop maximum sugar content. Once in full harvest, a single plant will produce about 50 pounds of fruit per year. In addition to being eaten out of hand, fruits can also be used in baked goods, to make jams, to make wine, or as infusions to flavor alcohol beverages.

Pruning hardy kiwi vines is an important function for maximum flower production, fruit yield, fruit coloration, as well as for landscape purposes. Co-author Michael McConkey discusses these pruning aspects in this video: <u>https://binged.it/3dPVtgl</u>

Due to the vigor and ultimate size of hardy kiwi, plants should be planted at a minimum of 15 feet apart. Commercial plantings are grown with wider spacing. The recommended training of a hardy kiwi for maximum fruit production is to grow it in a T-bar trellis fashion with the main trunk being the vertical element and lateral shoot the horizontal element. The stoutness of the trellis structure is important to bear with the weight of vines, fruit, and wind load. In year one, a single trunk should be trained to grow vertically to about 6 feet high.

Cultivar	Hardiness zones	Fruit	Notes
'Issai'	6 to 9	Early	Self-fertile but more fruit with male present
'Ken's Red'	6 to 9	Red flesh; large size and large yield	Hybrid; alternate bearing: fruits heavy in one year, light/none the next
'Anna' Aka 'Ananasnaya'	5 to 9	Large yield	Vigorous and popular cultivar
'Dumbarton Oaks'	5 to 8	Early	Popular cultivar
'Fortyniner'	5 to 8	Large fruit and yield	Attractive large leaves
'Meyer's Cordifolia'	5 to 9	Sweet and large yield	
'Arbor-eat-um NA-7'	6 to 8		Crowd pleaser
'Geneva'	5 to 8	Large yield	
ʻMSU' aka 'Jumbo' or ʻMichigan'	5 to 8	Large size	
'Fifty Five'	5 to 8	Early	Male needed

Female Hardy Kiwi Cultivars (male cultivars, noted below table):

Male Hardy Kiwi Cultivars:

'Hardy Male'

'Meader Male'

'74-46 Male'

'74-32 Male'

Fuzzy Kiwi (Kiwi Fruit)

Kiwi fruit cultivars are usually categorized as hardy in zones 7, 8, and 9. Two aspects are pertinent to the hardiness issue. First, hardiness categories are expressed as average annual extreme minimum temperatures for any one locale. Averages are calculated from winter temperatures that are commonly below and above the average, thus, during some winters, the low temperatures can be significantly lower than their stated low average for that zone, and therefore fuzzy kiwis' shoot systems can occasionally be cold-damaged. Second, warm microclimates (small areas with warmer or colder weather than typical of the zone) may exist in zone 7. In these specific areas, fuzzy kiwi vines can be grown successfully in this zone.

Plants produce showy white flowers in late spring but they are typically hidden by the relatively large and lustrous (about 5 inches long) showy leaves. In the fall, fuzzy egg-sized brown fruit are produced in clusters. Generally, plants will produce fruit after two to three years (if summer spur pruned) and fully mature plants in a commercial setting can produce up to 150 to 300 pounds of fruit per plant. However, 25 to 30 pounds of fruit per plant would be a more realistic expectation for landscape-grown plants. Fruits are ready to harvest when the fruit skin becomes fully brown. Grapes

Landscape appeal: Medium to high

Fruit production: High

Grapes (Vitis spp.), composed of nearly 80 species native to many areas of the Northern Hemisphere from North America to the Mediterranean and west to Central Europe and Western Asia, are a vigorous deciduous vine that can serve a decorative function in the landscape as well as to provide a bounty of fruit. Since grapes have a vining habit (they climb by modified flower clusters called tendrils that twist around a structure), they must be grown on some type of support structure such as a trellis (fig. 31). Fruits are attractive both while immature and mature (fig. 32) and, in many cases, so is the foliage, especially as the lobed leaves of 'Southern Home' (fig. 33). There are numerous varieties available depending on location and whether the end product desired is fresh fruit (table grapes), preserves, or wine (wine grapes). Cultivars for these purposes are listed below.



Figure 31. A mature grape vine (*Vitis* spp.) can provide beauty in the landscape.

Cultivar	Hardiness zones	Fruit	Notes
'Elmwood'	8 to 9	Large; late bearing; large yields	Vigorous
'Sannichton'	7 to 9	Large size; late	Considered one of most hardy cultivars
'Sweet 'n Low	7 to 9	Medium size	Self- pollinating
'Jenny'	7 to 9	Medium size	Self- pollinating

Female Fuzzy Kiwi Cultivars (males cultivars needed; noted below table):



Figure 32. Grapes ripening on the vine.



Figure 33. Foliage of the 'Southern Home' grape, a muscadine cultivar.

Since Virginia encompasses many hardiness zones and geographies, each with their respective climatic conditions, it is important to stress that cultivars need to be selected that are adapted to a particular region – site selection is one of the most important factors in having a successful grape planting.

The two main types of grapes for Virginia are **bunch grapes** and **muscadine grapes**. Bunch grapes produce large clusters of grapes and are most suited for the mountains and Piedmont regions. In the Coastal Plain region of Virginia (east of Richmond), bunch grapes are afflicted by Pierce's disease that will reduce the life span or kill plants. Muscadine grapes, bearing smaller fruit clusters than bunch grapes, are unaffected by this disease. Grapes of both types will not continue to ripen after being picked, so they must ripen on the vine.

While grape production for the home garden is not difficult, it does require a significant amount of labor and attention to cultural details and pest control. However, low pesticide application techniques are possible. A video by co-author Michael McConkey explaining how to produce grapes without spraying is available at <u>http://ediblelandscaping.com/careguide/</u><u>Grape/</u>.

In addition to the need for a support structure, grapes require full sun exposure, well-drained soil, and a **significant amount of work in terms of pruning and pest control**. When considering any grape cultivar, check on the potential disease issues and associated control measures for that cultivar.

Detailed information on pruning and pest issues are beyond the scope of this publication but can be found in others, such as Virginia Cooperative Extension's "Small Fruit in the Home Garden," Publication 426-840 <u>https:// www.pubs.ext.vt.edu/426/426-840/426-840.html</u> and University of Minnesota Extension's "Growing Grapes in the Home Garden" (<u>https://extension.umn.edu/fruit/</u> growing-grapes-home-garden).

Bunch Grapes

As mentioned, bunch grapes are recommended and adaptable to the Piedmont and mountain regions of Virginia. However, most bunch grape varieties are susceptible to downy mildew, powdery mildew, and black rot (fungal diseases). Some varieties are so susceptible that they can die a few years after planting. The following cultivar list suggests varieties that hold their leaves throughout the growing season. Zones 5 and 6 in Virginia will have less of a problem with these diseases due to cooler and less humid growing conditions.

Depending on cultivar, fruit may be used for table grapes, juice, or wine.

Cultivar	Hardiness zone	Edible use	Fruit	Season
'Alden'	5 to 7 (8)	Table	Dark	Midseason
'Catawba'	4 to 8	Table, juice, or wine	Red, medium size	Late season
'Concord'	5 to 7a	Table or juice	Red, medium size	Midseason
'Lenoir' (aka Black Spanish)	6 to 8	Table	Dark, medium size	Late season
'Kay Gray'	4 to 7	Table	Green; medium size	Late season
'Mars'	4 to 8	Table, juice, or wine	Dark; medium to large size	Midseason
'Niagara'	3 to 7	Table or juice	White; small to medium size	Midseason
'Roucaneuf'	6 to 8	Wine	Gray-pink; small size	Late season
'Villard Blanc'	7 to 9	Table or wine	White; medium size	Late season

Bunch Grape Cultivars

For a full listing of bunch grape cultivars and their characteristics, refer to North Carolina's Extension publication, "Bunch Grapes in the Home Garden," online at <u>https://content.ces.ncsu.edu/bunch-grapes-in-the-home-garden</u>.

Muscadine Grapes

Muscadine grapes, native to the southeastern U.S. and also known as "scuppernongs," are well suited to the coastal conditions of Virginia if winter temperatures are above 0 degrees Fahrenheit. Some cultivars (noted below) are more cold tolerant and will survive winter temperatures less than 10 degrees Fahrenheit. Compared to bunch grapes, muscadine grapes are much more reliable in getting harvestable fruit.

For a full listing of improved muscadine cultivars and their characteristics, refer to North Carolina's Extension publication "Muscadine Grapes in the Home Garden," online at <u>https://content.ces.ncsu.edu/</u> <u>muscadine-grapes-in-the-home-garden</u>.

Muscadine Grape Cultivars for Wine and Juice

Cultivar	Hardiness zone	Fruit	Season
'Carlos'	7 to 9	Bronze; small to medium size	Midseason
'Doreen'	7a to 10	Bronze; small to medium size	Late-season
'Magnolia'	6 to 10	Bronze; small to medium size	Midseason
'Noble'	7 to 9	Dark; small to medium size	Midseason
'Southern Home' (showy lobed foliage)	7 to 9	Dark; small to medium size	Mid- to late season

Muscadine Grape Cultivars for Table Grapes

Cultivar	Hardiness zone	Fruit	Season	
'Delicious'	7 to 9	Dark; medium size	Early season	
'Ison's Muscadine'	7 to 9	Dark; large size	Early to midseason	
'Late Fry'		Bronze; large size	Midseason	
'Sugargate'	6 to 9	Dark; large size; needs pollinizer	Early season	
'Triumph'	7 to 10	Dark; medium size	Early season	

Ground Covers

Cranberry

Landscape appeal: Medium to high

Fruit production: Medium to low

Cranberry (*Vaccinium macrocarpon*), one of the few native U.S. species grown as a commercial crop, is native from Canada to North Carolina. This species is a slow- to medium-growing handsome evergreen ground cover (fig. 34) forming a 6-inch-tall carpet of attractive small glossy green leaves (fig. 35) that can take on a purplish hue in the winter. Ornate pink-white flowers, about one-third of an inch wide, are relatively small in late spring, and one needs to get on their hands and knees to appreciate them (but it's worth the effort). Fruit, about one-third of an inch in diameter, is bright red in the early fall and showy when viewed from a short distance.



Figure 34. Cranberry (Vaccinium macrocarpon).



Figure 35. A close-up of the leaves and some fruit of the cranberry.

An absolute requirement for the success of this plant is to grow it in an acidic soil (less than 5.3 pH) in which the top 4 inches is composed mostly of organic matter. So, amend soil with peat moss or compost. Plants require full sun exposure, should be mulched, and roots must not be exposed to drought conditions. Cranberries are noted for growing in bogs but these soils are well drained (sand and organic matter) and plants are only flooded to harvest the fruit and for winter protection. Space plants about 1 to 2 feet apart. Plants do best in zones 3 to 7 but generally do not like high temperature sites in zone 7.

Cranberry Cultivars (hardy zones 3 to 7)

Cultivar	Fruit
'Ben Lear'	Medium to large size; early; high yield
'Stevens'	Large size; sweeter and less tart; commercial cultivar
'Pilgrim'	Large size; bright red; late season

Box Huckleberry

Landscape appeal: High

Fruit production: Low

Box huckleberry (*Gaylussacia brachycera*) is a charming low-growing (about 12 to 18 inches tall) and wide-spreading evergreen groundcover. This slowgrowing cousin of blueberries is native to the mountains and hills of several eastern U.S. states. Interestingly, this plant was first discovered by a European in Warm Springs, Virginia, in 1796; that planting has since perished. Clusters of small white-pinkish urn-shaped

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flowers are somewhat showy in May and early June. Blueberry-like tasting blue fruit ripen in the summer. Plants are cloaked with small glossy and leathery evergreen leaves during the growing season that turn a handsome bronze to reddish purple in the winter (fig. 36). The name "box" for this huckleberry supposedly comes from its leaves being similar to the foliage of a boxwood.



Figure 36. The foliage of the Box Huckleberry (*Gaylussacia* brachycera).

An interesting botanical note: A box huckleberry population of stems in Pennsylvania, apparently all of one plant, is purportedly about 13,000 years old and is noted as being one of the world's oldest living organisms. This plant graced the ground thousands of years prior to the giant sequoia or the ancient bristlecone pines.

Culture

The box huckleberry is in the heath family (*Ericaceae*; like blueberries and cranberries), and plants in this family require a well-drained, preferably high organic content soil **with a pH of 6.0 or less**. Soil that is not acidic should be amended with organic matter or, following recommendations on the labels, with iron sulfate or sulfur, to reduce pH. Gardeners who do not know their soil pH can get soil tests done by the Virginia Tech Soil Testing lab, a commercial lab, or occasionally at local garden centers.

In its native haunts, box huckleberry is found in partial to full shade, and this shady exposure is the recommendation for use as a landscape plant. The hardiness zone for this species is from zones 5 to 7. The mother plant slowly spreads via horizonal stems, called rhizomes, just below the soil surface, which turn upward and give rise to new shoots. This horizontal growth occurs in soils with ample organic matter.

Other Notable Landscape Species with Edible Fruit

Name	Plant size & hardiness zone	Fruit	Landscape feature(s)	Cultivars	Notes
Cornelian-cherry Dogwood, <i>Cornus</i> mas	Large shrub/ small tree; zone 4 to 7(8)	2/3-inch cherry- like fruit in August; somewhat tart; best in sauces, preserves, etc.	Showy yellow flower display in February; showy red fruit in August	Several; some noted for fruit production	Relatively tolerant of adverse conditions
Lingonberry, <i>Vaccinium vitis-idaea</i>	Ground cover to 12 inches tall; zone 5 to 7 (8)	Bright red 1/4-inch tart fruit in fall; best for jellies, jams, juices, sauces	Handsome evergreen ground cover with small dark green leaves; red fruit	Some for fruit yield and size such as 'Koralle,' 'Splendor' and 'Regal'	Absolute need for an acidic (below 5.5 pH), high organic content soil
Prickly Pear, <i>Opuntia tuna</i>	Clump form with flat pads; zone 7 to 9	Dethorned pads (nopales) used as a vegetable; dethorned red fruits (tuna) in early fall with bright red pulp	Showy flowers in summer and red fruit in fall	Spineless clones: Opuntia cacanapa 'Ellisiana' and O. ficus-indica 'Burbank Spineless'	
Gooseberry, Ribes species and hybrids (Photo courtesy of Edible Landscaping LLC.)	Small thorny shrub; zone 4 to 7	Green, white, yellow, red fruit types; sweet fruit in summer; two main types: culinary (cooking) and fresh/ dessert	Attractive fruit in summer	ʻInvicta' (green), 'Black Velvet' (red), 'Glenndale' (red)	Some cultivars have few or no thorns; need to get disease- resistant cultivars

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