

Growing Blueberries in Home Gardens

Considerations before Planting

Cultivar Selection: Selecting appropriate cultivars for the home blueberry planting is not a simple matter. Many gardeners in the coldest areas of New York State are limited by climate to only the hardiest cultivars such as Northblue, Northcountry and Northland which will survive winters in most areas of USDA Hardiness Zone 3. Patriot, Bluecrop, Jersey and Blueray will overwinter in most areas of Hardiness Zone 4. Gardeners in warmer areas (Long Island) can choose these cold hardy cultivars as well as less hardy cultivars, such as Herbert, Darrow, Spartan, and Bluejay as well as other mentioned below. Cultivars differ in the size, color, and flavor of their berries and when they ripen, so individual needs and preferences should be considered. Although cultivars are self-fertile, planting at least two different cultivars improves berry size and increases the percentage of successful pollination. The following cultivars are listed according to harvest period, from early to late-ripening blueberries. For more information on cultivars and sources of plants visit the [Nursery Guide for Berry and Small Fruit Crops](#) on the Cornell Fruit Resources web page.

- *Earliblue* – hardy to Zones 5 to 7. Berries are large, with light blue skin, soft flesh, and mild flavor. The fruit does not shatter (drop easily) from the bush and it is resistant to cracking. Plants are vigorous, productive, upright, and well shaped.
- *Duke* – hardy to Zones 5 to 7. This productive newer variety from New Jersey has large fruit with good flavor.
- *Blueray* – hardy in Zones 4b to 7. Berries ripen in early midseason and are crack resistant and very large with medium-light blue skin, firm flesh, and strong flavor and aroma. The plants are upright, spreading, and consistently productive. It overproduces (produces too much fruit, weakening the plant) unless carefully pruned.
- *Patriot* – hardy in Zones 4 to 7. It is partially resistant to *Phytophthora* root rot and has excellent tasting fruit. The plants are vigorous, productive, open, upright, and smaller than other cultivars.
- *Berkeley* – hardy in Zones 4 to 8. Berries are very large and light blue, and have a mild in flavor and firm flesh. Berries ripen in midseason, store well, resist cracking and do not shatter from the bush. The plants are vigorous, open, spreading, and easy to grow.
- *Bluecrop* – hardy in Zones 4b to 7. Berries are medium large and have a light blue skin, and excellent flavor, and firm flesh. Berries shatter somewhat from the bush, but they resist cracking. The plants are vigorous, consistently productive, spreading, and tolerant of drought. This is the most popular variety in the world.
- *Herbert* – hardy in Zones 5 to 7. Berries ripen in late midseason are very large and medium blue and have tender flesh and very good flavor. They resist cracking and do not shatter from the bush. The plants are consistently productive, vigorous, open, and spreading.
- *Darrow* – hardy in Zones 5 to 7. Another variety with exceptional flavor for the home gardener.

- *Jersey* – hardy in Zones 4 to 8. Berries are medium sized with medium blue skin and firm flesh. They keep well, resist cracking, and have good flavor. The plants are vigorous, productive, erect and easy to prune.
- *Coville* – hardy in Zones 5 to 8. Berries are large and aromatic with medium blue skin and a tart flavor. They do not shatter from the bush. Plants are productive and late ripening with vigorous open and spreading growth that is easily pruned.
- *Lateblue* – hardy in Zones 5 to 7. Berries are late ripening, firm, light blue, and highly flavored. The plants are productive, and vigorous with erect growth. They ripen in a relatively short time, about seven days after Coville.
- *Elliot* – hardy in Zones 4 to 7. These productive plants bear fruit that are firm, light blue, and medium sized with a good mild flavor. They ripen very late in season, around Labor Day.

Site Selection and Soil Preparation

For best results, blueberries need a growing season of at least 140 days (Long Island has 180-220 days depending on the location). Cultivars differ greatly in their susceptibility to winter injury. The condition of the wood also determines whether cold temperatures will injure the plants; very vigorous plants that grow late are injured more than plants growing normally.

Even when low winter temperatures kill the tops of plants, the crown and roots are usually protected by the snow cover and they put out new shoots that frequently bear fruit the following year. Where deep snows prevail, much of the bush is protected from extreme low temperatures; heavy snows, however, can cause considerable cane breakage.

An early fall frost sometimes kills back late-growing shoots from the tip, but in most cases this injury can be pruned away. A late spring frost, on the other hand, can injure partly opened flowers, causing a partial to total crop loss on some early-flowering cultivars. These early cultivars are not recommended for areas that typically receive late spring frosts.

Blueberries grow best on a sunny site in sandy peat soil, but they also do well in heavy soils with good aeration and drainage, high organic matter content, and adequate moisture. The most important requirement for growing blueberries is an acidic soil. Some gardeners on Long Island may have "native soil" with a pH of 5.0 or less. If the pH of your soil is greater than 5.0 but less than 7.0, you can increase the acidity with applications of sulfur or acid peat. Soil acidity increases (pH decreases) very slowly, so it is important to test soil and adjust soil acidity and nutrient levels as needed one year before planting. Contact [Cornell Cooperative Extension - Suffolk County](#) for information on having your soil tested. At the same time, incorporate organic matter such as peat moss particularly if the soil is very light and sandy. It is impractical to reduce the pH of alkaline soils (pH greater than 7) to grow blueberries.

Planting

Blueberries are difficult to propagate, and survival of rooted cuttings is poor. Commercial nurseries are recommended as the source of plant material.

Purchase only two- or three-year-old plants from a reliable nursery or supplier. One-year-old cuttings have a high mortality rate. The roots of potted blueberries must be pruned before planting.

Place plants in the soil as soon as they arrive in early spring. It is beneficial to soak the roots for several hours before planting. Separate plants by a minimum of 4 feet within rows and 10 feet between rows. Set blueberry plants at the depth they were planted in the nursery and prune them to half their original size.

Remove any flowers that appear the first year to divert energy and nutrients to vegetative growth. Keep plants well watered; blueberry plants are extremely sensitive to lack of water, particularly during their first two years in the ground.

Fertilization

Do not use fertilizer the year plants are set because roots are very sensitive at this time. When plants flower during the spring of the second year after transplanting, apply 4 ounces of ammonium sulfate or 2 ounces of urea to each plant. Apply the fertilizer in a ring around the bush, but don't work it in to the soil because it might damage the shallow roots. Never fertilize after flowering as it may make the plants more prone to winter injury.

Increase the amount of ammonium sulfate you apply to each plant by 1 ounce each year (1/2 ounce for urea) until the sixth year. After that time, use 8 ounces of ammonium sulfate (4 ounces of urea) per application. Fertilizers containing chlorides or nitrates are not recommended because they harm blueberry roots.

Sometimes plants need supplemental fertilization with magnesium sulfate and a balanced fertilizer. To determine if additional fertilizing is necessary contact [Cornell Cooperative Extension – Suffolk County](#) for information on soil nutrient testing. For more precise assessment, you would have a leaf analysis run. Contact Cornell Cooperative Extension – Suffolk County for foliar analysis information.

Cultivation and Mulching

Cultivate until early July to help control weeds and prevent disease. To avoid root damage, avoid cultivating within 2 feet of the plant, and never cultivate deeper than 2 inches. Cultivation after July increases susceptibility to winter injury.

To conserve moisture and control weeds, apply mulch in mid to late summer. Sawdust, wood chips or chopped cornstalks make excellent mulch. Grass can be seeded between rows to avoid cultivation.

Pruning

Proper pruning practices contribute significantly to consistent production, high yields, and fruit of good quality and help ensure a long life for the planting. Simply topping canes to stimulate lateral growth is generally not recommended. To prune properly, it helps to understand more about how blueberries grow and produce fruit.

Prune in early spring when it is easy to assess and remove winter injured canes. If you prune in the fall wait until the leaves fall off.

The largest blueberry canes do not produce the most fruit. Rather, canes that are 1/2 to 1 inch in diameter at their base are the most productive. In fact, canes greater than 1 inch in diameter allocate increasing amounts of energy to the leaves at the expense of the fruit. When these old, large canes are removed, the bush behaves as an efficient young plant even though the underground portion is quite old (see Figure. 1).

The ideal blueberry plant should have at most 16 canes. The oldest one or two should be eight years old, and then there should be one or two from each of the previous years. This can be achieved by allowing only two canes to grow each year from the time bushes are planted until they are eight years old. But that time the oldest two canes should be 1 inch in diameter.

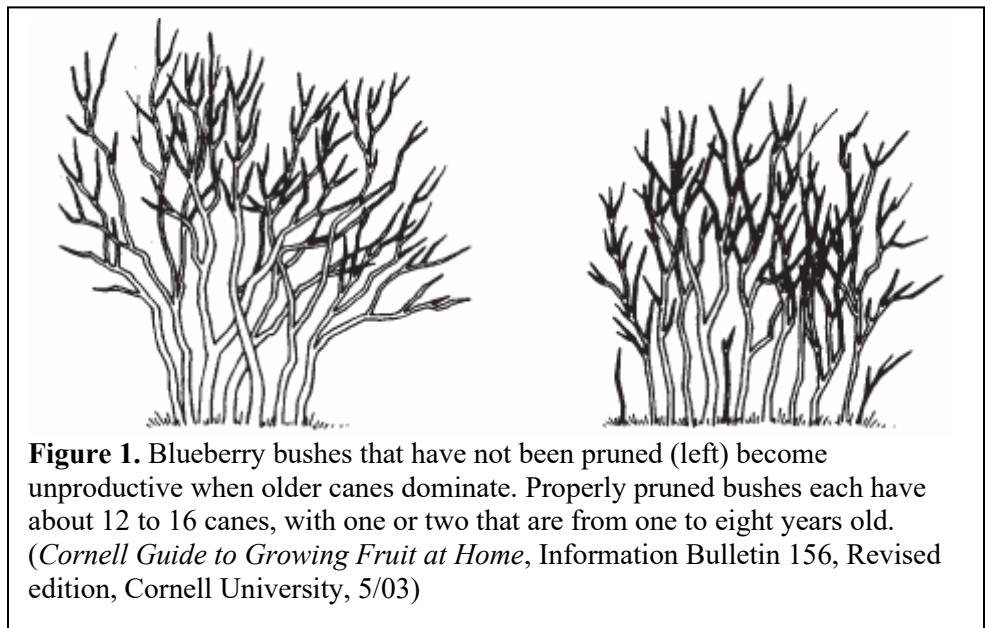


Figure 1. Blueberry bushes that have not been pruned (left) become unproductive when older canes dominate. Properly pruned bushes each have about 12 to 16 canes, with one or two that are from one to eight years old. (*Cornell Guide to Growing Fruit at Home*, Information Bulletin 156, Revised edition, Cornell University, 5/03)

Early in the ninth year, the two largest canes and all but the two largest one-year-old canes should be pruned out. If repeated annually, this practice minimizes uneven growth and production. The oldest canes are continually replaced with the same number of new canes, and the bushes remain the same size.

If you are pruning old neglected bushes you can remove up to 20% of the basal area (the total diameter of all of the main stems) of a bush without adversely affecting the current year's yield. Although berry number is decreased by this treatment, the increase in fruit size compensates for this reduction.

Flowering and Fruiting

Blueberries will produce a small crop the third year after planting and will reach full production in about eight years if you follow the recommended pruning strategy. Most cultivars flower in May and the fruit ripens in July, August, or even as late as September, depending on the cultivar.

Blueberries can self-pollinate, but planting two different cultivars increases pollination, berry size, and total harvest. If you only pick two cultivars, don't make one of them a very early variety and one a very late variety. If you do, their bloom times may not overlap. A midseason variety such as Bluecrop is likely to overlap with the flowering of most any variety.

Harvest

If left on the bush after ripening, blueberries do not spoil for at least one week. Flavor and sweetness increase, but unfortunately this makes the berries very attractive to birds. For the home gardener covering plants with bird netting (available at garden centers or mail order companies) is a practical, though labor intensive bird control option. Another option is to pick the fruit while it is still slightly tart to avoid extensive injury from birds. Keeping fruit at a cool temperature after picking maximizes storage life.

The resource for the information contained in this leaflet is the *Cornell Guide to Growing Fruit at Home*, Information Bulletin 156 revised edition, Cornell Cooperative Extension 5/03.

Copies of the *Cornell Guide to Growing Fruit at Home* may be purchased by contacting our office.

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