



CULTIVATION NOTES

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Highbush Blueberry

Vaccinium corymbosum L.

A Rhode Island Native Plant

Family ERICACEAE

by Brian D. Core

Comedian George Carlin once remarked that there was no such thing as blue food. Blueberries didn't count, he explained, because they were actually purple. Carlin was correct, or at least partially so; blueberries can range from deep purple to nearly black. A whitish, waxy coating (which wipes off easily) gives the berry the illusion of being blue. These delicious berries are favored by wildlife, and Native Americans believed the Great Spirit sent them as a gift to deliver them from famine. Noted Rhode Islander Roger Williams wrote in his treatise *Key into the Languages of America* that blueberries, known as 'attataash' to Native Americans, were dried and powdered to make a dish called 'sautauthig,' which was "as sweet to them as plum or spice cake to the English." Colonists valued the hard wood for tool handles.

Wild blueberries are noted for superior flavor, but usually fall short of the large size preferred by many people. Earlier in this century, USDA researcher Frederick Coville and commercial cranberry grower Elizabeth White began their efforts to domesticate the Highbush Blueberry, and their breeding programs focused on increasing berry size. Their selections provided the progenitors of many of today's favorite varieties. Blueberries benefit from cross-pollination, so more than one variety should be planted to ensure an abundant crop. By carefully selecting early, middle, and late-bearing varieties, growers can enjoy harvests virtually all summer. 'Earliblue' and 'Bluetta' bear their fruit early in the season; 'Blueray' and 'Collins' are dependable mid-season favorites; 'Darrow' and 'Lateblue' extend the season into early Fall.

The Highbush Blueberry deserves notice for more than just its berries, though; its delicate white blossoms cover the branches in May; glossy, deep-green foliage and bright blue berries are noteworthy in the summer months; blazing orange and red fall foliage rivals that of the Burning Bush; and greenish-yellow or red twigs in winter are not unlike those of the Redtwig Dogwood, which is planted solely for this purpose. Consequently, the Highbush Blueberry is becoming increasingly popular as a landscape plant. In the landscape, 'Collins' is noted for its superior upright form and brilliant red fall foliage. 'Northland' and 'Northsky' are incredibly cold-hardy hybrids between the Highbush and Lowbush Blueberry, and provide interest in the landscape with their semi-dwarf habit.

In the Cretaceous period when the genus *Vaccinium* was differentiating into its now familiar species, these plants were at risk of being trampled by such contemporaries as *Tyrannosaurus*. Fortunately, modern pests are much smaller, but somewhat more stealthy. Blueberry maggots are an occasional problem. Japanese beetles eat both the foliage and berries, and unfortunately emerge right when many varieties are ready for harvest. Growers may, however, be able to go for several years without spraying for insect pests. Birds can devour an entire crop if plants are not protected with netting. Fungal diseases and viruses may also present a problem, but are not prevalent in the state.

The Highbush Blueberry is among the easiest of plants to grow, if some basic necessities are provided. The soil pH should be between 4.5 and 5.5, which is also ideal for other ericaceous plants such as azaleas. Aluminum sulfate or iron sulfate can be used to lower the soil pH if necessary. Dolomitic limestone raises the soil pH. The soil should also have a high organic content, which can be provided at planting time by amending the soil with compost or peat moss. Sawdust mulch decomposes to contribute to soil organic matter, and has been demonstrated to reduce weeds and increase yields.

Blueberry plants are frequently found in swamps, and make excellent wetland plants if planted in hummocks similar to those found in their natural habitat. Blueberries tolerate some shade, but growth and yield decrease if full sun is not provided. The Highbush Blueberry makes a valuable contribution to the home landscape, but don't forget that this native shrub is abundant in Rhode Island, and can be enjoyed in virtually any swamp or bottomland.

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Vaccinium corymbosum L. Highbush Blueberry

Deciduous woody shrub. White urn-shaped flowers, occasionally pinkish, 1/3", borne in racemes. Blooms in May. Leaves alternate, simple, entire margin, dark green on top, lighter green on bottom. Upright growth, 2-8' high, stems yellow-green to red in color, growing gray and scaly with age. Often found in swampy areas. Ranges from Nova Scotia to Quebec and Wisconsin, south to Florida and Louisiana.

Propagation

Highbush Blueberry can be propagated by seed but does not breed true to variety by this method. Division and layering work well to produce small numbers of plants. Softwood or semi-hardwood cuttings are possible, but require careful timing and expensive intermittent mist equipment. For ease, low cost, and high success rate, propagation by hardwood cuttings is recommended.

Propagation from hardwood cuttings Wooden propagation flats should be constructed with 4-6" high sides. The bottom should be made from galvanized hardware cloth to exclude rodents and to allow for maximum drainage. A 12" by 22" flat will easily accommodate 50 cuttings spaced 2" apart with 2" between rows. A polyethylene cover will maintain high humidity in the flat, and can be supported by hoops made from coat hangers or other suitable wire. The entire structure should be covered with cheesecloth to provide shade and prevent excessive temperature in the flat. The flat should be supported by bricks to ease drainage and to prevent soil-borne pathogens from entering the growing medium.

The propagating medium should have sufficient water retention and drainage. Water retention can be provided by peat moss, and drainage can be provided by sand or perlite. One commonly used medium consists of 1 part peat moss to 1 part sharp builder's sand. I have used a medium of 1 part peat moss to 2 parts perlite with success. Any medium should be soaked with water for several days before use.

Cuttings should be made from healthy shoots of the previous season's growth. These shoots, known as whips, are usually 10-30" long. The uppermost 1/3 of the shoot, which contains the flower buds, should be discarded. The best rooting results are obtained by using only the basal and middle portions of the shoot. Shoots can be collected as soon as the leaves drop (October), wrapped in damp sphagnum moss, sealed in plastic bags, and stored in the refrigerator. This will protect the shoots from potential winter damage. Alternatively, shoots may be collected immediately prior to the propagation procedures in early March. Cuttings should be about 4" long and approximately as thick as a pencil. Thicker or thinner cuttings do not root as well. The upper cut should be made 1/4" above a bud, and the lower cut should be made immediately below a bud. Be sure to use sharp pruners to avoid crushing the vascular tissue. Current scientific literature does not agree on the necessity of root-promoting hormones for hardwood cuttings of Highbush Blueberry. Since satisfactory rooting can take place with or without the use of hormones, this may be a matter of personal preference. Insert the cuttings deep in the medium, so only the uppermost bud is exposed. Water the medium well to remove air pockets and improve contact between the cuttings and medium.

Rooting takes place over the course of 2 to 3 months. A flush of growth will take place before rooting occurs. Several weeks after the first flush of growth has matured, a second flush of growth will start. This should indicate rooting success, and is a good time to remove the plastic cover and begin fertilizer application. Growth will continue through September, and the flat should be heavily mulched when the cuttings go dormant in October. Cuttings may also be potted in 1 gallon cans or lined out in a nursery bed at this time. After one season in cans or in the nursery bed, plants will be ready for the field or landscape.

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