

HIGHBUSH BLUEBERRY

Vaccinium corymbosum L.

plant symbol = VACO

Contributed By: USDA, NRCS, National Plant Data Center & the Biota of North America Program

Alternate Common Names (for the highbush



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complex)

Northern highbush blueberry, southeastern highbush blueberry, Maryland highbush blueberry, black highbush blueberry, American blueberry, New Jersey blueberry, rabbiteye blueberry, swamp blueberry, tall huckleberry, mayberry, whortleberry

Uses

Highbush blueberry is the major blueberry of commerce. It is extensively cultivated in New Jersey, Michigan, North Carolina, and Washington and to a lesser extent in Georgia, Florida, Indiana, Ohio, Pennsylvania, New York, Massachusetts, British Columbia, Ontario, Quebec, and Nova Scotia. In 1989, there were over 100,000 acres in commercial fruit production in North America. More than 50 cultivars highbush blueberry have been developed, primarily based on selections for commercially valuable fruit characteristics and seasonality. Good summaries of information relating to commercial fruit production are available (see Reiger 2000; Garrison 1998). A few selections are used in landscaping, especially where they might be planted in wet places and to attract wildlife.

The berries are eaten raw, smoke-dried, sun-dried, boiled, and baked -- in a wide variety of culinary settings. They have one of the highest concentrations

of iron of the temperate fruits. The fruits provide important summer and early fall food for numerous species of game birds, songbirds, and mammals.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as, state noxious status and wetland indicator values.

Description

General: Heath family (Ericaceae). Native shrubs 2-3(-4) meters tall, crown-forming, forming dense colonies, the twigs warty and yellow-green, glabrous. Leaves deciduous, alternate, simple, narrow to broadly elliptic or ovate, 3.8-8.2 cm long, pubescent at least on the veins beneath, slightly waxy above, the edges smooth and ciliate to toothed. Flowers 8-10 in a cluster, 6-12 mm long, urn-shaped, white, with 5 petals. Fruits berries, 5-12 mm wide, blue to blue-black, many-seeded. The common name refers to the relatively tall stature of these plants.

Variation within the species: The highbush blueberry complex is highly variable and includes diploids, tetraploids, hexaploids, and various hybrid combinations. Recent studies (Vander Kloet in 1980 and 1988) have recommended treating the complex very broadly, using only the single name *V. corymbosum*, but not all authors have accepted that (for example, see Uttall 1986, 1987). As treated in the PLANTS database, the complex includes a group of interrelated species that have generally been recognized as "highbush" blueberries – these species* (or hybrids), with synonyms, are listed below.

- * *Vaccinium X atlanticum* Bicknell
- * *Vaccinium corymbosum* L.
synonym: *Vaccinium constablaei* Gray
- * *Vaccinium formosum* Andr.
synonym: *Vaccinium australe* Small
- * *Vaccinium fuscatum* Ait.
synonym: *Vaccinium arkansanum* Ashe
synonym *Vaccinium atrococcum* (Gray) Heller
synonym *Vaccinium fuscatum* Aiton
- * *Vaccinium simulatum* Small
- * *Vaccinium virgatum* Ait.
synonym: *Vaccinium amoenum* Aiton
synonym: *Vaccinium ashei* Reade

Highbush blueberry (*V. corymbosum*) hybridizes with one of the "lowbush" blueberries (*V. angustifolium* Ait.). Hybrids used in commercial fruit production

are *V. corymbosum* X *V. darrowi* (southern highbush blueberry), (*V. arboreum* X *V. darrowi*) x *V. corymbosum* (pollen donor), and southern highbush blueberry hybrids X *V. simulatum*.

Distribution: Widespread in eastern North America, from Nova Scotia, New Brunswick, Quebec, and Ontario, Maine to Wisconsin, southward to South Carolina and Georgia and along the Gulf coast to Arkansas, Louisiana, east Texas, and Oklahoma. It has been introduced outside of its natural range for commercial berry production in Wisconsin, Washington, British Columbia, and New Brunswick. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Adaptation

Highbush blueberry grows best and most commonly in moist or wet peat of moderate to high acidity – in and around marshes, swamps, and lakes, often with extended flooding, as well as on floodplains, sheltered slopes, and ravines. It also occurs in drier areas – dunes and barrier beaches, rocky hillsides, oak woods, and pine woods. It occurs as a dominant or co-dominant on Appalachian "heath balds." All of these are more or less open sites, and because of its shade intolerance, highbush blueberry can be eliminated as shading increases with overstory cover. Flowering (February-)March-June, sporadically in the southern portion of its range; fruiting (April-)May-October, about 62 days after flowering.

Establishment

Highbush blueberry produces abundant fruit every year. Bees are the primary pollinator. The seeds may be widely dispersed in bird and mammal droppings, but germination success can be reduced up to 15% after passing through an animal gut. In the southern portion of its range, highbush blueberry seeds have thick seed coats and require cold stratification before germination. Those from northern regions produce thinner seed coats and germinate in the autumn after dispersal.

Some reports describe vigorous sprouting from the root-crown in highbush blueberry after top-kill by fire or disturbance, while others note that sprouting is uncommon. This perhaps reflects the variability (and perhaps the taxonomic uncertainty) that exists within the species complex. Plants also have been noted to occasionally produce root sprouts 1-2 meters away from the parent.

Management

Plants of highbush blueberry can be propagated by seeds or cuttings. Ideal soil for cultivation is moist, high in organic matter, highly acidic (4.5-5.5), and well-drained. The plants grow in full sun to partial shade, but those in open sites produce more flowers and have brighter fall foliage color. Highbush blueberry (*V. corymbosum*) is self-fertile, but cross-pollination increases fruit set and results in larger, earlier berries with more seeds (see Agriculture Western Australia 2000). Other species of the complex are partially or completely self-incompatible.

Cultivars, Improved and Selected Materials (and area of origin)

Please check the Vendor Database, expected to be on-line through the PLANTS Web site in 2001 by clicking on Plant Materials. These plant materials are readily available from commercial sources.

References

- Agriculture Western Australia 2000. *Bee pollination benefits for blueberry crops*. Web site. <<http://www.agric.wa.gov.au/programs/dairy/apiculture/blueberry.htm#ref10>>
- Camp, W.H. 1945. *The North American blueberries with notes on other groups of Vacciniaceae*. Brittonia 5:203-275.
- Garrison, N. 1998. *Descriptions of blueberry varieties in trial conducted by Nancy Garrison*. Master Gardeners of Santa Clara County Online. Univ. of California Cooperative Extension, Urban Horticulture Program. <<http://www.mastergardeners.org/recommend/bluevar.html>>
- Reiger, M. 2000. *Mark's fruit crops*. Univ. of Georgia, Dept. of Horticulture. Web site. <<http://www.uga.edu/hortcrop/rieger/index.html>>
- Uchtyl, R.J. 1993. *Vaccinium corymbosum*. IN: W.C. Fischer (compiler). *The fire effects information system* [Data base]. U.S.D.A., Forest Service, Intermountain Research Station, Intermountain Fire Sciences Laboratory, Missoula, Montana. <<http://www.fs.fed.us/database/feis/>>
- Uttal, L.J. 1986. *Updating the genus Vaccinium (Ericaceae) in West Virginia*. Castanea 51:197-201.
- Uttal, L.J. 1987. *The genus Vaccinium L. (Ericaceae) in Virginia*. Castanea 52:231-255.

Vander Kloet, S.P. 1980. *The taxonomy of the highbush blueberry, Vaccinium corymbosum*. Canad. J. Bot. 58:1187-1201.

Vander Kloet, S.P. 1988. *The genus Vaccinium in North America*. Research Branch, Agriculture Canada, Publ. 1828.

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