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The 'Bluecrop' Highbush Blueberry

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Domesticated highbush blueberry culture began in the early 1900's in New Jersey through the efforts of Dr. F. V. Coville of the U.S. Department of Agriculture and Miss Elisabeth C. White. The first artifically hybridized cultivar was released by Dr. Coville in 1920. The highbush acreage has now grown to over 17,000 ha with most being located in Michigan (7,500 ha), New Jersey (3,700 ha), British Columbia (2,000 ha) and North Carolina (1,500 ha) (5).

Over 70 cultivars have been released by public breeders since 1920. Of these, the 'Bluecrop' is, by far, the most widely grown cultivated blueberry cultivar in the world. It is grown in all highbush producing areas of the U.S.A. and Canada and is being planted rapidly in all other countries that are developing commercial acreages. The U.S. is the world's largest producer of this native American fruit and 'Bluecrop' is the most important cultivar (5).

'Bluecrop,' tested as 17-19, originated from a cross of GM-37 ('Jersey' x 'Pioneer') x CU5 ('Stanley' x 'June') made in 1934 by F. V. Coville, United States Department of Agriculture, and O. M. Freeman, New Jersey Agricultural Experiment Station. In its genetic background are the wild selections 'Brooks,' 'Grover,' 'Sooy,' 'Rubel' and 'Russel' (6).

The original seedling of 'Bluecrop' was grown and selected at Weymouth, New Jersey in 1941 by George M. Darrow, USDA, and J. H. Clark, New Jersey Agricultural Experiment Station. A joint release (USDA-NJ) of 'Bluecrop' to commercial growers was made in December, 1952 (1). 'Bluecrop' had been tested quite extensively prior to its introduction; some growers and researchers were not impressed by its sparse foliage which appears incapable of maturing the heavy crops and rejected it. That proved to be a costly decision.

The original description (1) of 'Bluecrop' when introduced proved to be accurate, "Fruit cluster large and medium loose; berries roundish-oblate; color very light blue; very firm; subacid; flavor good; moderately aromatic; scar small; ripens in midseason, stem sometimes clings to berry. Bush: upright and vigorous; leaves medium to below medium in size; very consistent producer." Though 'Bluecrop's' productivity in individual years is not always greater than many other cultivars, its outstanding feature is consistent yearly production with a mean annual yield of about 3 kg per plant over a 10-year period in Michigan and Arkansas (3). Its only really negative factors are its tendency to produce tart fruit and lose its upright habit under high fruit loads.

In addition to its genetic potential for yields, some contributing factors to 'Bluecrop's' success are cold hardiness, drought tolerance and disease resistance (4). One of its most outstanding features is broad soil and climatic adaptation, enabling it to be grown from New Jersey, north and west to Michigan, south to Arkansas, east through north Mississippi and Tennessee to North Carolina, north to New Jersey, and in Pacific northwest including British Columbia. It is also grown in several European countries, 'Bluecrop,' though an outstanding cultivar, has shown only modest po-

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tential as a parent in breeding pure highbush blueberries. The 'Darrow' highbush blueberry, grown on a limited basis because of low winter hardiness, is the only North American highbush cultivar with 'Bluecrop' as a parent (2). 'Bluecrop' is also a parent of the New Zealand cultivars 'Puru,' 'Nui' and 'Reka' which came from the cross of E-118 x 'Bluecrop.' Selection E-118 originated from a cross of 'Ashworth' (wild *V. corymbosum*) x 'Earliblue.'

'Bluecrop' has been extremely useful in germplasm enhancement efforts using interspecific hybrids. It crosses readily with unreduced gamates of many diploid species (particulary *V. darrowi*), and these complex hybrids have been important in southern highbush blueberry breeding. It is a grandparent of 'Cape Fear,' 'Blue Ridge,' 'Cooper,' 'Gulfcoast,' and is both a maternal and paternal grandparent of 'Georgiagem.'

Though 'Bluecrop' is not the perfect blueberry cultivar, it, more than any other because of good fruit quality and consistent bearing, enabled growers to meet annual consumer demands and turn blueberry growing into a legitimate commercial enterprise. It is still highly recommended for planting in all highbush growing areas. Blueberry plantings remain productive for many years and this will ensure that 'Bluecrop' will continue to dominate the early midseason cultivar scene well into the next century.

Literature Cited

1. Brooks, R. P. and H. P. Olmo. 1953. Fruit and nut register, list number 8. Proc. Amer. Soc. Hort. Sci. 62:517.
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Book Reviews

Compendiums on strawberry, grape and citrus diseases have been published by the American Phytopathological Society as a guide for disease identification and description. Compendiums are available from APS Press, 3340 Pilot Knob Road, St. Paul, MN 55121. Each costs $20.00 in the U.S. and $25.00 elsewhere. Postage and handling are included.

"*Compendium of Strawberry Diseases,*" edited by J. L. Maas, contains the description and control of noninfectious diseases, arthropod and mollusk pests, bacterial diseases, fungal diseases, mycorrhizal fungi, viruses and virus-like diseases, leafhopper vectored diseases, and nematode diseases.

"*Compendium of Grape Diseases,*" edited by R. C. Pearson and A. C. Goheen, contains the description and control of fungal diseases, bacterial diseases and bacterial-like organisms, viruses and virus-like diseases, nematode parasites, mites and insect causing disease-like symptoms, non-infectious disorders, cultural practices and diseases, and the selection of planting material. Also included are symptoms of pesticide injury and a list of equivalent names.

"*Compendium of Citrus Diseases,*" edited by J. O. Whiteside, S. M. Garney and L. W. Timmer, contains the description and control of bacterial diseases, fungal diseases, virus and virus-like diseases, other viral agents and diseases, nematode diseases, flowering parasites, non-infectious diseases, and diseases of unknown or uncertain causes.

Reviewed by Dr. Loren D. Tukey.