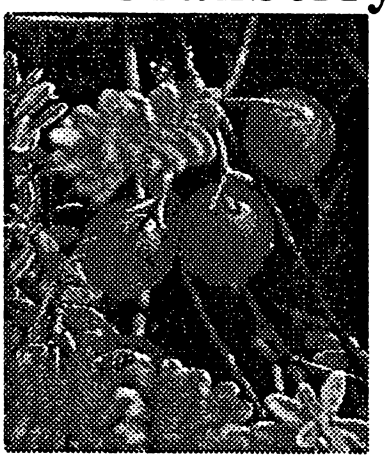
The Cranberry



The cranberry (*Vaccinium macrocarpon*) is native to the swamps and bogs of northeastern North America. The plant is a low-growing, woody perennial with small, oval leaves borne on fine, vine-like shoots. Horizontal stems, or runners, grow along the soil surface, rooting at intervals to form a dense mat. Flower buds, formed on short, upright shoots, open from May to June and produce ripe fruit in late September. (Excerpt from Univ. of Maine Coop. Extension pamphlet by David T. Handley, entitled, "Commercial Cranberry Production in Maine: An Introduction")

See also the following:

Cranberry Taxonomy Information
Information About the Origin of Cranberries
Cranberry Production Information
Cranberries - a New Jersey Perspective

Cranberry Industry Overview and Background

(Taken from Cranberry Agriculture In Maine: Grower's Guide - 1996 version)

The American cranberry (Vaccinium macrocarpon) grows wild from the mountains of Georgia to the Canadian Maritimes, and as far west as Minnesota. It has been cultivated in the Cape Cod area since the early 1800s and was an active industry in Maine during much of the last century. The cultivated cranberry industry then spread to New Jersey by the 1830s, Wisconsin by the 1850s, and the Pacific Northwest by the 1880s. Many Maine farms with suitable land produced small plots of cranberries, mostly for home use and a small marketable surplus. The Maine commercial cranberry industry was virtually eliminated in the early 1900s by a combination of factors, including lack of adequate technology for frost protection, the spread of disease and pests, depressed demand during World War I, the increasing trend toward specialized farming, the replacement of fresh cranberries in the market with the new canned cranberry sauce, and its relative distance to markets. Cranberry production is a vital "new" industry in the State of Maine. It is a "new" industry in the sense that it is the rebirth of an industry that left the State in the first half of this century. In 1988 there were no commercial producers in the state. However, 1991 saw Maine's first modern commercial harvest and by 1992 there were at least five growers with planted vines and several new plantations under development. New cranberry plantations are in various stages of development throughout the state.

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Integrated Pest Management (IPM): What is It?

If you have comments or questions about this web page, contact Charles Armstrong at: dercd@nemaine.com

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Background & History
Last Modified on: 11/14/97

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Area of Origin

The cranberry is a native American species which is in the same family as blueberry. The Pilgrims found them growing wild along the New England coast, where they were used fresh and dried by the native people. Cranberries can still be found growing wild in the northern tier of states and into southern Canada, including Nova Scotia and some of the other maritime provinces. New Jersey is the extreme southern range of the cranberry plant of commerce. Native stands do not extend much further west than Minnesota.

Commercial production began on Cape Cod in Massachusetts around 1815. A few years later commercial plantings were established in Wisconsin, and then later in New Jersey. In more recent times cranberries were introduced into the Pacific Northwest (Plate 1), along the coasts of southern Oregon and southern Washington. Even more recently production has been started in near Vancouver, British Columbia. Most important commercial cultivars are selections from wild populations, and it is only recently that breeding programs for the development of improved cultivars have been started.

CRANBERRY PRODUCTION

Massachusetts is the leading state in cranberry production, followed by Wisconsin, New Jersey, Washington, and Oregon. There is significant production in Canada, particularly in Nova Scotia, Quebec, and British Columbia.

Before planting a new cranberry bed, the land is leveled with laser guided equipment to provide optimum water management. Dikes are constructed around the edges of individual beds to allow for flooding. Drainage ditches and canals are also constructed to allow for efficient water management. In older plantings (some are 100 years old and still in production) the beds follow the contours of the land.

Cranberries are established vegetatively from stem cuttings. In the spring, established cranberry vines are mown and collected into bales for transport to the new cranberry bog. The cuttings are spread on the ground and worked into the soil by dull discs. By the end of the summer the vines have produced roots and are on their way to becoming established. It takes three to five years after planting for a cranberry bed to begin producing commercial quantities of fruit.

Water management is very important in cranberry production because it is used for frost protection and to protect the vines from winter injury. Solid-set sprinklers are used both for irrigation and frost protection. In the late fall, after the ground has frozen, the beds are slowly flooded. As the flood freezes more water is added until the vines are encased in ice. This insulates the buds from serious winter injury.

The use of laser guided leveling equipment (Plate 5) also allows more mechanization in the cranberry bog, especially at harvest. Each bed must be surrounded by a dike to contain the flood. With laser leveling these dikes can be straight, rather than crooked to follow the contour of the land. This allows for the use of larger equipment.

Two procedures which are done periodically are mowing and sanding. Mowing the vines stimulates them to produce new, vigorous uprights which produce more fruit. Mowing also provides cuttings for new plantings. Mowing is done in the spring, and mowed beds produce no yield in the year they are mowed. Sanding is done in the winter after the flood is frozen. Spreader trucks are driven onto the ice and a two inch layer of sand is put on the ice. After the spring thaw the sand sinks, covering the runners. This promotes rooting of the runners, which produces healthier plants and more uprights.

Harvest is accomplished in two ways. For the fresh market the berries are harvested dry with machines that resemble blueberry rakes. For the processing industry (mainly juice) the beds are flooded and the berries are mechanically beaten (Plate 6) from the vines. The berries float to the surface and are driven by the wind or a mechanical boom system to one end of the bed. Here the berries are raked onto elevators which raise them into waiting trucks. If water harvest is used for fresh market berries there is more chance of rot diseases occurring, and the berries must be dried before they can be packaged. For processing, rots are avoided by freezing the berries until they are required by the processing plant.

A new cranberry product is the "craisin", which is a dried cranberry. It is presently being used in breakfast cereals and other fruit mixes.

Cranberries can be a very lucrative crop to grow. Unfortunately, not everyone can grow cranberries because of the large water demand. Many areas that are suitable for cranberry production are also environmentally sensitive areas, so there is not a great deal of new land going into production.

Cranberry growers have never been able to satisfy the public demand for the fruit. This helps to keep the price growers receive high. Ocean Spray Cranberries, Inc. is a growers' cooperative that markets about 90 percent of the cranberries grown in the United States.
