

# Cranberry

From Wikipedia, the free encyclopedia

This article is about a plant species. For the rock band, see [The Cranberries](#). For other uses, see [Cranberry \(disambiguation\)](#).

## Cranberry



Cranberry bush with fruit partially submerged

## Scientific classification

Kingdom:	<a href="#">Plantae</a>
(unranked):	<a href="#">Angiosperms</a>
(unranked):	<a href="#">Eudicots</a>
(unranked):	<a href="#">Asterids</a>
Order:	<a href="#">Ericales</a>
Family:	<a href="#">Ericaceae</a>
Genus:	<a href="#">Vaccinium</a>
Subgenus:	<i>Oxycoccus</i>

## Species

[Vaccinium erythrocarpum](#)  
[Vaccinium macrocarpon](#)  
[Vaccinium microcarpum](#)  
[Vaccinium oxycoccos](#)

**Cranberries** are a group of [evergreen](#) dwarf [shrubs](#) or trailing vines in the [subgenus](#) *Oxycoccus* of the genus *Vaccinium*. In some methods of classification, *Oxycoccus* is regarded as a [genus](#) in its own right.<sup>[1]</sup> They can be found in [acidic bogs](#) throughout the cooler regions of the [northern hemisphere](#).

Cranberries are low, creeping shrubs or vines up to 2 metres (7 ft) long and 5 to 20 centimetres (2 to 8 in) in height;<sup>[2]</sup> they have slender, wiry stems that are not thickly woody and have small [evergreen](#) leaves. The [flowers](#) are dark pink, with very distinct *reflexed* [petals](#), leaving the [style](#) and [stamens](#) fully exposed and pointing forward. They are pollinated by [bees](#). The fruit is a [berry](#) that is larger than the leaves of the plant; it is initially white, but turns a deep red when fully ripe. It is edible, with an acidic taste that can overwhelm its sweetness.

Cranberries are a major commercial crop in certain [American](#) states and [Canadian](#) provinces (see [cultivation](#) and [uses](#) below). Most cranberries are processed into products such as [juice](#), sauce, jam, and sweetened [dried cranberries](#), with the remainder sold fresh to consumers. [Cranberry sauce](#) is regarded as an indispensable part of traditional American and Canadian [Thanksgiving](#) menus and some [European](#) winter festivals.<sup>[3]</sup>

Since the early 21st century within the global [functional food](#) industry, raw cranberries have been marketed as a "[superfruit](#)" due to their [nutrient](#) content and [antioxidant](#) qualities.<sup>[4][5]</sup><sup>[*dead link*]</sup>

## Species and description



Approximate ranges of the cranberries in sect. *Oxyccoccus*: Red: Common Cranberry. Orange: Small Cranberry. Green: American Cranberry.

There are three to four species of cranberry, classified in two sections:

Subgenus *Oxyccoccus*, sect. *Oxyccoccus*

- *Vaccinium oxycoccos* or *Oxyccoccus palustris* (**Common Cranberry** or **Northern Cranberry**) is widespread throughout the cool temperate northern hemisphere, including northern [Europe](#), northern [Asia](#) and northern [North America](#). It has small 5–10 mm leaves. The flowers are dark pink, with a purple central spike, produced on finely hairy stems. The fruit is a small pale pink [berry](#), with a refreshing sharp acidic flavour.
- *Vaccinium microcarpum* or *Oxyccoccus microcarpus* (**Small Cranberry**) occurs in northern [North America](#), [6] northern Europe and northern Asia, and differs from *V. oxycoccos* in the leaves being more triangular, and the flower stems hairless. Some botanists include it within *V. oxycoccos*.
- *Vaccinium macrocarpon* or *Oxyccoccus macrocarpus* (**Large cranberry**, **American Cranberry**, **Bearberry**) native to northern [North America](#) across [Canada](#), and eastern [United States](#), south to [North Carolina](#) at high altitudes). It differs from *V. oxycoccos* in the leaves being larger, 10–20 mm long, and in its slightly apple-like taste.

Subgenus *Oxyccoccus*, sect. *Oxyccocoides*

- *Vaccinium erythrocarpum* or *Oxyccoccus erythrocarpus* ([Southern Mountain Cranberry](#)) native to southeastern [North America](#) at high altitudes in the southern [Appalachian Mountains](#), and also in eastern [Asia](#).



*Vaccinium oxycoccos* flowers

Cranberries are related to [bilberries](#), [blueberries](#), and [huckleberries](#), all in *Vaccinium* subgenus *Vaccinium*. These differ in having stouter, woodier stems forming taller shrubs, and in the bell-shaped flowers, the petals not being reflexed.

Some plants of the completely unrelated genus [Viburnum](#) are sometimes inaccurately called "highbush cranberries" ([Viburnum trilobum](#)).

Cranberries are susceptible to false blossom, a harmful but controllable [phytoplasma](#) disease common in the eastern production areas of Massachusetts and New Jersey.

## Etymology and history



*The Cranberry Harvest on the Island of [Nantucket](#), [Eastman Johnson](#), 1880.*

The name cranberry derives from "craneberry", first named by early European settlers in America who felt the expanding flower, stem, calyx, and petals resembled the neck, head, and bill of a [crane](#). Another name used in northeastern Canada is **mossberry**. The traditional English name for *Vaccinium oxycoccos*, **fenberry**, originated from plants found growing in [fen](#) (marsh) lands. In 17th century New England cranberries were sometimes called "bearberries" as bears were often seen feeding on them.

In [North America](#), [Native Americans](#) were the first to use cranberries as food. Native Americans used cranberries in a variety of foods, especially for [pemmican](#), wound medicine and dye. Calling the red berries **Sassamanash**, natives may have introduced cranberries to starving English settlers in [Massachusetts](#) who incorporated the berries into traditional [Thanksgiving](#) feasts. [American Revolutionary War](#) veteran [Henry Hall](#) is credited as first to farm cranberries in the [Cape Cod](#) town of [Dennis](#) around 1816. In the 1820s cranberries were shipped to Europe.[7] Cranberries became popular for wild harvesting in the [Nordic countries](#) and [Russia](#). In [Scotland](#), the berries were originally wild-harvested but with the loss of suitable habitat, the plants have become so scarce that this is no longer done.

## Cultivation

### Geography and bog method



Cranberry harvest in [New Jersey](#)

Cranberries are a major commercial crop in the [U.S. states](#) of [Massachusetts](#), [New Jersey](#), [Oregon](#), [Washington](#), and [Wisconsin](#), as well as in the Canadian provinces of [British Columbia](#), [New Brunswick](#), [Ontario](#), [Nova Scotia](#), [Prince Edward Island](#), [Newfoundland](#) and [Quebec](#). Wisconsin is the leading producer of cranberries, with over half of U.S. production.[8] Massachusetts is the second largest U.S. producer. A very small production is found in southern [Argentina](#) and [Chile](#), the [Netherlands](#),[9] and [Eastern Europe](#).*[citation needed]*

Historically, cranberry beds were constructed in wetlands. Today cranberry beds are constructed in upland areas with a shallow water table. The topsoil is scraped off to form [dykes](#) around the bed perimeter. Clean sand is hauled in to a depth of four to eight inches. The surface is laser leveled flat to provide even drainage. Beds are frequently drained with socked tile in addition to the perimeter ditch. In addition to making it possible to hold water, the dykes allow equipment to service the beds without driving on the vines. Irrigation equipment is installed in the bed to provide [irrigation](#) for vine growth and for spring and autumn frost protection.

## Cultivation

Cranberry vines are propagated by moving vines from an established bed. The vines are spread on the surface of the sand of the new bed and pushed into the sand with a blunt disk. The vines are watered frequently during the first few weeks until roots form and new shoots grow. Beds are given frequent light application of nitrogen fertilizer during the first year. The cost of establishment for new cranberry beds is estimated to be about US\$70,000 per hectare (approx. \$28,300 per acre).

A common misconception about cranberry production is that the beds remain flooded throughout the year. During the [growing season](#) cranberry beds are not flooded, but are irrigated regularly to maintain soil moisture. Beds are flooded in the autumn to facilitate harvest and again during the winter to protect against low temperatures. In cold climates like Wisconsin, Maine, and eastern Canada, the winter flood typically freezes into ice, while in warmer climates the water remains liquid. When ice forms on the beds, trucks can be driven onto the ice to spread a thin layer of sand that helps to control pests and rejuvenate the vines. Sanding is done every three to five years.

## Harvesting



Cranberry harvest (wet-picking)

Cranberries are harvested in the fall when the fruit takes on its distinctive deep red color. This is usually in September through the first part of November. To harvest cranberries, the beds are flooded with six to eight inches of water above the vines. A harvester is driven through the beds to remove the fruit from the vines. For the past 50 years, water reel type harvesters have been used. Harvested cranberries float in the water and can be corralled into a corner of the bed and conveyed or pumped from the bed. From the farm, cranberries are taken to receiving stations where they are cleaned, sorted, and stored prior to packaging or processing.

Although most cranberries are wet-picked as described above, 5–10% of the US crop is still dry-picked. This entails higher labor costs and lower yield, but dry-picked berries are less bruised and can be sold as fresh fruit instead of having to be immediately frozen or processed. Originally performed with two-handed comb scoops, dry picking is today accomplished by motorized, walk-behind harvesters which must be small enough to traverse beds without damaging the vines.

White [cranberry juice](#) is made from regular cranberries that have been harvested after the fruits are mature, but before they have attained their characteristic dark red color. Yields are lower on beds harvested early and the early flooding tends to damage vines, but not severely.

Cranberries for fresh market are stored in shallow bins or boxes with perforated or slatted bottoms, which deter decay by allowing air to circulate. Because harvest occurs in late autumn, cranberries for fresh market are frequently stored in thick walled barns without mechanical refrigeration. Temperatures are regulated by opening and closing vents in the barn as needed. Cranberries destined for processing are usually frozen in bulk containers shortly after arriving at a receiving station.

## Food uses



Cranberries

About 95% of cranberries are processed into products such as [juice drinks](#), sauce, and sweetened dried cranberries. The remaining are sold fresh to consumers.

Cranberries are normally considered too sharp to be eaten plain and raw, as they are not only sour but bitter as well.[\[10\]](#)

Cranberry juice is a major use of cranberries; it is usually either sweetened to make "cranberry juice cocktail" or blended with other fruit juices to reduce its natural severe tartness. Many cocktails, including the [Cosmopolitan](#), are made with cranberry juice. At one teaspoon of sugar per ounce, cranberry juice cocktail is more highly sweetened than even soda drinks that have been linked to obesity.[\[11\]](#)

Usually cranberries as fruit are cooked into a [compote](#) or [jelly](#), known as [cranberry sauce](#). Such preparations are traditionally served with roast [turkey](#), as a staple of English Christmas dinners, and the [Canadian](#) and [US holiday Thanksgiving](#). The berry is also used in baking ([muffins](#), [scones](#) and [cakes](#)). Less commonly, innovative cooks use cranberries to add tartness to savory dishes such as soups and stews.[\[10\]](#)

Fresh cranberries can be frozen at home, and will keep up to nine months; they can be used directly in recipes without thawing.[\[12\]](#)

[Cranberry wine](#) is made in some of the cranberry-growing regions of the United States and Canada from either whole cranberries, cranberry juice or cranberry juice concentrate.

## Potential health effects

### Nutrients and antioxidant capacity

Cranberries, raw

#### Nutritional value per 100 g (3.5 oz)

<b>Energy</b>	46 kcal (190 kJ)
<b>Carbohydrates</b>	12.2 g
- <b>Sugars</b>	4.04 g
- <b>Dietary fiber</b>	4.6 g
<b>Fat</b>	0.13 g
<b>Protein</b>	0.39 g
<b>Water</b>	87.13 g
<b>Vitamin A</b> equiv.	3 µg (0%)
- <b>beta-carotene</b>	36 µg (0%)
- <b>lutein</b> and <b>zeaxanthin</b>	91 µg
<b>Thiamine (vit. B<sub>1</sub>)</b>	0.012 mg (1%)

<a href="#">Riboflavin (vit. B<sub>2</sub>)</a>	0.02 mg (2%)
<a href="#">Niacin (vit. B<sub>3</sub>)</a>	0.101 mg (1%)
<a href="#">Pantothenic acid (B<sub>5</sub>)</a>	0.295 mg (6%)
<a href="#">Vitamin B<sub>6</sub></a>	0.057 mg (4%)
<a href="#">Folate (vit. B<sub>9</sub>)</a>	1 µg (0%)
<a href="#">Vitamin C</a>	13.3 mg (16%)
<a href="#">Vitamin E</a>	1.2 mg (8%)
<a href="#">Vitamin K</a>	5.1 µg (5%)
<a href="#">Calcium</a>	8 mg (1%)
<a href="#">Iron</a>	0.25 mg (2%)
<a href="#">Magnesium</a>	6 mg (2%)
<a href="#">Manganese</a>	0.36 mg (17%)
<a href="#">Phosphorus</a>	13 mg (2%)
<a href="#">Potassium</a>	85 mg (2%)
<a href="#">Sodium</a>	2 mg (0%)
<a href="#">Zinc</a>	0.1 mg (1%)

Percentages are relative to  
[US recommendations](#) for adults.

Source: [USDA Nutrient Database](#)

Raw cranberries have moderate levels of [Vitamin C](#), [dietary fiber](#) and the essential [dietary mineral, manganese](#), as well as a balanced profile of other essential micronutrients.[13]

By [in vitro](#) measurement of the [Oxygen Radical Absorbance Capacity](#) with an ORAC score of 9,584 units per 100 g, cranberry ranks near the top of 277 commonly consumed foods in the United States.[14] However, there is no scientific evidence that ORAC bears any biological significance in the human body.[15]

## Phytochemicals

Raw cranberries are a source of [polyphenol antioxidants](#), [phytochemicals](#) under active research for possible benefits to the [cardiovascular system](#) and [immune system](#), and as anti-[cancer](#) agents,[16] [17] such as in isolated prostate cancer cells.[18] Although [polyphenols](#) have antioxidant effects [in vitro](#), they can act as pro-oxidants in others.[*clarification needed*] In addition, it is uncertain whether polyphenols and flavonoids account for the benefits of diets rich in plant-derived foods. [17]

Cranberry juice contains a high [molecular weight non-dializable](#) material that might inhibit formation of [plaque](#) by *Streptococcus mutans* pathogens that cause tooth decay.[19] Cranberry juice components also may possibly influence formation of [kidney stones](#). [20][21]

One study compared cranberries with twenty other fruits, showing that cranberries had a high amount of total polyphenols.[22] Cranberry [tannins](#) have laboratory evidence for anti-[clotting](#) properties and may prevent recurring [urinary tract infections](#) in women,[23] although the evidence in favor of cranberries' efficacy in treating UTIs is far from conclusive.[24] Raw cranberries and cranberry juice are abundant food sources of flavonoids such as [proanthocyanidins](#), [flavonols](#) [25] and [quercetin](#). [26][27] These compounds have shown possible activity as anti-[cancer](#) agents [in vitro](#). [28][29][30][31][32] However, their effectiveness in humans has not been established, and is limited by poor absorption into cells and rapid excretion.

## Potential anti-adhesion properties

There is potential benefit of cranberry juice consumption (300mL of cranberry juice per day) against bacterial infections in the [urinary system](#).<sup>[33]</sup> Laboratory research shows that a possible effect may occur from a component of the juice inhibiting bacterial attachment to the [bladder](#) and [urethra](#).<sup>[34][35][36]</sup>

The effect may not result from the acidic nature of polyphenols but possibly to a specific [A type proanthocyanidin](#) which is thought to inhibit adherence of *Escherichia coli* and other [fimbriated](#) bacteria to uroepithelial cells.<sup>[37][38]</sup>

Although promising for anti-bacterial activity, long-term consumption of cranberry juice has not been adequately proven to reduce urinary tract infections. However, there is preliminary evidence for possible effects against [urinary tract infections](#) in women.<sup>[39]</sup> It is thought that cranberry [proanthocyanidins](#) are responsible for the apparent efficacy of consuming cranberry juice against urinary tract infections. Their mechanism of action may be related to inhibition of adherence of [Escherichia coli](#) to urothelial cells.<sup>[40]</sup> Similar applications have not been successfully proven in other clinical trials of consuming cranberry juice or tablets by people with spinal cord injury associated with bladder [catheterization](#), [neurogenic bladder](#) or infrequent [urination](#), any of which may be associated with increased susceptibility to bacterial infections.<sup>[41][42][43]</sup>

## Research

In one clinical trial, cranberry juice significantly increased plasma antioxidant capacity, and decreased oxidized low-density lipoprotein and [malondialdehyde](#) at eight weeks compared to a placebo. However, cranberry juice consumption caused **no** significant improvements in blood pressure, glucose and lipid profiles, C-reactive protein, and interleukin-6. It was found that low-energy cranberry juice (Ocean Spray Cranberries, Inc, Lakeville-Middleboro, Mass. 2 cups/day) significantly reduced lipid oxidation and increased plasma antioxidant capacity in women with [metabolic syndrome](#).<sup>[44]</sup>

## Possible contraindications

An autumn 2004 caution from the [Committee on Safety of Medicines](#), the UK agency dealing with drug safety, advised patients taking [warfarin](#) not to drink cranberry juice after adverse effects (such as increased incidence of bruising) were reported, possibly resulting from the presence of [salicylic acid](#) native to polyphenol-rich plants such as the cranberry. However, during 2006-8, several reviews of case reports and pilot studies have failed to confirm this effect, collectively indicating no statistically significant interaction between daily consumption of 250 mL cranberry juice and warfarin in the general population.<sup>[45][46]</sup> A gene (VKORC1, CYP2C9) has been shown to change warfarin sensitivity. This gene may also contribute to bruising susceptibility as a result of cranberries for carriers of the gene. A couple of possible cases of [Warfarin](#) interaction with cranberry have been reported.<sup>[47]</sup>

## Marketing and economics

### History



The examples and perspective in this article **may not represent a [worldwide view](#) of the subject**. Please [improve this article](#) and discuss the issue on the [talk page](#). (November 2010)

In 1550, James White Norwood made reference to Indians using cranberries. In James Rosier's book "The Land of Virginia" there is an account of Europeans coming ashore and being met with Indians bearing bark cups full of cranberries. In Plymouth, Massachusetts, there is a 1633 account of the

husband of Mary Ring auctioning her cranberry-dyed petticoat for 16 shillings. In 1640's "Key Into the Language" [Roger Williams](#) described cranberries, referring to them as "bearberries" because bears ate them. In 1648, preacher John Elliott was quoted in [Thomas Shepard's](#) book "Clear Sunshine of the Gospel" with an account of the difficulties the Pilgrims were having in using the Indians to harvest cranberries as they preferred to hunt and fish. In 1663, the Pilgrim cookbook appears with a recipe for cranberry sauce. In 1667, New Englanders sent to [King Charles](#) 10 barrels of cranberries, 3 barrels of codfish and some Indian corn as a means of appeasement for his anger over their local coining of the Pine Tree shilling. In 1669, Captain Richard Cobb had a banquet in his house (to celebrate both his marriage to Mary Gorham and his election to the Convention of Assistance), serving wild turkey with sauce made from wild cranberries. In the 1672 book "New England Rarities Discovered" author John Josselyn described cranberries, writing:

"Sauce for the Pilgrims, cranberry or bearberry, is a small trailing plant that grows in salt marshes that are overgrown with moss. The berries are of a pale yellow color, afterwards red, as big as a cherry, some perfectly round, others oval, all of them hollow with sower (sic) astringent taste; they are ripe in August and September. They are excellent against the Scurvy. They are also good to allay the fervor of hoof diseases. The Indians and English use them mush, boyling (sic) them with sugar for sauce to eat with their meat; and it is a delicate sauce, especially with roasted mutton. Some make tarts with them as with gooseberries."

"The Compleat Cook's Guide" published in 1683 made reference to cranberry juice. In 1703, cranberries were served at the Harvard University commencement dinner. In 1787, [James Madison](#) wrote [Thomas Jefferson](#) in France for background information on constitutional government to use at the Constitutional Convention. Jefferson sent back a number of books on the subject and in return asked for a gift of apples, pecans and cranberries. [William Aiton](#), a Scottish botanist, included an entry for the cranberry in volume II of his 1789 work, *Hortus Kewensis*. He notes that *Vaccinium macrocarpon* (American cranberry) was cultivated by James Gordon in 1760. In 1796, cranberries were served at the first celebration of the landing of the Pilgrims, and Amelia Simmons (an American orphan) wrote a book entitled "American Cookery" which contained a recipe for cranberry tarts. In 1816, [Henry Hall](#) first commercially grew cranberries in East Dennis, Massachusetts on Cape Cod. In 1843, [Eli Howes](#) planted his own crop of cranberries on Cape Cod, using the "Howes" variety. In 1847, Cyrus Cahoon planted a crop of "Early Black" variety near Pleasant Lake, Harwich, Massachusetts. In 1860, [Edward Watson](#) [*disambiguation needed*], a friend of [Henry David Thoreau](#) wrote a poem called "The Cranberry Tart."

Cranberry sales in the United States have traditionally been associated with [holidays](#) of [Thanksgiving](#) and [Christmas](#). Until the 1930s most of the crop was sold fresh.

In the U.S., large scale cranberry cultivation has been developed as opposed to other countries. American cranberry growers have a long history of cooperative [marketing](#). As early as 1904, John Gaynor, a [Wisconsin](#) grower, and A.U. Chaney, a fruit broker from [Des Moines, Iowa](#), organized Wisconsin growers into a cooperative called the Wisconsin Cranberry Sales Company to receive a uniform price from buyers. Growers in [New Jersey](#) and [Massachusetts](#) were also organized into cooperatives, creating the National Fruit Exchange that marketed fruit under the [Eatmor brand](#). The success of cooperative marketing almost led to its failure. With consistent and high prices, area and production doubled between 1903 and 1917 and prices fell. In 1918, [US\\$54,000](#) was spent on advertising, leading to [US\\$1 million](#) in increased sales.

With surplus cranberries and changing American households some enterprising growers began [canning](#) cranberries that were below-grade for fresh market. [Competition](#) between canners was fierce because [profits](#) were thin. The [Ocean Spray](#) cooperative was established in 1930 through a merger of three primary processing companies: Ocean Spray Preserving company, Makepeace Preserving Co, and Cranberry Products Co. The new company was called Cranberry Canners, Inc. and used the Ocean Spray label on their products. Since the new company represented over 90% of

the market, it would have been illegal (cf. [antitrust](#)) had [attorney](#) John Quarles not found an exemption for [agricultural cooperatives](#). As of 2006, about 65% of the North American industry belongs to the Ocean Spray cooperative. (The percentage may be slightly higher in Canada than in the U.S.)

A turning point for the industry occurred on November 9, 1959, when the secretary of the [United States Department of Health, Education, and Welfare Arthur S. Flemming](#) announced that some of the 1959 crop was tainted with traces of the [herbicide aminotriazole](#). The market for cranberries collapsed and growers lost millions of dollars.<sup>[10][48]</sup> However, the scare taught the industry that they could not be completely dependent on the holiday market for their products: they had to find year-round markets for their fruit. They also had to be exceedingly careful about their use of [pesticides](#).

After the aminotriazole scare, Ocean Spray reorganized and spent substantial sums on [product development](#). New products such as cranberry apple [juice](#) blends were introduced, followed by other juice blends.

A [Federal Marketing Order](#) that is authorized to synchronize supply and demand was approved in 1962. The order has been renewed and modified slightly in subsequent years, but it has allowed for more stable marketing. The market order has been invoked during six crop years: 1962 (12%), 1963 (5%), 1970 (10%), 1971 (12%), 2000 (15%), and 2001 (35%). Even though supply still slightly exceeds demand, there is little will to invoke the Federal Marketing Order out of the realization that any pullback in supply by U.S. growers would easily be filled by Canadian production.

Prices and production increased steadily during the 1980s and 1990s. Prices peaked at about \$65.00 per barrel (29 ¢/kg—A cranberry barrel equals 100 pounds or 45.4 kg.) in 1996 then fell to \$18.00 per barrel (8.2 ¢/kg) in 2001. The cause for the precipitous drop was classic oversupply. Production had outpaced consumption leading to substantial inventory in freezers or as concentrate.

Cranberry handlers (processors) include [Ocean Spray](#), [Cliffstar Corporation](#), Northland Cranberries Inc.[Sun Northland LLC], Clement Pappas & Co., Decas Cranberry Products as well as a number of small handlers and processors.<sup>[49]</sup>

## References

1. <sup>^</sup> Steven Clemants. "[Vaccinium oxycoccos: Small Cranberry, Technical Page](#)". Brooklyn Botanic Garden.
2. <sup>^</sup> "[About Cranberries](#)". Cranberry Institute. Retrieved 2009-11-13.
3. <sup>^</sup> Carol Cloud Bailey (2009-11-19). "[Garden Tips: Give thanks for cranberries, grown with a taste of Florida](#)". *TCPalm.com*. Scripps Interactive Newspapers Group. Retrieved 2009-11-20.
4. <sup>^</sup> "[Cranberries: How Ocean Spray made them the world's most successful superfruit](#)". New Nutrition Business. Retrieved 21 October 2011.
5. <sup>^</sup> "[Newsroom – 'Superfruits' the future of health](#)". HortResearch. Retrieved 2009-11-13.
6. <sup>^</sup> "[borealforest.org](#)". Lakehead University Faculty of Natural Resources Management.
7. <sup>^</sup> "[History](#)". Cranberries.org. Retrieved 2009-11-13.
8. <sup>^</sup> United States Department of Agriculture (18 August 2010), *[Wisconsin -Cranberries](#)*, retrieved 31 July 2011
9. <sup>^</sup> "[Cranberry Terschelling BV](#)". Retrieved 19 November 2011.
10. <sup>^</sup> *[a b c](#)* Zeldes, Leah A. (November 25, 2009). "[Eat this! Cranberries more than a thanksgiving condiment](#)". *Dining Chicago*. Chicago's Restaurant & Entertainment Guide, Inc.. Retrieved Nov. 25, 2009.
11. <sup>^</sup> Calvin, Bobby Caina. "[Cranberry industry seeks to avoid school ban](#)." *Boston Globe*, 25 June 2012.
12. <sup>^</sup> "[The American Cranberry-Basic Information on Cranberries](#)". Library.wisc.edu. Retrieved

- 2010-10-04.
13. [^ Cranberries: In-depth nutrient analysis](#) Cranberry in-depth nutrient analysis, *World's Healthiest Foods*
  14. [^ Oxygen Radical Absorbance Capacity of Selected Foods](#) – 2007; Nutrient Data Laboratory, Agricultural Research Service, *United States Department of Agriculture*, November 2007
  15. [^ "Studies force new view on biology of flavonoids"](#), by David Stauth, *EurekAlert!*. Adapted from a news release issued by Oregon State University
  16. [^ Seifried HE, Anderson DE, Fisher EI, Milner JA \(September 2007\). "A review of the interaction among dietary antioxidants and reactive oxygen species". \*J Nutr Biochem.\* \*\*18\*\* \(9\): 567–79. doi:10.1016/j.jnutbio.2006.10.007. PMID 17360173.](#)
  17. [^ <sup>a</sup> <sup>b</sup> Halliwell B \(January 2007\). "Dietary polyphenols: good, bad, or indifferent for your health?". \*Cardiovasc Res.\* \*\*73\*\* \(2\): 341–7. doi:10.1016/j.cardiores.2006.10.004. PMID 17141749.](#)
  18. [^ MacLean MA, Scott BE, Deziel BA, Nunnolley MC, Liberty AM, Gottschall-Pass KT, Neto CC, Hurta RA"North American cranberry \(\*Vaccinium macrocarpon\*\) stimulates apoptotic pathways in DU145 human prostate cancer cells in vitro." \*Nutr Cancer.\* 2011 Jan;63\(1\):109-20](#)
  19. [^ "Blocking tooth decay". Webmd.com. 2005-11-23. Retrieved 2009-11-13.](#)
  20. [^ McHarg T, Rodgers A, Charlton K \(November 2003\). "Influence of cranberry juice on the urinary risk factors for calcium oxalate kidney stone formation". \*BJU Int.\* \*\*92\*\* \(7\): 765–8. doi:10.1046/j.1464-410X.2003.04472.x. PMID 14616463.](#)
  21. [^ Kessler T, Jansen B, Hesse A \(October 2002\). "Effect of blackcurrant-, cranberry- and plum juice consumption on risk factors associated with kidney stone formation". \*Eur J Clin Nutr\* \*\*56\*\* \(10\): 1020–3. doi:10.1038/sj.ejcn.1601442. PMID 12373623.](#)
  22. [^ Vinson JA, Su X, Zubik L, Bose P \(November 2001\). "Phenol antioxidant quantity and quality in foods: fruits". \*J Agric Food Chem.\* \*\*49\*\* \(11\): 5315–21. doi:10.1021/jf0009293. PMID 11714322.](#)
  23. [^ Efros M. Bromberg W. Cossu L. Nakeleski E. Katz AE."Novel concentrated cranberry liquid blend, UTI-STAT with Proantinox, might help prevent recurrent urinary tract infections in women." \*Urology.\* 76\(4\):841-5, 2010 Oct.](#)
  24. [^ "Can Cranberry Juice Cure Urinary Tract Infections?". \*Planned Parenthood Advocates of Arizona.\* 2011-08-15. Retrieved 2012-03-28.](#)
  25. [^ Flavonoid composition over fruit development and maturation in American cranberry, \*Vaccinium macrocarpon\* Ait. Irina O. Vvedenskaya and Nicholi Vorsa, \*Plant Science\*, Volume 167, Issue 5, November 2004, Pages 1043-1054, doi:10.1016/j.plantsci.2004.06.001](#)
  26. [^ Duthie SJ, Jenkinson AM, Crozier A, \*et al.\* \(March 2006\). "The effects of cranberry juice consumption on antioxidant status and biomarkers relating to heart disease and cancer in healthy human volunteers". \*Eur J Nutr\* \*\*45\*\* \(2\): 113–22. doi:10.1007/s00394-005-0572-9. PMID 16032375.](#)
  27. [^ Zheng W, Wang SY \(January 2003\). "Oxygen radical absorbing capacity of phenolics in blueberries, cranberries, chokeberries, and lingonberries". \*J Agric Food Chem.\* \*\*51\*\* \(2\): 502–9. doi:10.1021/jf020728u. PMID 12517117.](#)
  28. [^ Cancer Research Society Newsletter : The Cranberry – A Natural and Delicious Antidote](#)
  29. [^ Neto CC \(June 2007\). "Cranberry and blueberry: evidence for protective effects against cancer and vascular diseases". \*Mol Nutr Food Res\* \*\*51\*\* \(6\): 652–64. doi:10.1002/mnfr.200600279. PMID 17533651.](#)
  30. [^ Ferguson PJ, Kurowska EM, Freeman DJ, Chambers AF, Koropatnick J \(2006\). "In vivo inhibition of growth of human tumor lines by flavonoid fractions from cranberry extract". \*Nutr Cancer\* \*\*56\*\* \(1\): 86–94. doi:10.1207/s15327914nc5601\\_12. PMID 17176222.](#)
  31. [^ Seeram NP, Adams LS, Zhang Y, \*et al.\* \(December 2006\). "Blackberry, black raspberry, blueberry, cranberry, red raspberry, and strawberry extracts inhibit growth and stimulate](#)

- apoptosis of human cancer cells in vitro". *J Agric Food Chem.* **54** (25): 9329–39. doi:[10.1021/jf061750g](https://doi.org/10.1021/jf061750g). PMID [17147415](https://pubmed.ncbi.nlm.nih.gov/17147415/).
32. ^ Sun J, Chu YF, Wu X, Liu RH (December 2002). "Antioxidant and antiproliferative activities of common fruits". *J Agric Food Chem.* **50** (25): 7449–54. doi:[10.1021/jf0207530](https://doi.org/10.1021/jf0207530). PMID [12452674](https://pubmed.ncbi.nlm.nih.gov/12452674/).
  33. ^ Avorn J, Monane M, Gurwitz JH, Glynn RJ, Choodnovskiy I, Lipsitz LA. Reduction of bacteriuria and pyuria after ingestion of cranberry juice. *JAMA* 1994;271:751-754.
  34. ^ "[Cranberry juice creates energy barrier that keeps bacteria away from cells, study shows](#)". Eurekaalert.org. 2008-07-21. Retrieved 2009-11-13.
  35. ^ "[Compounds in cranberry juice show promise as alternatives to antibiotics](#)". Physorg.com. 2006-09-11. Retrieved 2009-11-13.
  36. ^ "[How Cranberry Juice Can Prevent Urinary Tract Infections](#)". Sciencedaily.com. 2008-07-25. Retrieved 2009-11-13.
  37. ^ Zafriri D, Ofek I, Adar R, Pocino M, Sharon N. Inhibitory activity of cranberry juice on adherence of type 1 and type P fimbriated *Escherichia coli* to eucaryotic cells. *Antimicrob Agents Chemother* 1989;33:92-98.
  38. ^ Ofek I, Goldhar J, Zafriri D, Lis H, Adar R, Sharon N. Anti-*Escherichia coli* adhesin activity of cranberry and blueberry juices. *N Engl J Med* 1991;324:1599-1599.
  39. ^ Jepson RG, Mihaljevic L, Craig J (2004). Jepson, Ruth. ed. "Cranberries for preventing urinary tract infections". *Cochrane Database Syst Rev* (2): CD001321. doi:[10.1002/14651858.CD001321.pub3](https://doi.org/10.1002/14651858.CD001321.pub3). PMID [15106157](https://pubmed.ncbi.nlm.nih.gov/15106157/).
  40. ^ Risco E, Miguélez C, Sánchez de Badajoz E, Rouseaud A., "Effect of American cranberry (Cysticlean) on *Escherichia coli* adherence to bladder epithelial cells. In vitro and in vivo study." *Arch Esp Urol.* 2010 Jul-Aug;63(6):422-30
  41. ^ Linsenmeyer TA, Harrison B, Oakley A, Kirshblum S, Stock JA, Millis SR (2004). "Evaluation of cranberry supplement for reduction of urinary tract infections in individuals with neurogenic bladders secondary to spinal cord injury. A prospective, double-blinded, placebo-controlled, crossover study". *J Spinal Cord Med* **27** (1): 29–34. PMID [15156934](https://pubmed.ncbi.nlm.nih.gov/15156934/).
  42. ^ Waites KB, Canupp KC, Armstrong S, DeVivo MJ (2004). "Effect of cranberry extract on bacteriuria and pyuria in persons with neurogenic bladder secondary to spinal cord injury". *J Spinal Cord Med* **27** (1): 35–40. PMID [15156935](https://pubmed.ncbi.nlm.nih.gov/15156935/).
  43. ^ Lee BB, Haran MJ, Hunt LM, *et al.* (August 2007). "Spinal-injured neuropathic bladder antisepsis (SINBA) trial". *Spinal Cord* **45** (8): 542–50. doi:[10.1038/sj.sc.3101974](https://doi.org/10.1038/sj.sc.3101974). PMID [17043681](https://pubmed.ncbi.nlm.nih.gov/17043681/).
  44. ^ Basu A, Betts NM, Ortiz J, Simmons B, Wu M, Lyons TJ., "Low-energy cranberry juice decreases lipid oxidation and increases plasma antioxidant capacity in women with metabolic syndrome. *Nutr Res.* 2011 Mar;31(3):190-6
  45. ^ Li Z, Seeram NP, Carpenter CL, Thames G, Minutti C, Bowerman S (December 2006). "Cranberry does not affect prothrombin time in male subjects on warfarin". *J Am Diet Assoc* **106** (12): 2057–61. doi:[10.1016/j.jada.2006.09.012](https://doi.org/10.1016/j.jada.2006.09.012). PMID [17126638](https://pubmed.ncbi.nlm.nih.gov/17126638/).
  46. ^ Pham DQ, Pham AQ (March 2007). "Interaction potential between cranberry juice and warfarin". *Am J Health Syst Pharm* **64** (5): 490–4. doi:[10.2146/ajhp060370](https://doi.org/10.2146/ajhp060370). PMID [17322161](https://pubmed.ncbi.nlm.nih.gov/17322161/).
  47. ^ Hamann GL, Campbell JD, George CM., "Warfarin-Cranberry Juice Interaction (March)." *Ann Pharmacother.* 2011 Mar 1;
  48. ^ "[Cranberry Blues" 1959 recording \(mp3 file\) by Robert Williams and the Groovers](#)". Retrieved 2009-11-25.
  49. ^ Roper TR, Vorsa N (1997). "[Cranberry: Botany and Horticulture](#)". In Janick J. *Horticultural Reviews*. New York: Wiley. pp. 215–6. ISBN [0-471-18907-3](https://www.isbn-international.org/product/0-471-18907-3).

## Further reading

### Books

- Cole, S. / Gifford, L. (2009). *The Cranberry: Hard Work and Holiday Sauce*. Tilbury House Publishers. [ISBN 978-0-88448-316-8](#)
- Trehane, J. (2009). *Blueberries, Cranberries and Other Vacciniums*. Timber Press. [ISBN 978-1-60469-072-9](#)

## External links



Wikibooks [Cookbook](#) has a recipe/module on [Cranberry](#)



Wikimedia Commons has media related to: [Cranberries](#)



[Wikisource](#) has the text of the 1905 [New International Encyclopedia](#) article [Cranberry](#).

Germplasm Resources Information Network: [Sect. \*Oxycoccus\*](#) and [Sect. \*Oxycoccoides\*](#)  
[University of Massachusetts Amherst Cranberry Station](#) for information on cranberry research  
[Cranberry Library Page](#) Hosted by the University of Wisconsin-Madison  
[Wikimapia](#) An overhead view of a cranberry farm near Wisconsin Rapids, Wisconsin  
[Cranberry research at Rutgers, The State University of New Jersey](#)  
[University of Massachusetts Cranberry Station](#) Hosted by the University of Massachusetts - Amherst

**Categories:** [Berries](#) [Flora of Alaska](#) [Native American cuisine](#) [Vaccinium](#)

This page was last modified on 29 October 2012 at 12:20.

# The New International Encyclopædia/Cranberry

< [The New International Encyclopædia](#)

←[Cranach, Lucas \(younger\)](#) [The New International Encyclopædia](#) [Cranberry Diseases](#)→  
Cranberry

Edition of 1905. See also [Cranberry](#) on [Wikipedia](#), and the [disclaimer](#).

**CRANBERRY** (from *crane* + *berry*). A name given to the fruit of a few creeping, vine-like species of the genus *Vaccinium*, family Ericaceæ. The smaller cranberry (*Vaccinium oxycoccus*) grows wild in the peaty bogs and marsh lands of the temperate and colder regions of both Europe and America. The larger cranberry (*Vaccinium macrocarpon*) is native in similar situations in the United States, and is extensively cultivated for commercial purposes in Massachusetts, New Jersey, Wisconsin, and a few other Northern States. The cranberry is a firm, red, acid berry, of good keeping quality, and is used for sauce, tarts, and the like. In the improved commercial culture of cranberries, natural swamps or bogs are selected which can be drained by open ditches and flooded when desired. The native moss and swamp growth are removed, and the peat covered two to four inches deep with sand. The vines are planted about 14 inches apart, cuttings 6 to 8 inches in length being used. The sand keeps down the weeds, makes cultivation easy, and helps retain the moisture in the soil below. Additional sandings are given every four or five years, which keep the vines short and close. In some localities sanding is omitted altogether. The object of flooding is to protect the vines in winter and from early fall and late spring frosts, to destroy insects, prevent drought, and protect against fire. The berries are gathered preferably by hand, but often with special rakes and combs. There are three principal types of cultivated varieties, determined by the form of the berries—bell-shaped, bugle-shaped, and cherry-shaped—with many varieties of each. In 1900, 987,516 bushels of cranberries were marketed in the United States.

The cowberry or mountain cranberry (*Vaccinium vitis-idaea*) is common in both Europe and America, and, like *Vaccinium oxycoccus*, is gathered and sold in considerable quantities, but is not cultivated. The shrub *Viburnum opulus* is known as the high-bush cranberry. The fruit is tart, but is of little value, and is seldom eaten. The Tasmanian cranberry is the fruit of *Astroloma humifusum*, of the natural order Epacridaceæ.



1. COSMOS (*Cosmos tenuifolius*).
2. CRANBERRY (*Vaccinium macrocarpon*).
3. COREOPSIS (*Coreopsis lanceolata*).
4. CORN COCKLE (*Lychnis githago*).
5. COWSLIP (*Primula veris*).
6. SUNN HEMP (*Crotalaria juncea*).

Category: [75%](#)

This page was last modified on 23 October 2012, at 01:13.

## Cookbook:Cranberry

[Cookbook](#) | [Recipes](#) | [Ingredients](#) | [Fruit](#)



harvest in a flooded bog

The **cranberry** is a small sour fruit. It is so sour that most people can't stand to eat fresh cranberries alone. Cranberries contain edible seeds and plenty of air. Cranberry juice has been shown to reduce bladder infections in a nursing home environment. Cranberries are popular as juice, dried fruit, and a [jam](#) or [jelly](#) called [cranberry sauce](#) — all with added [sugar](#) of course. One single growers' cooperative, Ocean Spray, controls 70% of the cranberry crop.

### Selection

Ripe cranberries will bounce if they are in good condition. They should be shiny and plump and range in color from bright light red to dark red. Shriveled berries or those with brown spots should be avoided. Cranberries do not ripen after harvest.

### Storage

Store fresh cranberries in a tightly-sealed plastic bag in the refrigerator. As with all berries, if one starts getting soft and decaying, the others will quickly soften and decay also. Be sure to sort out the soft ones if you plan to store them for more than a few days. Fresh cranberries may last up to 2 months in the refrigerator. Cooked cranberries can last up to a month in a covered container in the refrigerator. Washed cranberries may be frozen for up to 1 year in airtight bags.

### Preparation

No matter what preparation method you choose, cook cranberries only until they pop; overcooking gives them a bitter taste. Since cranberries are almost 90% water, do not thaw frozen cranberries before cooking them. Thawing will cause the fruit to break down, resulting in soft berries. Cranberries may be baked with a [sweetener](#) to make a topping or [sauce](#). They are also good chopped with [oranges](#) to make a relish.

For [baked](#) goods, first slice the cranberries open. Add all [sugar](#) from the recipe, and probably quite a bit more. Let this mixture soak in the refrigerator so that the sugar gets into the cranberries.

More: [Ingredients](#) [Fruits](#)

This page was last modified on 1 May 2007, at 02:56.