

Cranberry Thanksgiving

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Educational Objectives

1. To learn about the history and cultivation of cranberries in North America.
2. To understand the nutritional value of cranberries.
3. To identify health benefits associated with eating cranberries.
4. To promote the use of cranberries in the diet.

Since colonial days, cranberries have been a traditional part of our Thanksgiving feast. In 1971, when the children's book *Cranberry Thanksgiving* was written by Wendie and Harry Devlin, cranberries were still primarily used at Thanksgiving and holidays. The book is a story about a New England grandmother who kept her cranberry bread recipe hidden behind a brick in the fireplace. Until recent years, cranberries were one of our best-kept secrets. Because of their increased popularity, nutrient content, and antioxidant properties, cranberries have become a tasty, nutritious addition to our diet all year long. Cranberries are not just for Thanksgiving anymore!

What are they?

Cranberries are dwarf evergreen shrubs or vines that grow in acidic bogs throughout the Northern Hemisphere. They are related to blueberries and huckleberries.

Cranberries, along with blueberries and Concord grapes, are one of three commercial fruits native to North America. The shrubs bear a berry that is white in the early stages, but turns deep red when fully ripened. The berries are known for their acidic taste.



History

The name, cranberry, comes from "craneberry." Early settlers thought the shape of the flower and stem resembled a crane. Native Americans were the first in North America to use cranberries as a food. They used them to create a kind of trail mix of dried cranberries, dried meat, and fat called "pemmican." Cranberries were also used for healing wounds and as a dye.

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Native Americans called the berries “sassanash.” The berries were most likely introduced to English settlers in Massachusetts who incorporated them into their traditional feasts. Henry Hall, an American Revolutionary War veteran, was the first farmer to raise cranberries as a commercial crop, around 1816. By 1820, cranberries were being shipped to European markets. Cranberries were commonly harvested wild in the Nordic countries and Russia. They are also native to high altitudes in the southern Appalachian Mountains.



Cultivation and harvesting

Cranberry vines are not flooded all year as we often are led to believe. During growing season, they are irrigated to retain soil moisture. They are flooded only during harvest and during winter. During harvest, beds are flooded with 6 to 8 inches of water above the vines. Cranberries have a small pocket of air and will float. Beds are flooded again during winter to prevent freezing. Berries are harvested in September or early October when the fruit is deep red.

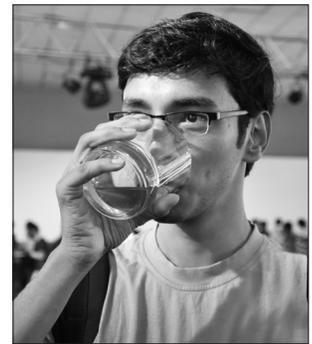
Health benefits

Because of their many health benefits, cranberries have been called the “superberry.” One of the most commonly known health benefits of cranberries is their potential effectiveness in preventing urinary tract infections in women. The first documentation of the use of cranberries for that purpose was in 1923. Medical practitioners at that time

thought that the acidity of the berries made the urine more acid, which killed the bacteria causing the infection.

More recently, a 1994 study done at the Harvard School of Medicine concluded that regular consumption of cranberry juice reduced the bacteria in urinary tracts of elderly women. However, they believed that it was not the acidity alone, but something else specific to cranberries that prevented the bacteria *Escherichia coli* (*E. coli*) from attaching to the walls of the urinary tract. In 1998, scientists at Rutgers University found that cranberries had specific properties called proanthocyanidins that confirmed earlier convictions.

Escherichia coli, the primary bacteria causing urinary tract infections, did not adhere, but was flushed from the tract. Currently, the National Institute of Health is funding further research on cranberry’s effects on heart disease, cancer, stroke, and viral infections.



Phytochemicals, antioxidants, and free radicals

Cranberries are a rich source of antioxidants, called phytochemicals. They are the best source of polyphenols among currently eaten fruits. They are thought to have the following health benefits: strengthening the immune system; warding off scurvy and plaque-causing tooth decay that causes gingivitis; prevention of kidney stones; and prevention of urinary tract infections, particularly in women.

The terms “phytochemicals,” “antioxidants,” and “free radicals” are used to refer to the health benefits of cranberries. These terms are also associated with other fruits and vegetables. The term “phytochemical” simply means “plant chemical,” any chemical or nutrient derived from a plant source. Phytochemicals may promote the functioning of the immune system by acting directly against



bacteria or viruses, by reducing inflammation, and by being associated with prevention of cancer and/or cardiovascular disease.

Antioxidants are chemicals that can protect against damage to cells in the body caused by free radicals. Antioxidants, such as vitamin C, carotenes, and vitamin E, reduce the damage caused by free radicals. How do free radicals and antioxidants work? To produce energy, cells of the body need oxygen, and when the body burns oxygen, free radicals (molecules) are formed. They are oxygen by-products. So, free radicals could be the result of natural metabolism. As the body uses oxygen, the by-product, free radicals, may damage the cells of the body. Free radicals can also come from smoking, pollution, poisons, and fried foods. Therefore, free radicals are associated with the risk of many chronic diseases. The cell damage that may occur may lead to the onset of such health problems as heart disease, cancer, cataracts, and arthritis. Antioxidants can counteract some of the effects of free radicals.

Cranberries are being researched for their effect on cardiovascular disease, anti-inflammatory properties (prevention of atherosclerosis), blood pressure regulating, and anti-cancer causing agent.

Thus far, research has shown that cranberries:

- contain proanthocyanidins that can prevent or help to cure urinary tract infections.
- contain proanthocyanidins, which may prevent plaque from forming on teeth.
- can kill the *H. pylori* bacteria, which can cause ulcers or even stomach cancer. (The juice may help to prevent or to treat ulcers caused by *H. pylori*.)

Researchers are studying:

- the effect of daily consumption of cranberry juice on the levels of HDL (good cholesterol) and LDL (bad cholesterol).
- whether cranberries can prevent the formation or growth of tumors.
- whether chemicals from cranberries can prevent breast cancer cells from multiplying (tests have not been done on women).

Nutrient values

The vitamins that seem to neutralize free radicals are beta carotene, vitamin C, and vitamin E. Antioxidant vitamins convert the free radicals to harmless waste products that are eliminated before they can harm healthy cells. Substantial intake of cranberries does play an important role in fighting infection. Cranberries are high in vitamin C as well as other vitamins and minerals.

One cup of fresh cranberries provides 5 grams of fiber and is:

- high in vitamin C
- low in calories (44)
- low in fat (.06 g)

Nutrients and Calories in Cranberries

Variety of Cranberries (½ cup serving)	Fat (g)	Carbs (g)	Prot (g)	Calories (g)
Whole	0.06	5.80	0.19	22
Craisins (Dried Cranberries)	0.75	45.30	0.04	169
Canned or Cooked Cranberries	0.21	53.88	0.28	209
Unsweetened Cranberry Juice	0.16	15.43	0.49	58
Cranberry Juice Cocktail	0.13	17.10		68
Congeaed Cranberry Salad	6.12	29.70	2.68	173
Cranberry-Orange Relish	0.12	61.08	0.54	235



Using Cranberries

Cranberries are most nutritious and have the most health benefits when used fresh. The heat of cooking destroys vitamin C.



When choosing the form of cranberries to include in your diet, consider the calorie and carbohydrate content.

Activities

- Try a variety of cranberry recipes at club meetings.
- Have a workshop to make cranberry compote for gifts.
- Have a taste test of a variety of cranberry juices and compare nutritional values.
- Read a book to a child about cranberries; then make cranberry bread.

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- PowerPoint presentation is available with this lesson: *Cranberry Thanksgiving*.

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