Superfoods Fact Sheet
Cranberry
(Vaccinium macrocarpon)

Parts used: Berry

These tart little berries are generally too sour to be eaten on their own but make a great addition to all sorts of things, bringing some great health properties with them.

The cranberry has a long history of use both as food and medicine by the indigenous cultures of North America and research attests to its many health-giving properties making this little berry a real power food.

Historic and Traditional Uses

Best known for cranberry sauce, cranberry has traditionally been taken as a tart acidic drink in Sweden.

Native to the United States and in some parts of Europe and Asia, they were always put to use by the local population. Native American enjoyed cranberries cooked and sweetened with honey or maple syrup. Knowledge of these berries was passed to early settlers and by the beginning of the 18th century they were being exported over to England.

They were first cultivated in Britain in 1808 by the English botanist Joseph Banks and in the US in 1840. The US is now the principal grower of cranberries.

The Native Americans used cranberries as a source of red dye, as well as a poultice for wounds, making use of their astringent and anti-bacterial qualities. They were also used for bladder and urinary ailments as well as appetite loss, stomach problems, blood disorders, and scurvy.

Cranberries are used in eastern European cultures to reduce fever and, because of their folkloric role, in the treatment of cancers.

They have also been used long term to prevent the development of calcium carbonate urinary stones.

Health Benefits

Best known for their infection-fighting power and their antioxidant boost cranberries have a wide range of benefits to offer. They not only destroy harmful bacteria but also prevent them from sticking to the walls of various tissues and organs.

Urinary Tract Infections
Cranberry has been used to prevent urinary tract infections for long before researchers started to take an interest. What has been shown is that it is the proanthocyanidin (PAC) content which is the primary benefit here. In cranberries the PACs have
a special structure called type-A linkages, which help to prevent certain types of pathogenic bacteria from adhering to the lining of the urinary tract. This prevents the bacteria from being able to proliferate into a full scale infection.

**Anti-Inflammatory Benefits**

The various phytonutrients in cranberries have shown themselves to be effective in lowering inflammation in the body – particularly for the cardiovascular system, gum health and the digestive tract.

Pro-inflammatory cytokines are messaging molecules to mount an inflammatory response. The phytonutrients in cranberries help reduce the inflammatory cascade at the cytokine level. They inhibit the activity of pro-inflammatory cytokines interleukin 6 (IL-6) and RANTES, and also COX-1 and COX-2 cytokines.

**Heart Health**

Cranberries provide a wide range of cardiovascular benefits. They have been shown to reduce LDL cholesterol oxidation, maintain or help improve HDL levels, reduce platelet aggregation and also improve vascular function, all of which help to ensure better heart and circulatory health. Ongoing research suggest that cranberries may offer a natural defence against atherosclerosis, one of the primary causes of cardiovascular disease.

**Ulcers**

The majority of peptic ulcers are caused by a bacteria – Helicobacter pylori. A constituent of cranberries has been shown to inhibit the adhesion of H. pylori to the mucous lining of the stomach, suggesting that it may be beneficial in preventing stomach ulcers.

**Dental Health**

Plaque, a major factor in periodontal disease, has been shown to not only be inhibited, but reversed, by a component in cranberry juice – NDM or a high-molecular-weight nondialysable material. In addition, a clinical trial using a mouthwash containing cranberry NDM shown a

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significant reduction in levels of Streptococcus mutans, which is responsible for a large percentage of dental cavities.\textsuperscript{6}

**AntiAgeing**
Animal testing has been done to research cranberries and their ability to protect brain cells from free radical damage, which can lead to both cognitive and motor decline. Preliminary evidence, as yet unpublished, suggests excellent results for cranberry protecting the brain from neurological damage.

**Immune Support**
A few studies have been published with regards to cranberry extracts helping to lower the frequency of cold and flu symptoms. \textsuperscript{7}

**Anti-Cancer Benefits**
Like most potent antioxidant fruits, cranberries are being explored for their benefits with regards to cancer prevention. Most of the studies so far are either laboratory or animal-based. There are a variety of mechanisms which have been identified that establish cranberries as an anti-cancer agent: \textsuperscript{8}

- Blocked expression of MMPs (matrix metalloproteinases)
- inhibition of ODC (ornithine decarboxylase enzymes)
- stimulation of QRs (quinone reductase enzymes)
- inhibition of CYP2C9s (Phase 1 detoxification enzymes)
- triggering apoptosis (cell death) in tumour cells.

Ellagic acid, a polyphenol found at good levels in cranberries is also known for its cancer-fighting properties.

**Digestive Health**
There is also growing research to suggest that regular intake of cranberries may help to improve the balance of probiotic bacteria in our gut. Benefits to both immune and digestion function flow from this.

The proanthocyanidins in cranberries are compounds that prevent bacteria adhering to the stomach wall, including *Helicobacter pylori*, a bacteria which is a major risk factor for both stomach cancer and ulcers, and research has shown that taking cranberry juice twice daily can effectively help to eradicate this bacteria.

**Other Benefits**
Toning and astringent cranberries can be used to help alleviate heavy periods, diarrhea, upset stomach, sore throats and laryngitis.


\textsuperscript{7,7} FASEB J 2010;24;326.6 Cranberry phytochemicals modify human immune function and appear to reduce the severity of cold and flu symptoms. Natrz MP, Rose CA, Muller CE et al.

They are also said to be the ultimate food for reversing gall bladder disease, as well as being an extremely effective liver cleanser.

If you suffer from earwax build up, make cranberries a regular part of your diet as they help to dislodge it, and they are also said to help disarm xeno-oestrogens from plastics, pesticides etc which upset hormone balance.

**Nutritional Value**

The major nutrients in cranberries are antioxidant flavonoids and phytonutrients\(^9\) - in fact they have an astonishing array of phytonutrients which have caught the eye of health researchers. They include:

- **Phenolic acids** – including hydroxybenzoic, including vanillic acids, and Hydroxycinnamic including caffeic, coumaric, cinnamic and ferulic
- **Proanthocyanidins** – especially epicatechins
- **Anthocyanins** – cyanidins, malvidins, peonidins
- **Flavonoids** – quercetin, myricetin, kaempferol
- **Triterpenoids** – ursolic acid

These are known for their antioxidant and anti-inflammatory health benefits.

Cranberries are also an excellent source of Vitamin C, fibre, manganese, Vitamin E and Vitamin K as can be seen from the following figures:

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<th>Nutrient</th>
<th>Content</th>
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<tbody>
<tr>
<td>Calcium</td>
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<tr>
<td>Iron</td>
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<tr>
<td>Magnesium</td>
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<tr>
<td>Phosphorus</td>
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<tr>
<td>Potassium</td>
<td>85 mg</td>
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<tr>
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<tr>
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<tr>
<td>Vitamin C</td>
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</tr>
<tr>
<td>B1</td>
<td>0.012 mg</td>
</tr>
<tr>
<td>B2</td>
<td>0.020 mg</td>
</tr>
<tr>
<td>B3</td>
<td>0.101 mg</td>
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<tr>
<td>B6</td>
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<tr>
<td>Folic acid</td>
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<tr>
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<tr>
<td>Vitamin E</td>
<td>1.2 mg</td>
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<tr>
<td>Vitamin K</td>
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</tbody>
</table>

Source: USDA National Nutrient Database

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How To Use

Fresh or frozen cranberries work equally as well, and are a great addition to smoothies as well as cereals or an addition to oatmeal.

The dried berries can be used as a snack and also made into a tea by putting 1 tsp of berries in a pan with 2 cups of water and bringing to a simmer for 10 – 15 minutes before straining and drinking.

They are also excellent as a cranberry sauce or relish to accompany meat or a salad.