

Cherries – A Potent Super Food

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STORY AT-A-GLANCE

- › Sweet cherries are a great source of potassium, which is important for maintaining normal blood pressure, and contain a number of potent anticancer agents
- › Tart cherries have been shown to improve athletic performance, endurance and recovery, reducing post-exercise pain and inflammation. Tart cherries also help relieve and prevent arthritis and gout
- › If you live in a sub-tropical area, growing acerola cherry trees in your backyard can provide you with this potent super food for several months of the year. Relying on commercially-available cherries will limit them to just a few weeks a year

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Cherries are a favorite summer treat with a number of health benefits. Harvest season runs from May through July, and with high susceptibility to disease and a short shelf life, cherry season is a short one. An exception is if you grow your own Barbados or West Indian cherry, more commonly known as the acerola cherry.

I have several acerola trees and harvest cherries nearly nine months of the year. Acerola cherries¹ also are one of the highest sources of vitamin C. Each acerola cherry provides about 80 milligrams (mg) of natural vitamin C with all the other important supporting micronutrients, unlike synthetic vitamin C. When I have a bountiful harvest and eat more than 100 cherries, I get close to 10 grams of vitamin C.

The recommended daily allowance for vitamin C in the U.S. is a mere 75 to 90 mg for women and men respectively, so just one of these cherries can provide you with all the vitamin C you need for the day.

You pretty much have to grow acerola cherries on your own, though, as they cannot withstand transportation and storage. Deterioration can occur within four hours of harvesting and they ferment quickly, rendering them unusable in five days or less. Unless you intend to use them for juicing, they also do not fare well being kept in the freezer. Sadly, they only grow outdoors in subtropical climates like Florida.

Tart Versus Sweet Cherries

Conventional cherries can be divided into two primary categories: sweet and tart (sour). Sweet varieties such as Bing cherries are typically eaten fresh, while Montmorency **tart cherries** are typically sold dried, frozen, canned or as juice.² Tart cherries develop a fuller flavor when they're used in cooking, which is why they're often used in baked desserts. As noted by the Cherry Marketing Institute:³

"When it comes to nutritional science and cherries, most studies involve tart Montmorency cherries. In fact, more than 50 studies have examined the potential health benefits of Montmorency tart cherries, and the research is continuing.

This research strongly supports the anti-inflammatory qualities of Montmorency tart cherries, as well as the benefits of muscle recovery and pain relief from conditions like arthritis. Studies have also found that Montmorency tart cherries contain [m]elatonin, a naturally occurring substance that helps regulate sleep patterns."

One 8-ounce glass of tart cherry juice will give you:⁴

- 11 mg of magnesium
- 13 mg of calcium

- 0.16 mg of manganese
- 161 mg of potassium and 0.042 mg of copper
- 0.42 mg of iron

Sweet cherries are a great source of potassium,⁵ which is important for maintaining normal blood pressure. It plays an important role in your fluid balance, and helps offset the hypertensive effects of sodium. Sweet cherries also contain a number of potent anticancer agents, including:

- **Beta carotene**, which converts into vitamin A (retinol), important for healthy vision as well
- **Vitamin C**, the "grandfather" of the traditional antioxidants, the health benefits of which have been clearly established. It's a powerful antioxidant, which helps neutralize cell-damaging free radicals
- **Anthocyanins, including quercetin** – Sweet cherries have three times the amount of anthocyanins than tart cherries, and those with deep purple pigments (opposed to red) have the highest amounts.

Quercetin is among the most potent in terms of antioxidant activity and has a wide range of other health-promoting properties as well. As a group, anthocyanins have been shown to promote cell cycle arrest and apoptosis of mutated cells, thereby reducing your cancer risk

- **Cyanidin**,⁶ an organic pigment compound with powerful antioxidant activity. By promoting cellular differentiation, it reduces the risk of healthy cells transforming into cancer cells. One study found cyanidin isolated from tart cherries was superior to that of vitamin E and comparable to commercially available antioxidant products⁷
- **Ellagic acid**, this polyphenol "prevents the binding of carcinogens to DNA and strengthens connective tissue," thereby preventing the spread of cancer cells.⁸ It also inhibits DNA mutations and inhibits cancer by triggering apoptosis (cell death) in cancer cells

Tart Cherries – A Natural Endurance-Boosting Super Food

In a study,⁹ Montmorency tart cherries, taken in the form of a juice concentrate, were found to improve athletic performance and recovery among semi-professional soccer players, decreasing post-exercise inflammation and muscle soreness.

Similarly, athletes consuming tart cherry juice prior to long-distance running experienced less pain than those who did not.¹⁰ Other research has confirmed tart cherry juice is a valuable endurance sports drink. As noted by Running Competitor:¹¹

"The best way to accelerate muscle recovery after exercise is to prevent muscle damage from occurring during exercise. And one of the best ways to do [sic]prevent muscle damage during exercise is to consume the right nutrients before exercise. Tart cherry juice does just that. This was demonstrated in a 2010 study published in the Scandinavian Journal of Medicine & Science in Sports.

Twenty recreational runners consumed either cherry juice or placebo for five days before running a marathon, then again on race day, and for two days afterward as well. The lucky runners who got the cherry juice exhibited less muscle damage immediately after the marathon. They also showed lower levels of inflammation and recovered their muscle strength significantly quicker."

Sweet cherries, courtesy of their high vitamin C content, may also stave off exercise-induced asthma, the symptoms of which include cough, wheezing and shortness of breath when exercising. A meta-analysis¹² from Finland found vitamin C may reduce bronchoconstriction caused by exercise by nearly 50%.

Interestingly, another powerful and natural strategy to accelerate muscle recovery is photobiomodulation. I have a 1-foot by 3-foot panel of red (660 nm) and near-infrared (850 nm) LEDs that I use every day for about five minutes.

The bed is a few thousand dollars but you can achieve similar results with a smaller near-infrared device from Amazon.¹³ It just takes longer as it has fewer LEDs. You also

need to remove the plastic lens and put black electrical tape over the green photodiode so it will turn on in the daytime.

On the days that I lift heavy enough to cause muscle challenges serious enough to make it difficult to sit down or use the toilet the next day, I use the light bed for 10 minutes and that is enough to completely abort the post-exercise stiffness and pain. It is an amazing mitochondrial support; every time I use it, I'm surprised that I can avoid the post-exercise pain and stiffness.

Cherries Are Potent Anti-Inflammatories

Tart cherries contain two powerful compounds, anthocyanins and bioflavonoids. Both slow down the enzymes cyclooxygenase-1 and -2, which helps to relieve and prevent arthritis and gout. Gout occurs when the metabolic processes that control the amount of uric acid in your blood fail to do their job effectively.

The stiffness and swelling are a result of excess uric acid-forming crystals in your joints, and the pain associated with this condition is caused by your body's inflammatory response to the crystals. Dr. Nathan Wei, a nationally known rheumatologist, told *Everyday Health*:¹⁴ "Dark berries have a powerful anti-inflammatory effect and the best are cherries." One-half to 1 cup of cherries a day, or cherry juice or supplements will do the trick, he said.

In a study¹⁵ of over 600 people with gout, those who ate a one-half cup serving of cherries per day for two days, or consumed cherry extract, had a 35% lower risk of a subsequent gout attack. Those who ate more cherries, up to three servings in two days, halved their risk. Other studies have found:

- Eating two servings (280 grams) of sweet Bing cherries after an overnight fast led to a 15% reduction in uric acid and lower nitric oxide and C-reactive protein levels (which are associated with inflammatory diseases like gout).¹⁶ The researchers noted the study supports "the reputed anti-gout efficacy of cherries" as well as "evidence that compounds in cherries may inhibit inflammatory pathways"

- Consuming tart cherry juice daily for four weeks may lower your levels of uric acid¹⁷

By reducing inflammation, the anthocyanin and bioflavonoids in cherries may also help reduce:

- **Migraine headaches** – These compounds are actually known to have similar activity to aspirin and ibuprofen
- **Pain from inflammatory osteoarthritis**¹⁸ – According to one study,¹⁹ women with osteoarthritis who drank tart cherry juice twice daily for three weeks had significant reductions in markers of inflammation and a 20% reduction in pain. The researchers noted that tart cherries have the "highest anti-inflammatory content of any food"

How Cherries Support Healthy Sleep

Interestingly, cherries contain natural melatonin,²⁰ a powerful antioxidant and free radical scavenger that helps "cool down" excess inflammation and associated oxidative stress. It also plays a vital role in sleep, cancer prevention and general regeneration. Based on daily environmental signals of light and darkness, your pineal gland has evolved to produce and secrete melatonin to help you sleep.

Research suggests that consuming tart cherry juice increases your melatonin levels, thereby improving time in bed, total sleep time and sleep efficiency. According to the researchers:²¹

"... [C]onsumption of a tart cherry juice concentrate provides an increase in exogenous melatonin that is beneficial in improving sleep duration and quality in healthy men and women and might be of benefit in managing disturbed sleep."

Other Health Benefits of Cherries

Tart and sweet cherries also have a number of other important health benefits. For example, they've been found to:

- **Improve risk factors associated with diabetes and heart disease** — In one animal study, rats fed tart cherry powder along with a high-fat diet gained less weight and accumulated less body fat than rats not fed tart cherries. They also had lower levels of inflammation and triglycerides, suggesting a role in heart health.²²

Quercetin is also known to have a beneficial impact on cardiovascular health by reducing your blood pressure. According to a study investigating the effects of quercetin in hypertension, "The results of this meta-analysis showed a significant effect of quercetin supplementation in the reduction of blood pressure, which suggest that this nutraceutical might be considered as an add-on to antihypertensive therapy"²³

- **Reduce your risk of stroke** — Tart cherries activate peroxisome proliferator activated receptors (PPAR) in tissues, which help regulate genes involved in the metabolism of fat and glucose. PPAR activation has a beneficial effect on blood pressure, cholesterol levels, diabetes, heart disease and stroke.

In fact, research suggests eating cherries may provide heart benefits similar to prescription PPAR agonists,²⁴ drugs prescribed for metabolic syndrome. The problem with these drugs is that while they may improve risk factors associated with heart disease, they may increase your risk of stroke instead.

As reported by Science Daily,²⁵ "... [R]esearch from the U-M Cardioprotection Research Laboratory suggests that tart cherries not only provide similar cardiovascular benefits as the prescribed medications, but can also reduce the risk of stroke, even when taken with these pharmaceutical options"

- **Lower your risk of dementia** — Inflammation and oxidative stress are associated with an increased risk for dementia. The polyphenols in tart cherries effectively combat both, thereby lowering your risk of cognitive decline.

As explained in one study,²⁶ "[P]olyphenols from dark-colored fruits can reduce stress-mediated signaling in BV-2 mouse microglial cells, leading to decreases in nitric oxide (NO) production and inducible nitric oxide synthase (iNOS) expression.

[T]art cherries – which improved cognitive behavior in aged rats ... may be effective in reducing inflammatory and OS-mediated signals"

- **Lower your risk of colon cancer** by substantially reducing formation of heterocyclic aromatic amines (HAAs) when added to hamburger patties. It also slows meat spoilage.²⁷ HAAs are potent carcinogenic compounds created when food is charred, and have been linked to an increased risk of colon cancer. Hamburger patties with just over 11% tart cherries in them contained anywhere from 69% to 78.5% less HAAs after cooking, compared to regular patties

Storage and Washing

To retain the best flavor, consume fresh cherries within two days if kept at room temperature, or store in the refrigerator for longer shelf life. Avoid washing them before storing, as this accelerates deterioration. Instead, wash them immediately before eating.

As mentioned, growing a few cherry trees or bushes²⁸ in your backyard can provide you with this potent super food for several months out of the year. Relying on commercially available cherries will limit them to just a few weeks a year.

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