

## Montmorency Tart Cherries and Cancer

### The Healing Power of Tart Cherries

Ruby-red tart cherries are the healing fruit. Ongoing research shows the power of cherries to relieve the pain of arthritis and gout and lower the risk of cancer, heart disease and other chronic diseases. That's because Montmorency tart cherries are a rich source of antioxidants, including anthocyanins (responsible for the red skin color of the cherries) and melatonin, all of which can help the body destroy free radicals.

The latest research on the health benefits of cherries is summarized in this newsletter.

### Tart Cherry Anthocyanins Inhibit Tumor Development

New studies at Michigan State University (MSU), which were recently published in *Cancer Letters*, suggest that tart cherries may reduce the risk of colon cancer because of the anthocyanins and cyanidin contained in the cherry. Dr. Mauraleedharan Nair and Dr. Leslie Bourquin along with several graduate students worked on experiments that are part of ongoing research on the components of tart cherries.

"Based on previous observations that tart cherries can inhibit the Cox enzymes, we conducted experiments to test the potential of tart cherry anthocyanins to inhibit intestinal tumor development in mice," says Dr. Bourquin, an associate professor in food science at MSU. The laboratory mice can very quickly produce the same type of tumors as humans. Mice consuming the tart cherry anthocyanins had significantly fewer and smaller cecal adenomas (colon tumors) than the mice consuming the control diet. The dosage given to the mice does not translate into a specific amount of cherries for humans. Data from animal studies, like this one, may spur human clinical trials. Meanwhile, consumers may have similar effects by eating cherries and drinking cherry juice.

Dr. Nair, a professor in the department of Horticulture and with the National Food Safety and Toxicology Center at MSU, has been researching the biologically active components of tart cherries and their healthful effects for more than 12 years; it's currently one of the primary areas of his research. "We are looking for a non-toxic compound for the prevention and treatment of cancer. Right now that's an oxymoron, but we will see something useful eventually," Dr. Nair says. He believes that a steady supply of tart cherries can improve the overall quality of life. "Everyone is looking for the best quality of life."

Pain is often a big factor in the quality of life and Dr. Nair thinks that the pain relieving power of tart cherry anthocyanins may have direct applications in cancer. While the research on tart cherry anthocyanins at MSU is ongoing, Dr. Nair also has teamed up with researchers at other universities to study the pain relief of tart cherries (especially as related to cancer). A project at Johns Hopkins University in which Dr. Nair collaborated with Dr. S. Raja studied tart cherry anthocyanins in relation to chronic pain. The research, which was funded by the National Institutes of Health, will be published soon.

The current interest in the health benefits of whole foods, including cherries, will continue, according to Dr. Bourquin. "It will eventually be possible to identify the compounds in dietary ingredients that can reduce chronic disease. We will continue to move in that direction."

### **Diet and Disease**

While research on the health benefits of tart cherries is ongoing, the link between some common life-threatening diseases and diet is strong and well documented. Eating a healthful diet and being physically active can reduce cancer risks, according to the American Cancer Society. Evidence suggests that one-third of the 550,000 cancer deaths in the United States each year are a result of unhealthy diet and lack of physical activity.

The American Institute for Cancer Research recommends a plant-based diet of fruits (including cherries), vegetables, whole grains and legumes. A low-fat diet that includes at least five servings of fruits and vegetables daily can decrease the overall incidence of cancer by 20 percent, according to the Institute.

The case is even stronger with colorectal cancer, for which the main causes are believed to be diet and related factors. Research suggests that up to 50 percent of the colorectal cancers could be prevented by diets high in fruits and vegetables and low in fat.