

## Brazilian berry destroys cancer cells in lab, UF study shows

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GAINESVILLE, Fla. — A Brazilian berry popular in health food contains antioxidants that destroyed cultured human cancer cells in a recent University of Florida study, one of the first to investigate the fruit's purported benefits.

Published today in the Journal of Agricultural and Food Chemistry, the study showed extracts from acai (ah-SAH'-ee) berries triggered a self-destruct response in up to 86 percent of leukemia cells tested, said Stephen Talcott, an assistant professor with UF's Institute of Food and Agricultural Sciences.

"Acai berries are already considered one of the richest fruit sources of antioxidants," Talcott said. "This study was an important step toward learning what people may gain from using beverages, dietary supplements or other products made with the berries."

He cautioned that the study, funded by UF sources, was not intended to show whether compounds found in acai berries could prevent leukemia in people.

"This was only a cell-culture model and we don't want to give anyone false hope," Talcott said. "We are encouraged by the findings, however. Compounds that show good activity against cancer cells in a model system are most likely to have beneficial effects in our bodies."

Other fruits, including grapes, guavas and mangoes, contain antioxidants shown to kill cancer cells in similar studies, he said. Experts are uncertain how much effect antioxidants have on cancer cells in the human body, because factors such as nutrient absorption, metabolism and the influence of other biochemical processes may influence the antioxidants' chemical activity.

Another UF study, slated to conclude in 2006, will investigate the effects of acai's antioxidants on healthy human subjects, Talcott said. The study will determine how well the compounds are absorbed into the blood, and how they may affect blood pressure, cholesterol levels and related health indicators. So far, only fundamental research has been done on acai berries, which contain at least 50 to 75 as-yet unidentified compounds.

"One reason so little is known about acai berries is that they're perishable and are traditionally used immediately after picking," he said. "Products made with processed acai berries have only been available for about five years, so researchers in many parts of the world have had little or no opportunity to study them."

Talcott said UF is one of the first institutions outside Brazil with personnel studying acai berries. Besides Talcott, UF's acai research team includes Susan Percival, a professor with the food science and human nutrition department, David Del Pozo-Insfran, a

doctoral student with the department and Susanne Mertens-Talcott, a postdoctoral associate with the pharmaceuticals department of UF's College of Pharmacy.

Acai berries are produced by a palm tree known scientifically as *Euterpe oleracea*, common in floodplain areas of the Amazon River, Talcott said. When ripe, the berries are dark purple and about the size of a blueberry. They contain a thin layer of edible pulp surrounding a large seed.

Historically, Brazilians have used acai berries to treat digestive disorders and skin conditions, he said. Current marketing efforts by retail merchants and Internet businesses suggest acai products can help consumers lose weight, lower cholesterol and gain energy.

"A lot of claims are being made, but most of them haven't been tested scientifically," Talcott said. "We are just beginning to understand the complexity of the acai berry and its health-promoting effects."

In the current UF study, six different chemical extracts were made from acai fruit pulp, and each extract was prepared in seven concentrations.

Four of the extracts were shown to kill significant numbers of leukemia cells when applied for 24 hours. Depending on the extract and concentration, anywhere from about 35 percent to 86 percent of the cells died.

The UF study demonstrates that research on foods not commonly consumed in the United States is important, because it may lead to unexpected discoveries, said Joshua Bomser, an assistant professor of molecular nutrition and functional foods at The Ohio State University in Columbus, Ohio.

But familiar produce items have plenty of health-giving qualities, he said.

"Increased consumption of fruits and vegetables is associated with decreased risk for many diseases, including heart disease and cancer," said Bomser, who researches the effects of diet on chronic diseases. "Getting at least five servings a day of these items is still a good recommendation for promoting optimal health."

## **Credits**

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