

UF study of Acai berries shows

Brazilian berry destroys cancer cells in lab; UF study shows Filed under Research, Health, Sciences, and Agriculture on Thursday, January 12, 2006.

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."

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." 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."

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. "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.

The History of the Acai Berry

By Todd Levering

The acai (ah-sigh-ee) berry has been around for thousands of years and not until the 1990s was it introduced to the western world. The acai berry was found to possess tremendous health properties. The acai berry was first used by the tribes of the Amazon jungle as a cure for various ailments. It is estimated that the indigenous tribes people routinely use up to 2,000 of the 3,000 known rainforest fruits for medicinal purposes.

The Amazon borders eight different countries and has the largest river basin in the world. Not only does the Amazon supply one fifth of the world's freshwater, it has the highest diversity of birds and freshwater fish. The Amazon is the largest rainforest in the world where one third of all animal and plant species live. The acai berry is just one of these fruits that has been discovered in this vast region. The Shuar tribes are one of these Amazonian tribes that have for centuries, through tradition, kept the use of plants (acai berry) for medicinal purposes.

Shuar medicine men or women are called uwishin (oo-wee-sheen) a healer that works with medicinal plants, somebody who knows all the secrets of the rainforests. Uwishin, have a great deal of knowledge of medicinal plants and their cures, they learn from others, and through experiments from the plants themselves. One plant removes snakes venom from the body. It is the work of the uwishin to research and find solutions to illness.

The acai berry was discovered to have natural antioxidant properties, as well as being a natural cholesterol controller. When eaten it helps reduce the bad cholesterol in our blood and increases the good cholesterol. The tribes of the Amazon knew of these properties and found out that it helped build the immune system, fight infection, protect the heart, and control prostate enlargement (nature's viagra). It was a great energy food for the tribes-people. The acai berry, which is a palm fruit, was traditionally pulped to make wine that was rich in minerals. The acai berry was also discovered to fight schistosomiasis, which is transmitted by snails. Schistosomiasis affecting more than 10 million Brazilians. The acai berry is also used to produce an antibiotic that helps to fight against *Staphylococcus aureus*, a common infection contracted mainly in hospitals. A berry so useful but only known to the traditional tribes men and women of the Amazon, (a lost secret).

The acai berry comes from a palm that has a long thin trunk up to 25m high with a group of branches at the top from which hangs ribbon-like leaves. Acai berries hang from these branches in clusters that look like groups of bluebottles. Traditionally the acai berries would be picked by hand and the tribes men would shimmy up the tree and cut the branches from the top of the palm tree rich in acai berries. Now that the acai berry has been discovered as a highly sought after crop by the population of Brazil it is mass produced, as it only has a 24-hour life span in which the properties of the juice are still active. The acai berries must be loaded into baskets and onto boats

over

soon after picking. To get it to the markets in Belems they would have to transport the acai berries over night.

Each acai palm tree produces about 20 kg of fruit per year and the wine produced by this fruit has become the most important product in terms of finance after wood forest products. Belem in Brazil now employs over 30,000 people on a daily basis to keep up with the enormous demand.

So now we know where it comes from, what about its recent history? After being introduced into the western world it was realised by the modern beach going Brazilian surfer as a natural way to regain energy. The acai berry was pulped and frozen to keep it fresh it became a natural additive to the smoothies drunk along the beaches of Brazil. It was known to help your prostate and was seen as a natural viagra for the boys of the beach. It soon became a drink for the trendy, for the sand and surf brigade.

The researches soon had a hold of this magic acai berry and realized that it would be of great importance in the well-being and health of the western world, because our diets are often over-filled with fat and fast food, acai is naturally full with energy, it has a vibrant taste of berries with a hint of chocolate, is rich in proteins, fibre, vitamin E, minerals and essential Omega oils to reduce our bad cholesterol that is caused by our western diets. The acai berries fatty acid ratio resembles that of olive oil this is thought to be a contributing factor to low incidence of heart disease in Mediterranean populations. The acai berry contains similar properties as red wine in controlling fats in the blood and is a fair contributor to go up against the wine diets of the Mediterranean people.

Known as the miracle fruit, acai berries also helps in preventing cancer due to its antioxidant properties that are five times more potent than ginkgo biloba, a commonly used herbal therapy product.

Acai berry juice has been introduced into other products like bars and health snacks sold at gyms and health spas. Its history is important and by studying the effects that the berry has had on the tribesmen in the Amazon, we have discovered that its traditional use as an energy booster for hunting and good libido has lead to acai berry juice being a very commercially viable product.

Its most recent history is that it has been endorsed by such talk show hosts as Oprah Winfrey has been seen as a feature on her show, a berry with star success. So lets say good bye to guranum and hello to the acai berry.

Could “Acai” Be The Amazon Rain Forest Health Miracle?

It has recently been featured on TV on “Oprah Winfrey”, NBC’s “The Today Show” also it’s been featured in such media outlets as The Wall Street Journal, Vogue, Men’s Health Journal, The Washington Post, Sports Illustrated For Women, Time Magazine, and The New York Times.

The following are just some of the reported benefits of taking Acai. Results vary from person to person. The benefits listed below were reported after using Acai anywhere from the same day to several weeks of using Acai:

- ❖ Greater energy/stamina.
- ❖ Acai can boost the immune system.
- ❖ Improved digestion.
- ❖ Improved Mental Focus.
- ❖ Better sleep.
- ❖ Acai has more proteins than an average egg.
- ❖ Acai has a high amount of lipids that can give you a tremendous energy boost.
- ❖ Acai has essential minerals such as iron, potassium, phosphorus and calcium. Acai has all natural Vitamin B1 (Thiamin) Vitamin B2 (Riboflavin), Vitamin B3 (Niacin), Vitamin C, Vitamin E (tocopherol).
- ❖ Acai has shown to have up to 33 times the Anthocyanin (a powerful Anti-Oxidant) than red wine grapes.
- ❖ Acai has high levels of fibers that are good for the elderly and for older people who have problems with digestive organs.
- ❖ Acai has two essential fatty acids known as Omega 6 (Linoleic acid) and Omega 9 (Oleic acid). Research shows that these fatty acids maintain normal cholesterol levels.
- ❖ Research has also shown that these Anti-Oxidants help regulate normal cholesterol levels.
- ❖ Acai is considered one of the richest nutritive fruits from the Amazon in the world.
- ❖ An almost perfect essential amino acid complex in conjunction with valuable trace minerals, vital to proper muscle contractions and regeneration. Very low sugar content for a fruit.
- ❖ Acai can help cleanse and detoxify your body.

Reported Medicinal Applications of Acai

- ❖ Improves energy levels.
- ❖ Possesses anti-aging properties.
- ❖ Helps fight in the treatment and prevention of Alzheimer's disease.
- ❖ Helps Strengthen the Immune System.
- ❖ Exhibits anti-stress properties.
- ❖ Helps in the fight against Cancer.
- ❖ Helps in the prevention of Arteriosclerosis.
- ❖ Improves Lipoprotein metabolism.
- ❖ Helps with the prevention of blood clots.
- ❖ Helps improve circulation.
- ❖ Helps promote overall vascular health.
- ❖ Possesses anti-viral properties.
- ❖ Exhibits anti-allergic properties
- ❖ Helps lower "Bad" Cholesterol (LDL) while maintaining "Good" Cholesterol (HDL).
- ❖ Helps promote prostate health.
- ❖ Helps with sexual dysfunction.
- ❖ Possesses antibacterial properties.

**** IMPORTANT:** Dietary supplements are not to be used to prevent, treat, or cure any disease. The statements and information on this page have not been evaluated by the Food and Drug Administration and are for informational purposes only. Any information provided on this page is also not a substitute for the advice of a licensed medical practitioner, nor is any information included on this page intended to diagnose, treat, or cure any disease. Individuals are advised not to self-medicate in the presence of significant illness. Ingredients in supplements are not drugs.

**** CAUTION:** Always consult a health care professional before taking any dietary supplement.

Acai Berry Making for a Healthy Heart

Acai is a new fruit from Brazil that offers vital nutritional benefits for people over 40 years of age. The Acai contains 33 times the cholesterol fighting anthocyanin than a glass of red wine, a Daily Value (DVS) of calcium, twice the DVS as the antioxidant Vitamin E and a substantial amount of dietary fiber.

Cardiovascular Maintenance Anthocyanins are cholesterol regulating compounds with well researched data indicating their value in cardiovascular support - elevated blood cholesterol is one of the major modifiable risk factors for coronary heart disease and the leading cause of death in the U.S. The fact is that 490,000 Americans die of Coronary Heart Diseases each year with a cost of over \$60 billion annually in medical expenses and lost productivity. Therefore, regulating and reducing cholesterol through dietary means can contribute to prolonging life and reducing medical expenses.

Low cholesterol foods and exercise are only a part of the natural program to prevent and mitigate cardiovascular diseases. The consumption of foods rich in compounds that reduce cholesterol, reduce blood pressure and carry antioxidant protection completes the program. Acai is an excellent example of such a functional food that is now accessible to food, beverage and supplement markets in an economical and convenient form.

Calcium rich Acai may also provide other health benefits. According to a research summary studying the maintenance of skeletal strength and reducing the impact of osteoporosis, studies have shown that people who suffer from high blood pressure often also have diets low in calcium. When calcium is added to their diet, blood pressure can drop. Some research also suggests that calcium may help reduce LDL cholesterol levels and can lower the risk of stroke. Diets rich in calcium have also been linked to reduced occurrences of colon and breast cancer in various laboratory studies.

The generous amount of Vitamin E in Acai, twice the D.V., (Daily Value), is essential for regeneration of damaged tissue and as a protective antioxidant. Cancer prevention and Intestinal function: "Acai" high fiber content is very favorable to the consumers' proper intestinal function, " reports Dr. Herve Rogez, "Fiber accelerates the intestinal processes and has a very important role in avoiding colon cancer, The D.V. is 35g of fibers/adult a day, Acai consumers can reach this dose very easily."

Acai Berry and its "Hidden Secrets"

Polyphenols, Phytochemicals, Anthocyanins, what are they and what are the benefits of such compounds? Phytochemicals characterize, or sum up the whole picture of the beneficial compounds found in fruits, vegetables, and certain teas. They are the protective living matter in which plants are able to thrive in some uncertain environments such as climate and insect infestations. When consumed by humans, these compounds act as antioxidants so vital to good health and longevity. Many studies suggest that the use of antioxidants may help in the fight against anti-aging, cardiovascular disease, cancer, and so many other age-related degenerative diseases including ophthalmology.

Anthocyanins are some of the more potent forms of antioxidants. We have all heard of the "French Paradox", how the people of France with their high fat diets and not uncommon unhealthy lifestyles are still below the percentage of related deaths from cardiovascular disease than many of the populations which exist today.

One reason may be that they consume large amounts of red wine. Wine, made from grapes have very high levels of the antioxidant anthocyanins. The polyphenols (anthocyanins) in red wine, are believed to mitigate the effects of a fatty diet and smoking. Anthocyanin, a polyphenol which is proven to reverse, halt, and improve the conditions of many age related diseases inflicted on the general population. Anthocyanins (flavonoids) found in various fruits have a unique chemical structure that makes them 6 to 8 times more potent than vitamin C.

One particular fruit, known as Acai (ah-Sa-E) contains the most highly concentrated forms of anthocyanins known thus far through intense research. The anthocyanin content in the Acai is proven to be 3.5 times the amount of that present in a glass of red wine, volume to volume when tested in an ORAL analysis (measure of capacity). Anthocyanins and their protective properties: Inflammation and Collagen: Anthocyanins neutralize enzymes that destroy connective tissue. Their antioxidant capacity prevents oxidants from damaging connective tissues and repair damaged proteins in the blood-vessel walls.

The Nervous System: By preventing tyrosine nitration, the anthocyanin properties in Acai may help protect against neurological diseases. The primary anthocyanins in Acai known as Cyanidin-3-glucoside have been found to help in the reversal of age related neurological deficits. Large and Small Blood-Vessels: Anthocyanins ability to counter oxidants make them a powerhouse in the fight against arteriosclerosis. Even in trace amounts, anthocyanins effectively protect against LDL oxidation. Anthocyanins protect the integrity of the endothelial cells that line blood vessel walls and help to maintain micro capillary integrity.

Diabetes: One of the serious diabetic complications is retinopathy, which in most cases can cause blindness. This condition occurs when the body attempts to repair leaking, damaged capillaries, but does so by over producing abnormal proteins. The protection of anthocyanins may help prevent these capillaries from leaking and to help prevent abnormal protein proliferation.

Eyesight: Anthocyanins may also help improve eyesight by numerous mechanisms. In the Second World War, British fighter pilots were found to have improved night vision. These findings were thought to be contributed by the large amounts of bilberry in the pilot's diet. The effects of the improved night vision were not long lasting after the initial consumption of bilberry lasting just hours after initial consumption. With this new found advantage, the pilots would consume the bilberry fruits just prior to the mission.

Sources: Pigmentated fruits are known to carry the highest amounts of anthocyanins. Fruits that can be eaten with skin on, offer the highest value of anthocyanins. These fruits would consist of cherries, grapes, raspberries, blueberries, bilberry, and Acai to name a few.