

Breaking News on Food & Beverage Development - North America

Previous page : [Açaí berries top the antioxidant rankings, says study](#)

Açaí berries top the antioxidant rankings, says study

By Stephen Daniells

11/8/2006- **The Amazonian palm berry, also known as açaí, has the highest ORAC antioxidant values of any food, says a new study, but the researchers suggest that such values are dependent on the drying technique and not applicable to other commercially available açaí products.**

The new research, published as two articles in the *Journal of Agricultural and Food Chemistry* (doi: 10.1021/jf0609779, 10.1021/jf060976g), looked at the antioxidant activity of a freeze-dried açaí fruit pulp/skin powder (OptiAcai), measured by the oxygen radical absorbance capacity (ORAC).

Lead researcher, Alex Schauss from AIBMR Life Sciences, a nutraceutical products consulting company, told NutraIngredients.com: *"What mystifies me is that the açaí products we tested in the commercial marketplace had a fraction of the antioxidant activity reported in our paper for OptiAcai."*

"You will note that in our paper we report that the highest Total ORAC we found was 155 for any freeze dried sample, compared to the 1026.9 for OptiAcai. USDA and Brunswick Laboratories confirmed the unusually high ORAC," he said.

Açaí berries (pronounced ah-sigh-ee) have long formed part of the staple diet of Indian tribes. With the appearance of a purple grape and taste of a tropical berry, it has been shown to have powerful antioxidant properties thanks to a high level of anthocyanins, pigments that are also present in red wine.

It is presently being sold in New Zealand, Australia, South America, Japan, USA, and the Middle East.

Schauss and his co-workers, which included researchers from the US Department of Agriculture, the University of Arkansas, Brunswick Laboratories, the National University of Singapore, the University of California, NIS Labs, and Bangalore-based Natural Remedies, calculated the total ORAC value (1027) by combining the hydrophilic (997) and lipophilic (30) ORAC measurements.

Measurements of superoxide scavenging activity (SOD) and hydroxyl radical averting capacity (HORAC) were also found to be high. The SOD value (1614 units per gram) was said to be the *"highest of any fruit and vegetable tested to date,"* while the HORAC value (52 micromoles of gallic acid equivalents per gram) is said to be similar to that of grapes but lower than that of dark-coloured berries.

"Personally, I am intrigued not only by its extraordinarily high peroxy scavenging activity, the

highest of any food by far reported, but by its unusually high superoxide scavenging activity in vitro because as we go from molecular oxygen to superoxide to hydrogen peroxide we can create the most damaging of all [reactive oxygen species] ROS's, the hydroxyl radical," Dr. Schauss told this website.

"If OptiAcai can be shown in vivo to significantly inhibit excessive hydroxyl radical formation, the implications for the prevention of diseases involving ROS, in addition to its benefit in slowing the rate of age related markers, could be profound," he said.

The researchers also tested the inhibition of reactive oxygen species in freshly purified human neutrophils, the most common type of white blood cells.

"This data indicates that the active antioxidant compounds in the freeze-dried açai are able to enter human cells in a fully functional form and perform oxygen quenching at extremely low doses," they wrote.

While the results for this freeze-dried açai are impressive, they are not applicable to all açai, said Schauss.

"We believe there are many reasons for the lower ORAC values of various açai's that have been the market for some time. First, freeze-drying is superior to spray drying or air drying in retaining phytochemicals and nutrients, but more expensive," he said.

"We believe that other suppliers have not considered the issue of enzymatic degradation of the fruit. We systematically studied this issue years ago to determine when to process the fruit into a powder. This was all done in Brazil.

"Much of what is being shipped out of Brazil comes to the USA or Europe in container sized frozen blocks. This does not prevent the continuous degradation of the polyphenolics. Hence, this would explain why we obtained such low Total ORAC units for frozen açai samples," said Schauss.

Further testing is needed, wrote the researchers, particularly in terms of safety and efficacy *in vivo*. However, Schauss told NutraIngredients.com that this testing is already in progress, with much already completed.

"We have already completed mitogenicity, mutagenicity (including both the bacterial reverse mutagenicity assay and the mammalian mouse mutagenicity assay), shelf-life stability, inoculated microbiological, and toxicology studies of OptiAcai," he said.

"Our data on its safety is being prepared for publication."

Dr. Schauss also confirmed that many additional studies are also being carried out in labs around the world.

"Numerous researchers have contacted us for samples since our first disclosure of OptiAcai's unusually high ORAC and superoxide scavenging capacity. We expect their findings will be published in various journals in the future," he said.

In Europe the increased popularity of exotic fruit contributed significantly to a growth rate of 26 per

cent for the European organic food industry between 2001 and 2004, according to market analyst Datamonitor, and the US market looks to be following suit.

Copyright - Unless otherwise stated all contents of this web site are © 2000/2006 – Decision News Media SAS – All Rights Reserved. For permission to reproduce any contents of this web site, please email our Syndication department: [contact our Syndication department](#). Full details for the use of materials on this site can be found in the [Terms & Conditions](#).

[contact the editor](#)

[Print](#)