

# FAV HEALTH 2009

OCTOBER 18/21 - AVIGNON - FRANCE

3rd International Symposium on Human Health Effects of Fruits and Vegetables

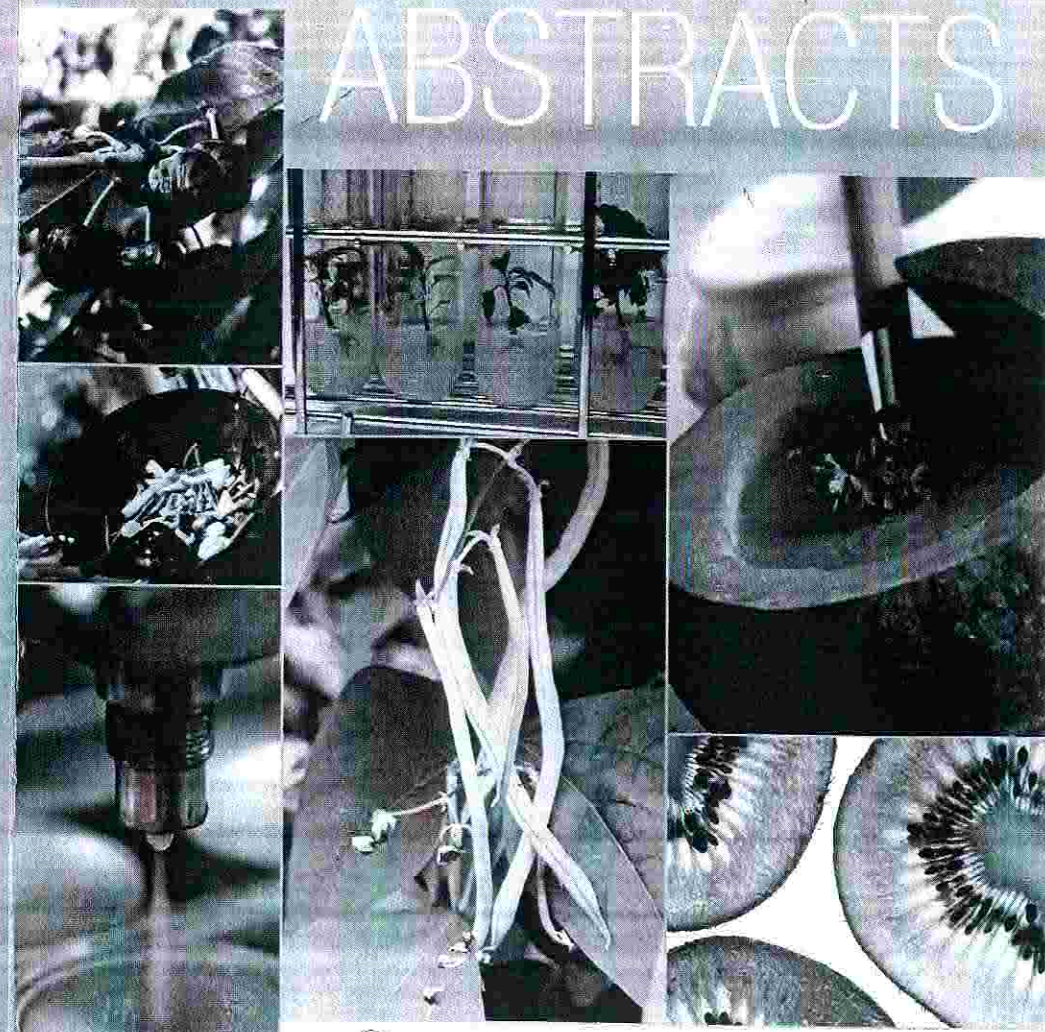
Abstracts book

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# ABSTRACTS



FAV Health 2009 - Avignon





**P3-35 Quality Bioactive Compounds and Antioxidant Activity of Homemade Açai and Bacaba Smoothies sampled at marketplace in Amapá, Brazil.**

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The açai (*Euterpe oleracea* MART.) and the bacaba (*Oenocarpus bacaba* MART.) are abundant palm trees native to the Amazon Basin. They are commonly used in the preparation of a homemade fruit smoothie (pulp and water) - especially açai, which is also a staple food in the region and increasingly well-known on the external market. However, little has been published so far on the outstanding nutritional value of these fruits. The objective of this study was to evaluate the quality and total antioxidant activity of homemade fruit smoothies prepared with açai and bacaba. Samples were acquired from a local marketplace in Macapá (Amapá) and shipped frozen by plane to the Laboratory of Postharvest Biology and Technology of the Federal University of Paraíba (Areia, Paraíba) for evaluation of soluble solids (SS), titratable acidity (TA), SS/AT, pH, total anthocyanins, vitamin C, total extractable polyphenols (TEP) and total antioxidant activity (TAA) using fresh matter and the  $\beta$ -carotene/linolenic acid method. Tests were performed with three repetitions and the results were expressed as average  $\pm$  standard deviation. The drinks differed significantly with regard to three quality parameters: °Brix (2.60 vs. 4.07%), total anthocyanins (4.69 vs. 91.87mg/100g) and TEP (33.25 vs. 135.85mg/100g). As for TAA, the açai and bacaba drinks offered, respectively, 86.05 and 77.63% protection (0.5mL aliquot) and 79.44 and 67.75% protection (0.3mL aliquot). The açai drink contained high concentrations of anthocyanins and TEP associated with TAA and may be considered a rich source of natural antioxidants.

*Acknowledgments:* CNPq, CAPES and UE (INCO-DC 00152279) for financial support.

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**P3-36 Production of a Phenolic Antioxidant Enriched Cranberry Juice by an Electrochemical Process.**

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The fruit of American cranberry is known for its benefits on human health and its nutraceutical potential. The enrichment of cranberry products with functional phytochemicals may improve their functionality for enhancing health benefits but this enrichment may be difficult due to the commercial rarity and difficulty of purification of the anthocyanins and of other phytochemicals from natural sources. The aim of this work was to evaluate the feasibility of the production of a cranberry juice enriched with natural phenolic antioxidant compounds using an ultrafiltration (UF) membrane stacked in an electro dialysis (ED) cell. The EDUF treatments were performed in batch process using a constant voltage difference of 30 V. The duration of the treatments was 4 h and three replicates of each treatment were performed. Total concentrations of proanthocyanidins and anthocyanins increased of 34.8% and 52.9% respectively in cranberry juice treated with EDUF system. Moreover, a 18% increased of the antioxidant capacity of the enriched cranberry juice was obtained by the EDUF treatments. The EDUF process could be directly integrated to the bottling process of cranberry juice to produce, in a first circuit, antioxidant enriched-cranberry juices in batch process (circuit 1) and, in a second circuit, a cranberry juice with very low variation in antioxidant content in a continuous process (circuit 2). In fact, the residence time of raw cranberry juice in the anode side of ultrafiltration compartment of the EDUF cell (circuit 2) allows the migration of a restricted quantity of proanthocyanidin and anthocyanin. In addition, due to the volume of raw cranberry juice treated, the increase in these compounds of juice recirculating in circuit 1 would effectively produce an antioxidant enriched-cranberry juice.