

Institutions

Execution

Embrapa Food Technology

Partners

Embrapa Eastern Amazon

Federal Rural University of Amazon

Federal Rural University of Rio de Janeiro

Federal University of Rio de Janeiro

Team

Virgínia Martins da Matta

Lourdes Maria Corrêa Cabral

Rosires Deliza

Flavia dos Santos Gomes

Luiz Fernando Menezes da Silva

Sergio Macedo Pontes

Rafaella de Andrade Mattietto

Suely Pereira Freitas

Carmen Marino Donangelo

Cristina Maria Araujo Dib Taxi

Informations

Embrapa Food Technology

Av. das Américas 29501, Guaratiba

23020-470 Rio de Janeiro, RJ. Brazil

Tel: (55 21) 3622-9600

Fax: (55 21) 3622-9713

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Ministry of
Agriculture, Livestock
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Embrapa
Food Technology



New products from camu-camu and açai



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Açaí and Camu-camu

Açaí and camu-camu are amazonian fruits that have aroused great interest all over the world due to their composition.

These fruits contain vitamins and phenolic compounds that are responsible for their antioxidant activity, to which is attributed a potential effect in the prevention of non-transmissible diseases.

The development of new products from açaí and camu-camu will contribute to the supply of healthier and more nutritional foods, as well as to the improvement of the agroindustrial chain of amazonian fruits.

Microfiltration is a promising alternative for fruit processing as it is conducted at room temperature, permitting the preservation of heat sensitive compounds.

In such process the components of a mixture is separated through a semi-permeable membrane (Fig. 1) obtaining two fractions, retentate, which does not cross the membrane, and permeate. For juices, permeate is the clarified juice.



Fig. 1. Scheme of microfiltration process

Açaí

From microfiltration of açaí pulp two products were developed, açaí clarified juice (Fig.2) and a formulated mixed drink based on the retentate fraction (Fig.3).



Fig. 2. Açaí juice clarified by microfiltration.

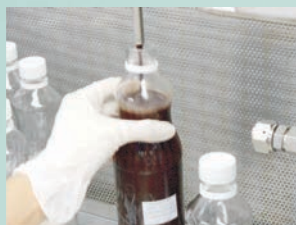


Fig.3. Açaí mixed drink from açaí microfiltration retentate

Camu-camu

From camu-camu, it was also obtained a clarified juice (Fig. 4).



Fig. 4. Camu-camu juice clarified by microfiltration

Processes description

The process for obtaining the clarified juices consisted of pulp centrifugation (açaí or camu-camu) in basket centrifuge, followed by microfiltration in ceramic membranes and filling. For the açaí mixed drink, formulation was carried out using the retentate fraction, added of banana, guaraná syrup and water, followed of pasteurization, filling and cold storage.

Products characteristics

Clarified camu-camu juice presented pH of 2.9 and 5.0°Brix, besides of a vitamin C content of 1200 mg/100g, which contributed to its high antioxidant activity, of 115 $\mu\text{mol Trolox/g}$.

Açaí does not contain a significant content of vitamin C and neither its clarified juice. On the other side, açaí clarified juice presents relevant contents of phenolic compounds (178 mg/100g), among them the anthocyanins (19 mg/100g). Its antioxidant activity, of 13 $\mu\text{mol Trolox/g}$, is probably due to this composition on phenolics.

The soluble solids contents of the açaí mixed drink was 11°Brix, as function of guaraná syrup that has conferred its sweet flavor, preferred among a considerable part of Brazilian population. Anthocyanins content was 4 mg/100g and phenolic compounds, 216 mg/100g, contributing to its antioxidant activity, of 14 $\mu\text{mol Trolox/g}$.

Microfiltration technology for açaí and camu-camu processing possibilities to obtain differentiated products, which present important properties related to their composition in bioactive compounds, besides using both process fractions, which means reduction in organic residues generation and adding value to raw materials.