

CONCENTRATION OF ANTHOCYANINS FROM JUSSARA PULP BY COUPLING MICROFILTRATION AND NANOFILTRATION PROCESSES

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Jussara palm (*Euterpe edulis*) is a native plant from the Atlantic rainy forest, with large economic interest, being widely used for the palm extraction. Its fruits are similar to those of açai palm (*Euterpe oleracea* Mart.) from Amazon region. Both fruits have high level of anthocyanins and therefore high antioxidant capacity. The valuation of jussara pulp has a great ecological importance because it can help to preserve the remaining species of the Atlantic forest. This study aimed to obtain a concentrate rich in anthocyanins from the jussara pulp by coupling microfiltration and nanofiltration processes. The frozen pulp was supplied by Cyano Food Industry Ltd., located at Rio de Janeiro, Brazil. The pulp was previously clarified by using ceramic microfiltration membranes up to a volumetric reduction factor (VRF) of 3.0. The permeate fraction was then subjected to nanofiltration in a pilot system with total permeation area of 0.144 m² using a polymeric membrane NF90 (Dow / FILMTEC) at 20 bar and 35°C, achieving VRF of 4.5. The characterization of the jussara pulp showed high levels of anthocyanins and phenolic compounds and high antioxidant capacity. The concentration of total anthocyanins increased from 363 to 1110 mg/100gms, from the clarified juice to the juice concentrated by nanofiltration. The same behavior was observed regarding antioxidant capacity, which increased from 29 to 66 mmol TEAC/gms. It was possible to obtain a concentrate rich in anthocyanins by coupling microfiltration and nanofiltration, resulting in a clear, translucent and bioactive compounds rich product.

Keywords: jussara pulp, bioactive compounds, membrane processes.