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EVALUATION OF NATURAL PIGMENTS EXTRACTED FROM JARACATIÁ (Jacaratia spinosa) PEEL USING INFRARED SPECTROSCOPY

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Jaracatiá (*Jacaratia spinosa*) is an unconventional food plant (panc), popularly called *mamoeiro-bravo* or *mamãozinho*, it is native fron the Atlantic Forest and found in regions of Brazil, Argentina, and Paraguay. It belongs to the Caricaceae family and can be used in the food industry, especially as a source of natural dyes. In recent decades, there has been a great scientific interest in this panc, which was widely used by the rural population of southern Brazil, by its fruit and branches. This work aimed to extract and characterize natural pigments from the peels of ripe fruits of *J. spinosa* by Fourier-transform infrared spectroscopy (FTIR). The fruits were collected in different locations in the province of Misiones, Argentina. Extractions were performed with ethanol-water in a 70:30 ratio, and six samples of different genotypes were evaluated. The obtained extracts, with yellow coloration, were analyzed by FTIR to identify functional groups related to bioactive compounds, possibly carotenoids and flavonoids present in the jaracatiá peel. Two samples were selected: sample 6 (highest pigment yield) and sample 8 (most intense yellow color), whose spectra showed absorptions in the region of 2,900 to 2,800 cm^{-1}, which correspond to symmetric and asymmetric vibrations of C-H groups, methyl and methylene, attributed to carotenoids (yellow dyes). The absorption at wavelengths of 1,717 cm^{-1} can be related to the carbonyl group of a cyclic ketone, which, associated with the bands observed at 3,600 to 3,000 cm^{-1} representing OH groups (water, alcohol, and phenol), may indicate the presence of flavonoids such as flavones and flavonols. Thus, through FTIR analyses, it could be inferred that the jaracatiá peel contains phenolic pigments with antioxidant potential. The applied methodology allows rapid and efficient characterization of natural dyes, reinforcing the value of jaracatiá as a functional and promising resource for applications in food industry, and also representing a key tool for future analyses aimed at characterizing the fruit pulp.

Keywords: natural dyes, FTIR, flavonoids, carotenoids.