

APPLICATION OF POWDERED JUÇARA PULP AS A NATURAL COLORANT IN ICE CREAM AND ITS SENSORY AND FUNCTIONAL POTENTIAL EVALUATION

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Summary: Juçara pulp is an alternative for obtaining natural ingredients for the food industry, adding value to the product and health to the consumers. The objective of this work was to apply the powdered juçara pulp as a natural colorant in a red fruit ice cream in order to evaluate the consumer expectation regarding the acceptance of the ice cream, as well as to carry out the physical-chemical and functional characterization of the final product. Three ice cream formulations containing 30% of a red fruit concentrate were prepared, being a control without the addition of powdered juçara pulp (F0) and two (F1 and F2) with different powdered juçara pulp concentrations (0.1% and 0.2%) in relation to the mass of the mixture of all ingredients. Acceptance tests were carried out for the attributes color and general appearance, as well as to the expectation of acceptance using a structured hedonic scale of nine points. Digital images of the ice cream samples were obtained in natural light, and inserted in a balanced order of presentation in the questionnaire. The sensory test was made available to consumers online. The most accepted formulation was characterized in relation to the physicochemical, functional and technological parameters of the ice cream through the analysis of pH, total titratable acidity, total solids, soluble solids, total anthocyanins, total phenolic compounds, antioxidant capacity, instrumental color, overrun determination and melt test. The acceptance means were compared using the Student's t test and the means of the evaluated parameters were compared by the Tukey test. One hundred and ninety consumers, of both sexes, and aged between 18 and over 65 years old, responded to the questionnaire. Formulation F2, with 0.2% of juçara powder, had the highest acceptance

averages ($p < 0.05$). The averages obtained were 7.03 and 7.06 and 7.11 for color, general appearance and acceptance expectation, respectively, being among the categories “I liked it moderately” and “I liked it a lot”. The selected formulation F2 had pH of 5.71 g/100g, total titratable acidity of 0.23 g citric acid/100g, total solids content of 19.22 g/100g and soluble solids equal to 19°Brix, showing no significant difference in relation to the F0 formulation ($p < 0.05$). The addition of powder also did not affect the results of the overrun and melting tests ($p < 0.05$), when compared to the control samples. However, the application of powdered juçara pulp contributed to a significant increase ($p < 0.05$) of 47% in the content of total phenolic compounds (90.69 ± 3.65 mg AGE/100g), 20% in total anthocyanins content (21.46 ± 0.85 mg/100g) and 50% in the antioxidant capacity (8.38 ± 0.84 μ mol Trolox/g). The color parameters obtained in the final product were $L^* = 68.03$, $a^* = 7.60$, $b^* = 7.56$, $C^* = 10.72$ and $h^\circ = 44.80$. The results showed that the powdered juçara pulp can be used as a natural colorant in place of the synthetics and also as a functional ingredient, contributing positively to increase the content of bioactive compounds, resulting in a product of high added value with sensory quality.

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