



EFFECT OF ULTRASOUND ON THE THERMAL, STRUCTURAL, PASTING AND MORPHOLOGICAL PROPERTIES OF *MARANTA ARUNDINACEA* STARCH

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ABSTRACT

Starch extracted from maize, rice and potato is widely used in various sectors of different industries. However, other alternative sources have proved equally interesting for industrial applications, arrowroot being one of them. The starch of this rhizome has been studied, especially when subjected to modifications, such as physical by means of ultrasound, and its technological properties should be investigated. Therefore, the objective of this work was to evaluate the thermal, structural, morphological and paste properties of arrowroot starch modified by ultrasound. It was observed that the modification of arrowroot starch caused a decrease in the initial gelatinization temperature, and gradual reduction of thermal stability at temperatures of 270 °C. In the analysis of the paste properties, the sonicated samples showed a greater tendency to retrogradation and syneresis, and higher final viscosity. Regarding structural properties, a decrease in relative crystallinity was observed. The morphology of the granules was little affected by the ultrasonic waves. Thus, it is stated that ultrasonic modification was able to alter some properties of arrowroot starch.
