

Effect of oven drying on proximate composition and total phenolic content of cubiu (*Solanum sessiliflorum* Dunal)

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ABSTRACT

Cubiu is an Amazon native fruit of easy growing and large production, which has economic value potential, use and can be used in pharmaceutical, cosmetic and food industries. Research reports that cubiu has healthy improve substances. Due to this fact, it's important to developing techniques to extend the shelf life of cubiu and preserve all the functional compounds and nutrients. Based on that, the purpose of this study was to analyze the effect of drying process on the nutritional and functional composition of cubiu. The fruit was dried in convective dryer equipment at 65 °C. Some properties of the fresh fruit were determined as total phenolic, humidity, ashes, lipids, proteins and water activity. The drying process at 65 °C reduced the total phenolic content by 27.19%; the water activity by 78.32%; and proteins from 12.51% to 8.06%, in the dry fruit. The content of lipids and ashes did not suffer significant changes. Another drying was done at 55 °C, in order to analyze the decreasing temperature effects on drying kinetics, water activity and total phenolic content. The drying process at 55 °C reduced in 62.02% the water activity and 22.12% total polyphenols, comparing with the fresh fruit. Seven thin layer drying models were used to analyze the drying process in both temperatures. The Page model provided a better fit for the drying process. Our results demonstrated the significant effect of temperature on the degradation of functional components present in cubiu.

Keywords – Food drying, Mana-cubiu, Chemical analysis, Bioactive compounds.