

## Evaluation of *Hancornia speciosa* Gomes Lyophilization at Different Stages of Maturation

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**Abstract :** Mangabeira (*Hancornia speciosa* Gomes), a native plant in Brazil, is found growing spontaneously in various regions of the country. The high perishability of tropical fruits such as mangaba, causes it to be necessary to use technologies that promote conservation, aiming to increase the shelf life of this fruit and add value. The objective of this study was to compare the mangabas lyophilisation curves behaviours with different sizes and maturation stages. The fruits were freeze-dried for a period of approximately 45 hours at lyophilizer Liotop brand, model L -108. It has been considered large the fruits between 38 and 58 mm diameter and small, between 23 and 28 mm diameter and the two states of maturation, intermediate and mature. Large size mangabas drying curves in both states of maturation were linear behaviour at all process, while the kinetic drying curves related to small fruits, independent of maturation state, had a typical behaviour of drying, with all the well-defined steps. With these results it was noted that the time of lyophilisation was suitable for small mangabas, a fact that did not happen with the larger one. This may indicate that the large mangabas require a longer time to freeze until reaches the equilibrium level, as it happens with the small fruits, going to have constant moisture at the end of the process. For both types of fruit were analysed water activity, acidity, protein, lipid, and vitamin C before and after the process.

**Keywords :** freeze dryer, mangaba, conservation, chemical characteristics

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