Processing and Characterization of Residual Cake Resulted from the Oil Extraction of Macaúba Pulp.

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Macaúba (Acrocomia Aculeata) is a palm tree widely distributed in tropical America, being found in many regions of Brazil. Its oil can be extracted both from the pulp and almond. After oil extraction, widely used as biodiesel, comes, as a byproduct, an cake rich in fiber. This study aims to characterize and establish the optimum processing conditions of the residual cake resulted from the extraction of macaúba’s pulp oil, obtaining a product for food purposes. The amount of lipids, moisture, acidity, protein, fiber content and ash were determined, before and after the extraction. Samples were submitted to three different drying temperatures (60 º, 70 º and 80 º C), on convective tray dryer and the drying kinetics curves and the sorptions isotherms were obtained. Acid index, rancidification and proteins content of dried cake were determined, allowing verifying possible modifications during the drying. The results in dry base showed a cake containing 20% lipids, 8% humidity, 5% protein, 0.4% ash, and high percentage of fiber and carbohydrates. The drying curves showed that the best conditions of processing are 80 C, 40 minutes, resulting in a product of moisture, which is reached in a much less time than other temperatures, besides preserving the quality parameters. The cake was milled in a knife mill, resulting in a flour rich in fiber and carbohydrates, which has showed a great potential for its use in human feeding, using a low cost process, accessible for minor producers. The author thanks FAPEMIG for the financial support.