DEVELOPMENT OF BABASSU COCONUT MILK POWDER USING DEXTRIN AS MICROENCAPSULATING AGENT

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The babassu kernel can reach even considerable consumption and can be routine feeding incorporated to the daily diet of the population as other industrial products such as, for example, its coconut milk. This research work aimed to obtain babassu coconut milk powder microencapsulated by spray drying process using dextrin as carrier agent. Coconut milk is extracted by babassu peeling, milling (with two parts of water) and vacuum filtration. This milk was pasteurized at 85°C for 15 minutes and homogenized in industrial blender to break the clots formed and to obtain fluid consistency milk. We conducted a factorial experimental design (DCCR with 11 runs), with a range of independent variables: inlet temperature in the dryer - T_{ent} (170 to 220°C) and concentration of dextrin - C_{D} (20 to 30%). The experimental runs were conducted using a spray dryer (model B191, BUCHI, Flawil, Switzerland). The experimental values of final moisture content ranged from 1.01 to 2.65%. These values are in accordance with the regulations for this type of product. Moreover, the hygroscopicity ranged from 7.73 to 8.47%. The water activity values ranged from 0.07 to 0.17, while lipid oxidation varied from 0.016 to 0.072 meq peroxide/kg of oil. The lowest values of water activity were found around the central point of the independent variable T_{ent} and the smaller values of C_{D}. Yield values ranged from 25.86 to 40.41%. The highest values of drying process yield were obtained in lower values of C_{D} e T_{ent} parameters.