USE OF BARU (Dipteryx alata Vog.) BYPRODUCT TO OBTAIN TEXTURED VEGETABLE PROTEINS THROUGH THERMOPLASTIC EXTRUSION FOR APPLICATION IN PLANT-BASED PRODUCTS

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Baru (*Dipteryx alata* Vog.) is a fruit from the Brazilian Cerrado with an interesting nutritional and functional content. Currently, the demand for alternative proteins of plant origin has been growing, for use in the elaboration of several market products, submitted to different technologies, aiming at nutritional improvement, waste reduction, and even providing technological functionality. The extrusion process is one of the technologies used in food preparation, with special attention due to the versatility of the products obtained, the non-generation of waste in the process, and the high efficiency with low operating cost. However, the development of new extruded products with high protein content with an adequate profile of essential amino acids and rich in fibers is an opportunity to increase the availability of plant-based products. Therefore, this work aimed to produce textured vegetable proteins elaborated with baru byproduct for application in meat analogues. Three formulations (TA, TB and CT) were prepared mixing soy protein concentrate, vital gluten and defatted baru flour (TA 92:4:4 and TB 80:4:16, respectively). The control (CT) was elaborated only with soy protein concentrate and vital gluten (90:10). The textured products were obtained using a twin screw extruder, with four heating zones (60, 80, 135, 135ºC), constant rotation speed (300 rpm), and moisture content adjusted to 20%. The technological characterization of the textured proteins was carried out in triplicate, determining hydration, water absorption (WA) and water solubility (WS). The results showed that with the increase in the incorporation of baru flour there was an increase in the absorption of water. TB showed the highest water absorption followed by TA and CT. TB and CT exhibited greater fines release during hydration and did not present significant differences between them, while TA showed lower fines release when compared to the others. Such results show that the presence of fibers and other components in defatted baru flour can provide greater interaction with water due to fiber-water bonding. The results obtained show that the defatted baru flour, considered a byproduct, used at 4%, is a promising ingredient in the elaboration of textured proteins with potential application in meat analogues products.