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CASHEW-APPLE (ANACARDIUM OCCIDENTALE L.) AND YACON (SMALLANTHUS SONCHIFOLIUS) FUNCTIONAL BEVERAGE IMPROVE THE DIABETIC STATE ON RATS

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Resumo (Texto Científico) - Máximo 300 palavras | Abstract (Scientific Text) - (Maximum 300 words):
Cashew-apple and yacon have been widely recognized as an excellent source of bioactive compounds, including prebiotics and antioxidants, which may be beneficial to health. Experimental data indicates that prebiotics and some specific polyphenols could reduce the severity or incidence of degenerative diseases, such as diabetics. The aim of this study was evaluate the hypoglycemic effect of a functional beverage composed of yacon and cashew-apple in alloxan-induced diabetic rats. The growth of lactobacilli in the cecal material, catalase activity in liver and antiproliferative activity using HepG2 cells were also evaluated. The total antioxidant capacity was determined in the beverage, showing values of 6.45 ± 0.398 µM Trolox.g-1 of fresh matter (FM), 15.58 ± 0.38 µM Fe2SO4.g-1 of FM and 1780.14 ± 99.01g of functional beverage.g-1of DPPH, measured by ABTS, FRAP and DPPH assays, respectively. The fructooligosaccharides content (2.97 ± 0.07 of fructooligosaccharides/100 mL) and total phenolic were determined (66.52 ± 1.17 mg gallic acid equivalent/ 100g of FM), and the majoritarian phenolic compounds were identified by LC-DAD-ESI-MS. In the antiproliferative assay, the proliferation of HepG2 was significantly inhibited, in a dose-dependent manner, by exposure to the functional beverage. In addition, the functional beverage was tested in vivo. Male Wistar rats were

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divided into five groups: control, non-treated diabetic, and diabetic treated with 100, 200 or 400 mg of lyophilized functional beverage per kg/day. The results showed a decrease in the glucose levels, a promotion of the growth of lactobacilli in cecal material and an increase in catalase activity in the liver. The results strongly support that yacon and cashew-apple have important hypoglycemic properties that could ameliorate the diabetic state.

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