

Physico-chemical and microbiological description of *Caxiri* - a Brazilian indigenous fermented

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Caxiri is a fermented alcoholic beverage made from cassava, corn and sweet potatoes by people of ethnic *Yudjá*, in Brazil. Samples of this beverage were chemically and microbiologically characterized. To examine the major groups of microorganisms yeasts, lactic acid bacteria (LAB), acetic acid bacteria (AAB), aerobic mesophilic bacteria (AMB), and *Enterobacteriaceae*, five culture media were used. In this study microbial dynamics was evaluated by denaturing gradient gel electrophoresis (DGGE) approaches. The yeasts *Saccharomyces cerevisiae*, *Rhodotorula mucilaginosa*, and the bacteria *Lactobacillus fermentum*, *Bacillus subtilis*, *Lac. helveticus* were identified by both culture-dependent and independent approaches. Other yeast species such as *Pichia kluyveri*, *Candida tropicalis*, *Debaryomyces fabryi*, *Rhodotorula* sp., and the bacteria species *Klebsiella pneumoniae*, *Staphylococcus carnosus* and *Escherichia coli* sp. were only identified by culture-dependent approaches. The species *Pichia guilliermondii* (yeast) and *Enterobacter cloacae* (bacterium) were identified by culture-independent approaches and non identified by culture-dependent approaches. Maltose was the main carbohydrate found (19.12 g/L). Lactic acid (15.09 g/L) and ethanol (92.16 g/L) were presented in high concentrations. Thirteen volatiles compounds were identified and quantified during the fermentation of corn *caxiri*, using GC-FID. Among these volatiles, higher concentrations were acids (decanoic acid - 123.04 µg/L), esters (diethylmalate - 88.32 µg/L), aldehydes (furfural - 109.31µg/L), alcohols (2-phenylethanol - 1022.76µg/L) and others (1,1-dietoxyethane - 226.24 µg/L). The results of this study contributed to increase the knowledge of the microbiota present in the fermentation of *caxiri* produced from cassava, maize and sweet potatoes.

Keywords: *Caxiri*, Indigenous food, Cassava, volatile compounds, PCR-DGGE

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