

**Title: Evaluation of microbiological stability of pineapple juice supplemented with yacon pulp (*Smallanthus sonchifolius*)**

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**Resume:**

Nowadays, consumers are changing their eating habits in an attempt to prevent diseases and improve physical wellbeing and, associated to the increase of population's lack of time, makes the food industry innovate more and more in the development of products ready for consumption, and at the same time, healthy products. Drink juices are among the increasing beverages in nowadays, which besides flavor also have desirable functional properties due to the presence of vitamins, minerals, phenolics, fructans and carotenoids in the composition. This nutritional appeal is enhanced by adding pulp yacon, that is a root containing a large amount of inulin that acts as dietary fiber with health benefits, especially in diabetics. For the production of fruit juices, microbiological patter is critical, as key factors of marketing, as the default identity and quality and shelf life, dependent on this microbial stability, especially when it comes from juices produced without preservatives. Therefore, the aim of this study was to evaluate the shelf life of pineapple juice supplemented with yacon pulp without added preservatives, for a period of 60 days. Yacon pulps were produced from the cleaning and extraction of tubers by Juicer centrifugal, and added to the following formulation: 32% water, 8% of yacon and 60% of pineapple pulp. Juices were pasteurized at 90 °C/1 min and packaged in PET bottles while they were warm, then were stored in temperatures of 7, 23, and 37 °C and analyzed every 20 days. It was determined the Most Probable Number (MPN) of total and thermotolerant coliforms, count of mold and yeasts and mesophilic aerobic and search of *Salmonella* spp. The product was suitable for consumption throughout the period of analysis in relation to microbiological standards set forth in the Brazilian legislation for fruit juices, presenting counts <0.3 MPN/mL of coliforms at 35 and 45°C and the absence of *Salmonella* spp. in 25g. The yeast and mold count was less than 10<sup>4</sup> CFU/mL and mesophilic aerobic count less than 10<sup>3</sup> CFU/mL at all times and storage temperatures, indicating that pasteurization is suitable for preserving the sample during the storage period at all temperatures reported.

**Keywords:** Shelf-life, pineapple juice, yacon.

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