

Tropentag, September 9-11, 2020, virtual conference

"Food and nutrition security and its resilience to global crises"

## Determination of Microbial Quality of Selected Baobab Food Products in Kenya

MARGARET JAMES<sup>1</sup>, WILLIS OWINO<sup>2</sup>

<sup>1</sup>Jomo Kenyatta University of Agriculture and Technology, Food Science Department, <sup>2</sup>Jomo Kenyatta University of Agriculture and Technology, Food Science and Technology, Kenya

## Abstract

There has been an increase in demand for baobab and baobab-derived foods recently as a result of expanding ready market both locally and internationally since the EU and the UN approved it as a novel and functional food. However, this demand has led to poor practices such as immature fruit harvesting, insufficient drying, rise of unscrupulous middlemen and unhygienic handling along the value chain as the farmers rush into harvesting the baobab fruits before they are fully dried in order to meet the demand. These practices could lead microbiologically unsafe generally poor product quality. In this study, two of the selected Kenya Bureau of Standards (KEBS) registered and unregistered baobab processors food product samples were randomly collected from processors and microbial analysis carried out to determine the total aerobic count, total enteric count, and yeast and mold count. The total aerobic count ranged from 2.9 to 5.6 log CFU/g and 2.3 to 5.7 log CFU/g for the KEBS registered processors products and unregistered processors products respectively. About 70% and 90% of the unregistered processors products exceeded the total enteric count, and yeast and molds microbiological limits recommended by KEBS. A significant difference was observed between the KEBS registered and unregistered baobab products for yeast and molds (p = 0.003) and total enteric count (p = 0.0008). Most of the registered products were safe except in terms of yeast and molds where 80% were above the limits recommended by KEBS for dried fruits. The higher percentages of baobab products above microbiological limits indicate poor sanitation, unhygienic processing and poor postharvest handling.

Keywords: Baobab, Microbial Quality, Microbiological limits.

Contact Address: Willis Owino, Jomo Kenyatta University of Agriculture and Technology, Food Science and Technology, Nairobi, Kenya, e-mail: willis@agr.jkuat.ac.ke