Microbiological and Nutritional Quality of Kunu-Zaki Made From Different Grains

Olopade, B.K., Obiahu, N. V., Taiwo, O. S. and Oranusi, S.

Biological Sciences Department, Covenant University, Ota, Ogun State, Nigeria.

Evaluation was made of the microbial profile and nutritional content of Kunu zaki prepared from different grains and their combinations; Millet only, White Sorghum only, Maize only, Red Sorghum only, Millet and Maize (1:1), Sorghum and Maize (1:1) and Sorghum and Millet (1:1). Total Aerobic Plate Count (TAPC) of the samples ranged from $2.0 \times 10^3$ - $1.4 \times 10^5$ cfuml$^{-1}$, Coliform Count (CC) ranged from $2.0 \times 10^3$ - $2.2 \times 10^5$ cfuml$^{-1}$ and Fungal Count (FC) was $2.0 \times 10^3$ – $6.0 \times 10^4$ cfuml$^{-1}$). The pH values ranged from 3.55 - 3.92. The proximate composition of the Kunun-zaki prepared from the different grains ranged from 83.74 - 88.39% for moisture content, 0.28 - 0.45% for protein, 0.38 - 1.35% for Crude fat, 0.001 - 0.010% for Crude fibre, 9.99 - 14.86% for Carbohydrate and 0.12 - 0.73% for Total ash content. Bacteria isolated from the various Kunu zaki samples were Bacillus subtilis, Escherichia coli, Staphylococcus aureus, species of Klebsiella, Lactobacillus and Shigella. The fungi isolated include Aspergillus fumigatus, Aspergillus niger, species of Cephalosporium, Mucor and Penicillium. Kunun-zaki is a refreshing drink produced by natural unclassified array of microorganisms some of which could be pathogenic. The need to employ HACCP, GMP during production and development of starter culture is advocated.

Key words: Kunun-zaki, Grains, Microbial profile, Proximate composition,