

5th International Biotechnology Conference, Exhibition and Workshop (IBCEW 2015) held at Centre for Learning Resources (CLR), Covenant University, Ota, Ogun State, July 8 – 10, 2015.

Department of Biological Sciences, Covenant University, Ota

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 2.0×10^3 - 1.4×10^5 cfuml⁻¹, Coliform Count (CC) ranged from 2.0×10^3 - 2.2×10^5 cfuml⁻¹ and Fungal Count (FC) was 2.0×10^3 – 6.0×10^4 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,

