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Heap fermentation of cassava (*Manihot Esculenta* Crantz) in Nampula province, Mozambique

Tivana L.D.1, Bvochora J.2, Mutukumira A. N.3, Owens J. D.4 and Zvauya R.2
1Faculty of Engineering, Eduardo Mondlane University, P. O Box 257, Maputo, Mozambique
2Department of Biochemistry, University of Zimbabwe P. O. Box MP 167 Harare, Zimbabwe
3Institute of Food, Nutrition and Family Sciences, University of Zimbabwe, P. O. Box MP 167 Harare, Zimbabwe
4School of Food BioSciences, The University of Reading, P.O. Box 226, Whiteknights, Reading RG6 6AP, UK

Abstract. Cassava (*Manihot esculenta* Crantz), a tropical root crop, is an essential part of the diet of the inhabitants of Nampula Province in Northern Mozambique. The root is mostly consumed after processing by heap fermentation and sun-drying. The study investigated the microbial and biochemical changes occurring during traditional heap fermentations in three households. The cassava was fermented over a period of 4 days. Temperature values at which extensive mould growth was observed ranged from 26 to 29oC. Lactic acid bacteria increased from 10_4 to 10_6 cfu/g during the fermentation. Isolates were identified as *Leuconostoc pseudomesenteroides, Leuconostoc mesenteroides, Enterococcus faecium* and *Weissella cibaria*. Moulds identified were *Neurospora sitophila* and *Rhizopus stolonifer*. The pH values of the cassavas decreased from 6.1 + 0.01 to 5.6 + 0.6 during heap fermentation. Average total cyanogenic levels in nonfermented cassava flour was 158 mg HCN/kg, while in fermented cassava flour, a value of 17 g HCN/kg was recorded. Protein concentration in the cassava flour slightly increased from 1.3 % to 1.8 % w/w dry matter during fermentation.