

MICROBIOLOGICAL ANALYSES AND NUTRIENT COMPOSITION OF SORGHUM-BENISEED BLENDS

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ABSTRACT

This research investigated the production of fermented gruel from sorghum (ogi-baba) fortified with beniseeds (*Sesamum indicum* L) from four different preparations designated as samples A (100% sorghum), sample B (10% beniseeds), C (15% beniseeds) and D (20% beniseeds). Bacteria that were isolated from the samples were *Lactobacillus plantarum* L. *casei*, *Bacillus subtilis*, *B. licheniformis* *Leuconostoc mesenteroides*, *Streptococcus lactis*, *Staphylococcus aureus* and while fungal isolates include *Rhizopus nigricans*, *Aspergillus niger*, *Saccharomyces cerevisiae* and *Mucor mucedo*. All the blends were dominated by *L. plantarum* and *S. cerevisiae* which persisted throughout the fermentation period while *S. aureus* and the moulds were only isolated on the first day of fermentation. Bacterial and fungal counts increased significantly in all the blends till the end of the fermentation period. The pH of the fermenting samples decreased in all the blends with lowest value in sample A (3.36) while the highest value was found in sample D (3.41). Total titratable acidity (TTA) increased with fermentation time with the highest in sample A (2.94%) while sample D had the least TTA of 2.42%. Crude protein and crude fat contents of the fermented blends increased with increase in percentage supplementation while the crude carbohydrate contents decreased with decrease in percentage supplementation. Moisture, crude ash, crude fibre contents also decreased as the fermentation progressed in all the blends. Porridges prepared from all the blends were rated above average in terms of overall acceptability but significantly rated higher in sample B. The use of beniseeds as a fortifying agent can improve nutritive value of locally fermented carbohydrate foods which are economical compared to formulated foods.

KEYWORDS: Fermentation, Sorghum, Beniseed, Nutrient, Lactobacillus