

**EFFECTS OF STEAMING DURATION AND PRESERVATIVES
ON STORAGE STABILITY OF PEARL MILLET
BASED INSTANT *DAMBU***

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This study was carried out to upgrade and optimize the indigenous processing technology and consequently enhance the shelf-life of *dambu*, a steamed mash of unfermented spiced pearl millet. The storage properties (using different packaging materials) of Ex-Borno pearl millet instant *dambu* were determined. The effect of the variables (sorbic acid, citric acid, steaming time, package type and storage time) on the pH and total titratable acidity (TTA) was carried out. The TTA increased while the pH and moisture content decreased during storage. A variable impact was observed between sorbic acid, steaming time, citric acid, package type and storage time on the pH and TTA of *dambu*. The most significant variables affecting pH were citric acid and storage time for all packages while TTA was only significant on LDPE + paperboard. An effective package for *dambu* appeared to be LDPE + paperboard. The nature of the mycoflora suggested that *dambu* is a good substrate for fungi contamination and fungi growth. The organisms isolated were *Rhodotorula spp*, *Rhizopus spp*, *Geotrichum candida*, and *Aspergillus fumigatus*. A combination of 0.125% sorbic acid + 0.75% citric acid + 0.2% cloves + 1.3% ginger + 0.7% red pepper + 40 mL water and steamed for 20 min was the best product in terms of storage and was effective in arresting mould growth in *dambu* which gave *dambu* an improved shelf life of two months. The study forms a basis for new product development for the food industry.

Keywords: Steaming duration, preservatives, storage, pearl millet, *dambu*

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