Title Physicochemical characteristics and sensory evaluation of corn and sorghum dry masa flours in relation to packaging materials and storage conditions

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Abstract

Dry masa flours were prepared from white, yellow corn or sorghum according to standard methods. The flours were then packed in bags made from jute; krafe paper, poly ethylene or polyethylene textile. The packages were stored at ambient temperature (24-32Â°C) for extended periods of time up to 6 months. All the fresh and stored masa flours (72 samples) were subjected to physicochemical characterization including; water vapor transmission; the amylograph profiles, lipid quality and the sensory scoring. The results demonstrated that the conversion of the cereal grains into the respective masa was associated with enrichment in the calcium content due to treatment with lime. Polyethylene bags were superior compared to the three other packaging materials in maintaining the water vapor transmission of the masa flour at a low rate due to high resistance against tearing. The physicochemical properties and sensory scoring of the masa flours remained acceptable for samples stored for a period of two months at ambient temperature. The kraft bags and polyethylene bags proved to be unsafe due to rapid lipid rancidity and/or the growth of insects. Prolonged storage is not recommended since it was associated with rapid drop in the physicochemical properties and the sensory scoring of the masa flours.