



ASSESSMENT OF THE KEEPING QUALITY OF DISASTER RESILIENT FOOD PRODUCT FORMULATED FROM RICE BASED COMPOSITE FLOUR

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Abstract

During disaster situations, particularly pandemic situations like Covid19, people become self-isolated within their dwelling premises for months. Thus a continuous supply of secure and nutritional foods has become an eye opening aspect recently. Hence, purpose of the current study is to assess the storage stability of baked crumb samples prepared from rice based composite flour with a view to develop a nutritious, safe and affordable disaster resilient food product. Therein, a rice based composite flour mixture was formulated, made a dough and subjected to fermentation at 1kgcm^{-2} initial air pressure condition in an enclosed fermentation chamber. Thereafter the fermented crumb samples were subjected to gelatinization while releasing the pressure inside the chamber in parallel to the starch gelatinization. The gelatinized crumb samples were sliced and baked to obtain baked crumb samples, similar to the biscuits. The storage stability of the baked crumb samples were evaluated monthly for a period of six months in terms of moisture content, texture properties and growth of micro-organisms. Results revealed that the developed product has a lower moisture content (Initial: $1.12\pm 0.16\%$, after 6 months: $3.90\pm 0.24\%$), acceptable texture properties and a low susceptibility for microbial spoilage. Hence, the baked products out of gelatinized crumb samples can be recommended as a nutritious, safe and affordable food product for natural calamities along with higher storage stability.

Keywords: Disaster, Food safety, Moisture content, Storage stability, Total plate count