

DEVELOPMENT OF CALCIUM ENRICHED BISCUITS USING  
EGGSHELL AS THE CALCIUM SOURCE

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## ABSTRACT

The present study was conducted to develop a new type of calcium enriched biscuits using eggshell as a calcium source. The ratio of eggshell powder was maintained 600mg/100g flour mixture to 900mg/100g flour mixture respectively. Biscuits were subjected to organoleptic and chemical analysis to evaluate the suitability of these products for consumption and for long term storage life. There wasn't any significant change observed in chemical characteristics such as crude fat, protein, total soluble solids and however changes observed in moisture, ash and calcium content. In organoleptic evaluation, significant differences were found among them. According to organoleptic evaluation the biscuits developed from the eggshell concentration of 800mg/100g flour mixture were selected as best based on crispness, flavour, taste and overall eating quality.

Packaging and shelf-life studies of calcium enriched biscuits were conducted using four types of packaging materials namely glass bottle, plastic bottle, polyethylene and laminated aluminium foil stored at room temperature. Chemical, microbiological, physico-chemical analyses and sensory evaluation were conducted weekly intervals to evaluate the quality of the product during storage. Significant changes in chemical qualities such as moisture, fat, protein, ash and sensory evaluation criteria such as colour, crispness, flavour, taste and overall eating quality were observed. The product packed in glass bottle did not exhibit any significant deteriorative changes in nutritional composition and it was fit for human consumption as shown by the results of the microbiological analysis done on the product.

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