

ABSTRACT

Background: Consumer interest in convenience foods is a new trend worldwide that is expected to increase due to busy lifestyles. Studies have shown that sweet potato has unique nutrients, which if incorporated into cheese can make it a functional food. Food product development process requires that before a product is commercialized, it is subjected to consumer acceptability and shelf-life tests. Objective: This objective of this study was to determine the sensory acceptability and shelf life of mozzarella cheese that was enriched with orange-fleshed sweet potato to improve fiber content. Method: Mozzarella cheese was prepared with orange-fleshed sweet potato powder at 0% up to 5.5% at intervals of 0.5% and a seven point hedonic scale was used to evaluate product acceptability based on colour, aroma, acidity, texture, and fibrousness. Cluster analysis and principal component analysis were carried out using Minitab® software. For shelf life, total coliform count, E. coli, and yeasts and moulds counts were used. Result: Hedonic scores for all sensory attributes except color were not significantly ($p>0.05$) different between control and treatments. Cluster analysis grouped the sensory attributes into 3 clusters (1-color; 2-aroma, texture and fibrousness; 3-taste and acidity). All the sensory attributes loaded positively on component 1, while taste, acidity, and fibrousness loaded negatively on component 2 of principal component analysis. Fresh cheese had no coliforms, E. coli, yeasts and molds. The yeasts and molds were used to predict shelf life and their numbers were directly proportional with the cheese storage period. The control samples had the longest predicted shelf life of 42 days and the shelf life decreased with increase in orange-fleshed sweet potato incorporation with a treatment of 5.5% orange-fleshed sweet potato having 29 days. Conclusion: Orange-fleshed sweet potato (OFSP)-enriched mozzarella cheese had similar sensory acceptability as the control without OFST. It should therefore be promoted as a functional food with a possibility of using food grade anti-mold agents for extended shelf life.