Effect of Potassium Sorbate and Thickness of Packaging Material on Shelf Life of Coconut Fingers

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Coconut finger is a product made from coconut kernel and sugar which is more susceptible to mold growth and rancidity development. Hence it has a very short shelflife; it is restricted generally for one month. This research was conducted to investigate the effect of potassium sorbate concentration and thickness of packaging material on the shelflife of coconut fingers. Prepared coconut finger samples were treated with 0.20% and 0.27% Potassium sorbate levels separately. Each sample (30 g) of each level were packed in Low-Density Polyethylene (LDPE) package with the dimensions of 15 cm length,15 cm width and thickness of 500 Gauge,600 Gauge and 700 Gauge, accordingly and stored at 27 ℃ and 65% relative humidity along with a control. Samples were periodically withdrawn to monitor changes in physical, chemical, and microbiological qualities. According to chemical analysis, concerning peroxide value and free fatty acid values, Potassium sorbate treated samples showed greater oxidative stability than the control sample throughout the study. When considering microbial colony counts, potassium sorbate treated samples showed less Total plate counts and yeast and mold counts than control. Based on moisture contents potassium sorbate treated samples showed low moisture contents than the control sample. Color measurements revealed that color of potassium sorbate treated samples was better than control. This study concludes that there is an effect of potassium sorbate and no effect from the gauge of polyethylene on the shelf life of coconut fingers. According to the physical, chemical, microbiological, and statistical results obtained, the best potassium sorbate level was 0.27% and according to the cost analysis, the effective gauge of LDPE was 500-gauge.

Keywords: Coconut Fingers, Polyethylene gauge, Potassium sorbate, Shelflife