

**ASSESSMENT OF KEEPING QUALITY IN COMMERCIAL
VACUUM PACKED PRODUCTS; A STUDY USING
ACCELERATED METHOD**

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by

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ABSTRACT

The aim of this study was to assess the physical, chemical and microbiological attributes of spice incorporated vacuumed packed food products during storage to improve the shelf life for export market and to determine the shelf life of vacuumed packed three food products, chili paste, seeni sambol, katta sambol. In this study, Accelerated Shelf Life Testing (ASLT) method was used to determine the shelf life of food samples. All food samples were stored in two different storage conditions as room temperature of 28⁰C and elevated temperature of 50⁰C respectively and the quality changes of the products are evaluated at a specific sampling rate using Q₁₀ modeling. Accordingly the Q₁₀ factor which equals to 2, in the present study maintained accelerated aging rate based on two different storage conditions. The samples were stored at room temperature of 28⁰C and elevated temperature of 50⁰C for 8 weeks. Samples were assessed for physico-chemical analysis (pH, water activity and TBARS), microbiological analysis and sensory evaluation during the storage period. Sensory evaluation was done in bi-weekly using 10 semi-trained panelists with five point hedonic scales. pH of three food samples (chili paste, seeni sambol and katta sambol) were not significantly decreased when compared with the control sample with the storage. Water activity (a_w) of the samples was also not significantly decreased with the time. Results of TBARS showed negative values for three food samples which indicates there were no oxidation occurred during the storage period of 8 weeks. Total plate count and yeast and mold counts were increased with the time, but they were within the acceptable levels. There was significance differences ($P>0.05$) in appearance, colour, taste, smell, and overall acceptability in three samples of chili paste, seeni sambol and katta sambol. Yet the highest acceptance showed by the food sample, katta sambol. All the three samples could be kept for 8 weeks (actual results of 8.4 months) and the study needed to be continued to evaluate the exact date of expiry.