

EFFECT OF PACKAGING ON SHELF LIFE OF SOFT DOUGH BISCUIT

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Design and development of packaging play a major role in determining the shelf life of biscuits. Appropriate packaging is important to protect the food products from physical, chemical and microbial damages and to comply with labeling requirements. The objective of this study was to select suitable cost effective packing material for soft dough biscuits to extend the shelf life without compromising quality. Five packaging materials were selected as OPP 20 + MCPP 25 (control), PET, BOPP 30 + CPP 25, OPP 20 + CPP 20 and OPP 20 + PP 20. Soft dough biscuit samples were

packed in above materials and stored under ambient conditions (29.7 °C, 80% and 100% RH) for sixteen weeks. Accelerated moisture test and sensory evaluation by 5 trained panelists were conducted along with the tests for determination of moisture, pH, fat, free fatty acid (FFA) and rancidity variation during storage period of 16 weeks to determine the best packaging material. Sensory results were analysed by using Friedman test and other parametric data were analysed by using General Linear Model. Control sample showed the lowest moisture permeable properties (0.01 80.62g) among others and the moisture content (1.8-4.9%), FFA content (0.3-0.56%) increased with the storage period while pH decreased (7.6 -7.1) for all the samples. Fat contents were relatively constant and rancidity variations were negative for all samples during storage period. In general the sensory scores of all samples were reduced at the end of storage. However samples packaged in OPP 20 + MCPP 25, PET, BOPP 30 + CPP 25 were acceptable for consumption even after 16 weeks of storage. Even though OPP 20 + MCPP 25 is not cost effective, it was the most appropriate packing material for soft dough biscuits to extend the shelf life without compromising quality.

Keywords: Packaging materials, Shelf life, Soft dough biscuits, Storage period