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Development of Ready-to-Eat Product from Bovine Tripe for By-Product Loss Reduction in Pastoral Slaughterhouses in Kenya

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Abstract

A ready-to-eat product (RTE) was prepared from the bovine tripe. The treatments employed were mincing and blade tenderisation processes to improve the product tenderness and cook yield of the final product. The products were stored at 4±1 °C in polyethylene terephthalate laminated with polythene (PET/PE) pouches under vacuum packaging and aerobic packaging condition. All the samples were evaluated for physico-chemical parameters, microbial quality and sensory attributes at regular intervals of 0, 7, 14, 21 and 28 days of storage. Significant changes were seen in physico-chemical, microbial and sensory characteristics of RTE product during storage at refrigeration temperature (4±1 °C) under vacuum and aerobic packaging condition. All microbial counts were well within the acceptable limits prescribed for cooked meat products and the products did not show any signs of spoilage within the 28 days for vacuum packaged and 21 days for aerobic packaged products. However, a decreasing trend in case of moisture and all the sensory parameters throughout the storage period was observed in both vacuum and aerobic packaged products. The overall appearance means ranged from 7.2±0.02 to 6.5±0.03, and decreased significantly ($p < 0.01$) with increasing storage period in both packages. No significant difference was observed for appearance scores between on day 7 and 14 and between on day 14 and 28 of storage. The study indicated that the RTE developed from the bovine tripe by use of mincing and blade tenderisation can be best stored up to 28 days at 4±1 °C under vacuum packaging and 21 days for aerobic packaging. The present study also revealed that vacuum packaging could be used as a means to improve the shelf life of RTE product from the bovine tripe without significantly affecting the physico- chemical, microbiological and sensory qualities of the products. This will ultimately reduce the post-slaughter losses of bovine tripe in slaughterhouses especially in pastoral regions where a substantial amount of tripe goes to waste.

Keywords: Aerobic packaging, blade tenderisation, bovine tripe, mincing, vacuum packaging

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