

**DEVELOPMENT OF A SPICY CHEESE SPREAD
INCORPORATED WITH BLACK PEPPER (*Piper
nigrum*) AND GARLIC (*Allium sativum*) POWDER**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
in partial fulfillment of the requirement of
the degree of
Bachelor of Animal Science

by

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**Animal Science Degree Programme
Faculty of Animal Science and Export Agriculture
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2014

Abstract

Recently, there was a high demand for cheese and related products such as cheese spreads and cheese powders. This is due to the local dairy industries have started producing cheese spreads for lower prices compared with the imported brands. This research was carried out in Pelwatte Dairy Industries Limited, Pelwatte, Buttala and Uva Wellassa University to produce a novelty of cheese spread incorporated with garlic and black pepper powder. Preliminary trials were done to get a suitable texture for the cheese spread with different butter percentages of 0%, 5%, 10% and 15%. Different garlic powder percentages were added to the prepared cheese spread as 0%, 0.1%, 0.2% and 0.3% and 0.2% was selected as the best. Three different treatments of processed cheese spread were prepared by changing the level of black pepper. Black pepper powder was added at 1%, 1.5% and 2% (W/W) Prepared processed cheese spread samples were filled in to 80 mL plastic cups and stored at refrigerated temperature (4-5°C) for evaluating sensory attributes, chemical and microbiological analysis. Quality attributes such as color, taste, odor, texture and overall acceptability were analyzed using 30 untrained panelists. Data were analyzed using Friedman non-parametric test. As chemical parameters pH, titratable acidity and peroxide value, and as microbiological parameters *Escherichia coli*, *Staphylococcus aureus* and yeast & mold count were measured periodically up to 27 days to evaluate the shelf life of the product. As the organoleptic properties color, taste, odor and texture were observed. Cost analysis was done for the selected treatment to determine the feasibility of market penetration. According to the sensory analysis 1.5% black pepper with 0.2% garlic powder was selected as the best treatment due to the observable highest sum of ranks for sensory attributes. Also there were significant differences (p value < 0.05) observed in all the sensory attributes. All the chemical and microbiological parameters were within the standards up to 27 days of storage period. Organoleptic properties of the cheese spread were changed from 27th day of storage period. Therefore the shelf life of the product is less than 27 days. The cost for 1 kg of cheese spread is Rs.1268.60.