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Enrichment of Silver Carp (*Hypophthalmichthys molitrix*) sausage with (*Fusarium venenatum*) mycoprotein

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Abstract

Mycoproteins were found to be suitable for human consumption by the Ministry of Agriculture, Fisheries and Food (MAFF) and the US Food and Drug Administration (FDA) due to their adequate protein content and non-allergenic properties. *Fusarium venenatum* is a filamentous fungus that was selected as the best recommended species for mycoprotein production. The aim of this research is to produce a protein source as a meat substitute for human consumption in developing countries. In this study, enrichment of silver carp sausage with mycoprotein, *Fusarium venenatum* at two levels of 1 and 3% on nutritional value and quality determination by measuring chemical factors (pH, TVB-N and TBA), microbial
(TVC and PTC) and sensorial traits was examined. The results showed that the use of mycoproteins increased the nutritional value of sausages, so that the amount of protein in the control treatments, one and three percent of fish sausages enriched with mycoproteins were 14.2, 15.8 and 16.6%, respectively. In terms of nutritional value including; protein, fat, carbohydrate, ash and moisture, the difference among the three treatments was significant ($P<0.05$). The levels of TBA and TVB-N in samples containing mycoprotein increased with increasing the percentage of mycoprotein and showed a significant difference ($P<0.05$) with the control sample. The results of sensorial evaluation also showed that the samples containing mycoprotein were less durable and desirable than that of the control sample. According to the results, the use of *Fusarium venneatum* mycoprotein in silver carp sausages is very important due to its nutritional value and cost effective compared to meat.

Keywords: Fish sausage, *Fusarium venenatum*, Nutritional value, Quality assessment

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