NUTRIENT COMPOSITION AND SHELF LIFE OF SAUSAGES PREPARED FROM *Oreochromis mosambicus, Stolephorous commersonnii, Mugil cephalus* AND *Channa orientalis*

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ABSTRACT

Fisheries and aquaculture play important role in nutrition, food security and livelihoods. Fish are highly nutritious with first class animal protein and balanced food with essential amino acids in correct proportions for human. In 2016, around 59.6 million people were involved in capture fisheries and aquaculture in 2016. Fish production shows copiousness in some seasons and shortage in other items. Therefore, there is a need to be preserved fish when the availability is high surplus harvest for the use in scared season in a good condition because fish are highly perishable after their death. Sausages are products in which fresh raw materials are modified by various processing methods. Meat is the highly used raw material of sausage preparation. Nowadays, people are reluctant to consume meat based food products due their harmful effect on health.

Therefore, fish can be replaced for meat in sausages to bring down problem of meat sausage. In this context, an experiment was conducted to objectively test the suitability and incorporating fish such as *Channa orientalis, Oreochromis mossambicus, Stolephorous commersonnii* and *Mugil cephalus*. The sausage was prepared using mince fish species and binders. Then the nutrition composition, shelf life and consumer preference were analyzed.

The results showed that *Mugil cephalus* sausage (T_4) consisted of 50% Crude protein, 15.75% Crude fat, 12.8% Ash, 58.13% Moisture and 8.3% Crude fiber. *Channa orientalis* sausage (T_1) consisted of 51.5% Crude protein, 6.4% Crude fat, 12.6% Ash, 56.73% Moisture and 3.7% Crude fiber. *Stolephorous commersonnii* sausage (T_3) consisted of 41% Crude protein, 19.13% Crude fat, 13.7% Ash, 58.33% Moisture and 7.6% Crude fiber. *Oreochromis mossambicus* fish sausage (T_2) consisted of 47.3%

Crude protein, 18.63% Crude fat, 12.7% Ash, 60.23% Moisture content and 7.6% Crude fiber.

pH of all sausage samples increased during the experimental period and moisture content of all sausage samples decreased during the experimental period.

Salmonella was absent in all fish sausage during the storage period. *Escherichia coli* was not detected in all fish sausage during the storage period except *Stolephorous commersonnii* sausage. In all sausage samples, the concentration of coliform and *Staphylococcus aureus* did not exceed the harmful limit.

Mugil cephalus sausage had highest consumer preferance and *Oreochromis mossambicus* sausage recorded the highest hardness, chewiness and gumminess of sausage.

In conclusion, the study showed that *Channa orientalis* sausage had higher nutrient content, all sausages had more than 35 days shelf life except *Stolephorous commersonnii* and *Mugil cephalus* had higher consumer preference

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