

**DEVELOPMENT OF A FISH PASTE WITH FRESH  
WATER FISH (*Oreochromis mossambicus*, *Catla catla*)  
AND KOVAKKA LEAVES (*Coccina grandis*)**

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## Abstract

Tilapia (*Oreochromis mossambicus*) and carp (*Catla catla*) fishes are one of the excellent sources of protein, fat, polyunsaturated fatty acids, vitamins and minerals. Fishes are useful for obtaining many health benefits. Consumption of tilapia and carp is low due to low quality color, odour and flavor of these fishes. According to recent studies, Kovakka leaves possess hypoglycaemic properties which are useful for managing the type-2 diabetes mellitus. Present study is to develop a value added product from these fishes by incorporating Kovakka leaves which can be used for diabetes patients. Paste was prepared after boiling the fish until internal temperature become 70 °C for 15 minutes and mixing with minced fish with relevant amount of spices. After preparation of the paste it was pasteurized at 85 °C for 15 minutes in a water bath. Preliminary investigations were conducted to determine the suitable levels of spices with different levels of ginger and garlic and 1.5% (w/w) ginger and 1.5% w/w) garlic containing treatment was selected as the best ( $P < 0.05$ ). Tilapia fish was selected as the best fish type for the preparation of the fish paste comparing with carp by using sensory evaluation ( $P < 0.05$ ). 1% (w/w) of Kovakka leaves was the best amount according to the sensory evaluation ( $P < 0.05$ ). The proximate analysis revealed that fish paste contains higher amount of protein showing that it is a better source of protein and also it contains 73.88% of moisture, 2.64% of fat and 4.02% of ash as the other nutrients. Shelf life studies were carried out by using microbiological tests, pH test and lipid oxidation analysis. The anaerobic micro-organisms like *Escherichia coli*, *Salmonella* and total Coliform did not present in the sample cultured in day 0 but aerobic micro-organisms could be observed in samples from day 0 to day 10. pH test results and the lipid oxidation test results have revealed that the fish paste can be kept without spoilage for 30 days under 4 °C. Therefore it can be determined that the Kovakka leaves incorporated fish paste can be used as a ready to eat fish product for the fulfillment of nutritional requirements of the consumers and also it can be used by the diabetic patients because of the paste contains Kovakka leaves for maintaining their health.

Key words: Tilapia, Carp, Kovakka leaves, Fish paste, Sensory evaluations