

**A COMPARATIVE STUDY OF QUALITY OF TILAPIA
(*Oreochromis mossambicus*) MALDIVE FISH WITH
TRADITIONAL TUNA (*Katsuwonus pelamis*) MALDIVE FISH
AND A COMPARISON OF THE PROXIMATE COMPOSITION OF
RAW FISH AND MALDIVE FISH PREPARED FROM TILAPIA
(*Oreochromis mossambicus* and *Oreochromis niloticus*) AND TUNA
(*Katsuwonus pelamis*).**

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ABSTRACT

The main purpose of the present study was to investigate the effectiveness of preparation of maldivian fish as a preservation method for tilapia by considering its sensory and chemical quality parameters and nutritional aspects. The production of maldivian fish, a value added product from tilapia might be one of the preservation methods, which is easily adaptable as elaborate equipment is not required in this process.

Maldivian fish samples were prepared under laboratory conditions using baking technique. For the preparation of tilapia maldivian fish best salt concentration was determined through sensory evaluation by a panel of ten trained judges and it was found that the most acceptable salt level was 4 % of the weight of deheaded/gutted fish. Tuna maldivian fish samples were prepared by the traditional method using the salt level (6:1, fish: salt) given in Sri Lanka Standard for maldivian fish.

Proximate composition analysis of raw fish and maldivian fish prepared from two tilapia species (*Oreochromis mossambicus*, *Oreochromis niloticus*) and Skipjack tuna (*Katsuwonus pelamis*) showed that the protein content was significantly high in maldivian fish prepared from *Katsuwonus pelamis* while fat and ash contents were significantly high in two *Oreochromis* species.

Except peroxide value, all other objective quality parameters (total volatile nitrogen, trimethyl amine, free fatty acid, total bacterial count, mould count) used to determine the keeping quality of two maldivian fish products (*O. mossambicus* and *K. pelamis*) showed that quality was more acceptable in tilapia maldivian fish than in tuna maldivian fish during

the storage period of four months. Further, sensory evaluation of *O. mossambicus* and *K. pelamis* maldivian fish indicated that acceptability for the two products depended on their physical state as tilapia maldivian fish was preferred when they were presented in small pieces, while in whole piece form Skipjack tuna maldivian fish was preferred by the panel members. Analysis of the cost benefits of using tilapia for the production of maldivian fish instead of Skipjack tuna showed that although the yield recovery from tilapia and tuna differed highly (tuna 4:1 and tilapia 7:1) it did not affect very much to the final cost of production as production cost for 1kg of maldivian fish was about Rs.329/= and Rs.333/= for tilapia and tuna respectively.

Results revealed that the production of maldivian fish from tilapia could be used as a very promising preservation method if necessary actions are taken to increase tilapia fishery harvest. For the marketing purpose it will be more beneficial if tilapia maldivian fish were presented in small pieces form to the market.