

## NOTE

### Smoke curing of Catfish (*Tachysurus dussumieri*)

A sizeable quantity of catfish is being landed annually in India. The Marine Fisheries Information Service (1982) reports that in 1981 the landing was 59,390 t, a substantial increase of about 15,600 t (36%) in the total catch of catfishes as compared to 1980. This constituted about 4.3% of the total marine fish landing in India in that year. The quantity of catfish landed on the Kerala coast in 1981 was 9,562 t (3.4% of the total landings in Kerala). The fish is mostly underutilized except for a small quantity which is processed through salt curing. Hot smoking provides a low cost technology which is easily adoptable in rural conditions. Since it involves a diversification in the existing processing practices, it has great potentialities for the internal as well as overseas marketing. This note narrates the results of studies on the preparation of smoked catfish.

Fresh catfish collected from the Vellayil landing centre was used for the experiments. After an initial washing in water, the body of the fish was rubbed with coarse salt to remove any adhering slime and dirt. It was then gutted and cleaned in running water. Head and tail were removed and the flesh was cut into fillets of the size 15 x 5 cms. The fillets were then kept immersed in water at room temperature for 15 min to remove blood clots. This was found to improve the appearance of the smoked product. The fish was then brined. The brining was made as short as possible to minimise the development of salt-induced rancidity in the smoked product during storage (Stansby & Griffiths, 1943). Brining by dipping the fillets in an equal amount (w/v) of saturated brine for 30 min at room temperature resulted in sufficient penetration of salt. The brined fish was drained well, placed on wire trays and dried in sun for about 45 min. The partial drying was found to impart a glossy surface which took even smoke and gave a uniform appearance to the product.

The method of smoking was essentially the same as reported in the earlier studies (Devadasan *et al.* 1975; Muraleedharan & Valsan, 1976; Muraleedharan, *et al.* 1979; Muraleedharan & Valsan, 1980), but with slight modifications. The fillets were spread on wire trays and were placed in smoke kiln at a minimum height of 90 cm from the hearth. Smoking was carried out at 70–80°C for about 5 h till the fish acquired the characteristic smoky flavour and colour. This smoking time was found to be sufficient to impart a mild smoked taste and flavour to the fish flesh, natural fish flavour was not masked by that of the smoke. The smoked fish was finally dried to a moisture content of about 30%.

The product was packed in glass bottles and kept in room conditions. It could keep well for 30 days without any spoilage.

**Table 1.** Proximate composition of raw fillets and the smoked fillets

	Raw fillets	Smoked fillets
Moisture %	72.71	33.7
Sodium chloride		
DWB %	1.95	15.3
Protein (N x 6.25)%		
DWB	69.70	66.2
Fat % DWB	25.65	19.7
Total ash % DWB	3.24	16.5

**Table 2.** Yield at different stages of smoking process

	Yield %
Dressing and filleting	60.0
Brining	58.5
Partial drying	55.0
Smoking	42.5
Drying (final product)	36.3

The proximate composition of the raw catfish fillets and that of the smoked product are given in Table 1. Table 2

gives the yield of the product at different stages of processing.

The authors are grateful to the Director, Central Institute of Fisheries Technology, Cochin for the permission to publish this note.

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