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RESEARCH ARTICLE

Effect of selective improved methods of drying on the biochemical composition of ribbon fish, *Lepturacanthus savala*

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ABSTRACT : Traditional methods of ribbon fish drying need modification and improvement, due to consumer demand for high quality product. Therefore, in search of improved methods of drying ribbon fish, the use of solar tent drier, raised bamboo platform and black polythene sheet has been attempted. The biochemical and organoleptic quality of ribbon fish dried by these methods was compared with the ribbon fish dried by local method. Changes were observed in proximate composition, salt content, spoilage parameters and organoleptic scores during storage of dried ribbon fish in trend packs at ambient temperature for 120 days.

Key words : Ribbon fish, Drying methods, Biochemical composition

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INTRODUCTION

Drying is one of the most important methods of preserving fish throughout the world. In dried fish, preservation depends on reducing the moisture content to the level where microorganisms and most intrinsic enzymes become inactive. Although, drying is regarded as a traditional and primitive method of fish preservation in many developed countries, it has still vital importance in the less well developed regions of the world and will remain so for long time to come (Waterman, 1976). Curing in the form of salting, smoking and drying have all continued as preservation technique virtually unaltered from prehistory to the present day (Horner, 1992).

Small-headed ribbon fish has wide distribution almost all along the coast of India. Considering the maximum size it attains, abundance and the contribution to fishery, appreciable quantity is now being exported as frozen fillets (Gopakumar, 2002).

In the view of everlasting importance of curing, the objective of the present work is to undertake the comparative study of the changes in the biochemical composition during the storage of the ribbon fish dried by local method and those dried by adopting improved methods namely solar tent drier (STD), raised bamboo platform (RBP) and black polythene sheet (BP).

RESEARCH METHODS

Freshly caught small-headed ribbon fish, *Lepturacanthus savala* (Cuvier) landed in Mirkarwada landing centre, Ratnagiri were used in the present study. Fish were quickly transported to the processing hall in chilled condition using crushed ice for further processing. Fresh ribbon fish was given to the dry fish processors in Ratnagiri to dry the fish by the local method and was collected after completion of drying and was used in the present study. Crystalline common salt procured from local market was used for salting the fish. Bamboos and plywood procured from local market were used for fabrication of bamboo platform and solar tent drier. Black and transparent polythene sheets procured from local market were used for fabrication of solar tent drier and were also used as drying substrate for fishes. A solar tent drier based on the design given by Doe *et al*. (1977) was constructed. This design differs from the original design (Doe *et al*., 1977). The fish were placed on bamboo rack of dimension 2.0m x 1.0 m fabricated from split bamboos for drying inside the solar tent drier.

Bamboo platform of dimensions 2.0m x 1.0 m was fabricated using split bamboos. The bamboo platform was raised above the ground using a plywood stand of 0.5 m height for better circulation of air around the fish. Black