

QUALITY OF CURED FISHES ALONG GOPALPUR COAST OF ORISSA, INDIA

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ABSTRACT

Cured (Dried and dry-salted) products of some of the important varieties of fishes of Gopalpur coast of Orissa were procured for their quality assessment. The products were assessed for their biochemical, bacteriological and organoleptic qualities. The quality of market samples were compared with the samples prepared in laboratory using mechanical drier. Among all the cured fish samples analysed, most of the market samples were found to be having high moisture and sand contents. Besides, Total Volatile Base Nitrogen and non-protein nitrogen were high in market samples indicating the products of poor quality. From sensory evaluation point of view, it has been found that dry-salted products are better than the dried products.

Key words : Dry fish, Dry salted fish, Quality, Orissa.

Among different traditional methods of fish preservation, drying and salting in combination with drying (dry-salting) have dominated along Gopalpur coast of Orissa. Though drying and dry-salting are age old processes of preservation, they are very much prevailed at Gopalpur, where most of the fish caught are either dried or dry salted. The quality of cured fish products on the east and west coast of South India has been reported by Pillai *et al.* (1956), Sreenivasan and Joseph (1966), Joseph *et al.* (1986) and Thomas and Balachandran (1987). Wood (1984) and Solanki and Shankar (1988) have reported the quality of traditionally cured fish of Saurashtra coast. Basu *et al.* (1989) have also reported the quality of dry fish obtained from the fish markets in east Godavari districts of Andhra Pradesh and compared with the products prepared in laboratory. Sujatha (1999) studied the preparation of dry fish and dry salted fish by fisherwomen along Visakhapatnam coast and Pattnaik (2000) reported on marketing of dry fish products in Orissa as a small scale enterprise. However, no information is available on the cured / dried products of Gopalpur coast of Orissa. This paper reports the quality of dried fish and dry-salted fish available in the fish markets of Gopalpur coast of Orissa and also they were compared with the samples prepared in the laboratory using mechanical drier.

MATERIALS AND METHODS

The dry salted and dry fish samples were collected from the dry fish markets of Gopalpur for their quality determination. Also fresh samples of fish were collected from the landing centres for the preparation of sample in the laboratory. Freshly caught medium and large sized

fish were eviscerated, slight opened and washed thoroughly where as small sized fish were washed without eviscerating. The fish were dried in the laboratory using mechanical drier to obtain dry fish samples. On the other hand the fish were given a salt treatment at a ratio of salt : fish :: 1:3 for over night and then dried using mechanical drier to obtain dry salted fish samples. All the market and laboratory samples were analysed within 7 days of collection / preparation.

Moisture, salt (as NaCl), total ash and acid insoluble ash contents were determined by the method of AOAC (1980). Total nitrogen and non-protein nitrogen (NPN) were determined by the method of Srikar and Chandru (1983) and total volatile base nitrogen (TVBN) by the method of Beatty and Gibbons (1937). Total bacterial count was determined by the standard pour plate method using Tryptone Glucose Agar (TGA). Plates were incubated at 37^o C for 48 hrs. and then counts were taken. Total halophile count, total coliforms, *E. coli* and coagulase positive staphylococci were determined by the method recommended by Speck (1976). Organoleptic evaluation of the products sample was also carried out by an experienced taste panels.

RESULTS AND DISCUSSION

Details of the chemical composition of dry-salted fish samples and dry fish samples obtained from Gopalpur fish market and prepared in the laboratory are given in Tables 1 and 2, respectively. Among different market dry-salted fish samples analysed, the moisture content was found to be more than 40% in mackerel, sciaenids and sharks, within 30% to 40% in *Coilia dussumeri*, ribbon fish, cat fish and silver bellies. On comparing them with the laboratory made samples, the moisture level was