20.Preparation of salt-fermented Indian Mackerel

Preamble:

Salt fermented fish (*Lona ilish* and like products) has a great demand in North East India. However this product has become very scarce and at present comes only from Bangladesh. A substitute product like salt fermented mackerel can be sold in remunerative prices giving more money to fishermen in Maharashtra. The existing market channels to North East for dried fish can be used for marketing such products. This product is also tested to have acceptability among non-eaters of fermented fish. The new product has been prepared from Indian Mackerel locally called as *Bangda* in Marathi that imitates the taste and flavor of salt fermented hilsa. Mackerel is landed in glut in two seasons along Maharashtra & Goa and are sold at low price. A bulk of the catch also go for drying before being sold in north eastern states and other remote areas. Salt fermentation is a low cost technology and is expected to address bulk catch handling problem as well as its marketing issue. Under this project, the stable product developed from mackerel was improved in to a microbiologically controlled process with predictability of time and quality.

Objectives of the Project:

- To salt ferment Indian mackerel (*Rastrelliger kanagurta*) in microaerophilic and anaerobic conditions and evaluate their physico-chemical and sensory properties.
- To isolate and identify the fermenting microflora and use them for accelerating fermentation process
- To suitably pack and study the storage characteristics

Salient Features of the Technology:

The technology developed in the project resulted in a product, salt-fermented Indian mackerel that is protein-rich, with a unique fresh-fish like flavor and long storage stability. Besides, the use of a consortium of fermenting microflora could reduce the fermentation/maturation time considerably from 120 days to 75 days and helped in predicting the

quality of the final product. Controlled fermentation resulted in a better quality fermented fish that had superior physical and biochemical characteristics when compared to the conventionally fermented one. The product was highly accepted and was given good scores for sensory evaluation by the fermented fish-eating population in the North-eastern states of India. In addition, the fermented fish were subjected to Gamma irradiation (dosage of 1KGy to 5KGy) prior to their storage to improve the storage stability and duration. The fish samples irradiated at 5KGy were found to have better microbial quality and hence the shelf life could be extended to 6 months.

Configuration of the Processing Plant (Section Details):

The processing needs for the preparation of the fermented fish are basically use of vats, pre-processing tables, salting trays and microbial mass formation using fermenter or by mass culture. Therefore, requirement of a typical plant is not there.

Technology Transfer:

The technology for preparation of salt-fermented mackerel can be transferred to the fishermen of Maharashtra state. The microbial culture can be provided by CIFE or any other agency that wishes to take the right to culture and distribute the inoculum. The matured products can be collected, evaluated for quality, packed and distributed. At present, a small lot of the product has been given to private company to check this product through their distribution channel.

Fishermen would be able to fetch more money for their catch through marketing of salt fermented mackerel, when compared to sale of fresh or dried fish. This technology being very simple can be adopted by the fishermen without much investment and thereby can realize more value for their produce.

FOR DETAILS, CONTACT:

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Sample Products Developed under the Project

Fermented mackerel

Fermented mackerel in see through packs

Fermentation process