

FACULTY OF MARINE SCIENCES

VALUE ADDED ELECTIVE COURSE

VAMS-011- SEAFOOD PROCESSING TECHNOLOGY

Objectives:

Proper processing and packaging are highly essential for marketing the products at the national and international levels. This paper deals with the various processing methods besides packing and fishery by - products.

UNIT I – Preservation and Processing

Importance of preservation and processing of sea foods criteria for assessing freshness handling of fresh materials – on board handling, chilling methods, phenomena of rigor mortis, spoilage changes – causative factors (other than microbial).

UNIT II – Drying and irradiation

Drying and dehydration – conventional and modern methods, relative merits and demerits. Quality changes during drying and storage – functional properties, sensory quality, nutritional value, quality indices, storage life. Salt curing, picking and smoking – methods, merits and demerits – quality changes during processing and storage life – quality standards.

Irradiation – source of radiation, methods, merits and demerits, quality changes during processing and storage - quality standards , minimal processing technologies.

UNIT III – Freezing

Freezing and cold storage – process of freezing, types, quality changes during processing and storage. Canning – procedures, quality changes during processing and storage – quality standards. Role of preservatives in processing.

UNIT IV – Packing

Packing – function of packaging, special needs in food packaging, packaging materials, types -1 handling fresh fish, retail packing, whole sale packaging, Block frozen packs, IQF, layered and shatter packs, modified atmospheric packaging, vacuum packaging, boil and bag type, cans and containers, air freight packaging, packaging standards for wet shipment and irradiated foods. Food contact substances – limits. Labeling – information to be included, labeling regulation.

UNIT V – Fishery by – products

Fishery by – products of commerce – surimi, fish protein concentrate, meal and oil production, hydrolysis of fish protein. Cannery waste processing of fish stick water. Animal feeds, fish silage, fish liver preservation, fish gelatin, fish glue, leather from fish skin, chitin and chitosan, pearl essence, use of shells, fertilizer from fishery by products.

Reference books

1. Kreuzer R., 1974. Fishery Products, FAO Fishing News (Books) Ltd., England.
2. Anon, 1979. Handling, Processing and Marketing of Tropical fish, Tropical Products Institute, London.
3. Miller, M.D., 1990. Ciguatera Seafood Toxins, CRC Press.
4. Sikorski, Z.E., 1990. Seafood: Resource, Nutritional Composition, Preservation, CRC Press.
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6. Carison, V.R. and R.H Graves, 1996, Aseptic Processing and Packing of Food: A Food Industry Perspective, CRC Press.
7. Clucas, J and A.R. Ward., 1996. Post Harvest Fisheries Development; A guide to Handling preservation, processing and Quality. Publishing Manager Natural Resources Institute, Central Avenue, United Kingdom.
8. Gopakumar K., 1977. Tropical Fishery Products. Oxford & IBH Publication.
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10. Chandran, K.K., 2000 Post Harvest Technology of Fish and Fishery Products, Daya Publishing House, New Delhi.