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Poultry, Fisheries & Wildlife Sciences

Editorial

Brief Note on Fish Preservation

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DESCRIPTION

Fish is one of the maximum nutritionally valuable and distinctly perishable food stuffs. The delicacy of fish can be easily observed from its speedy quality deterioration immediately after harvest, if held improperly and not processed promptly. The natural composition of fish and the contaminations they come across all through the processing are the primary reasons for the onset and next unwanted quality modifications in those commodities.

Root cause of the fish spoilage

Improper handling and processing of seafoods, which includes fish, can cause its contamination and subsequent growth of pathogenic microorganisms. In addition, the natural incidence of aquatic biotoxins and natural pathogenic flora of the aquatic environment also contribute to seafood borne diseases.

Fish preservation techniques

Fish body consists of proteins, fats, minerals, vitamins, amino acids, iodine, phosphorus and huge quantity of water. Thereafter dead fishes get spoiled by the process of decomposition and therefore proper fish preservation techniques or methods are vital.

1. Chilling or refrigeration: In this technique, the fundamental idea is to preserve the fish at 0°C which prevents the spoilage for short period. At this temperature, the rate of decomposition of body tissue is extensively decreased and fish is preserved. For this purpose, ice is the best material used. Alternate layers of fish and ice are kept in closed vessels to maintain the temperature at 0°C.

2. Freeze drying: This procedure is lengthy as well as costly and used for the preservation of only good quality of fishes. This procedure includes steps, first freezing of the fish and then the second step is drying of fish by sublimation. In this method ice is converted into water vapor without melting. By this procedure the color and nutritive substances are completely preserved. In this method the fish is frozen at -20°C by preserving them in freezing chamber.

3. Salting: Salting is very old and common practice used in fish preservation in India and different parts of the world. Salting is nothing but the partial dehydration of fishes by osmosis with sodium chloride. Due to extreme salting, microbes are killed and diastasis is stopped.

4. Cold salting: In this procedure, salt and crushed ice is spread on the fishes. This procedure is performed in cold room only where temperature is maintained at 2 or 3°C. This is also referred to as light cold salting. Strong salting procedure is done on the normal room temperature. Salting is very common practice followed by fishermen close to sea shores. The small sized fishes are sun dried and preserved for longer period.

5. Drying: This is also a very old and common practice of fish preservation followed with the aid of using tropical countries like India, Japan, China and others in which sun rays are very effective to dry the fishes effortlessly. Sunlight is the most inexpensive and considerable supply of heat energy used for drying purpose. By this technique small sized fishes are dried. The fishes are stored for dehydration on a mat for 3 to 5 days and during this period turning over the fishes is continued. After complete dehydration, the dry fishes can be stored.

6. Canning: Canning is costly procedure of fish renovation and hence it is not usually used. However, it is extensively used in superior nations like America, France, Japan and Spain. This is prolonged, complicated but very advanced procedure of preservation. In this procedure, the best quality fishes are selected and their heads and viscera are removed. Then these eviscerated fishes are treated with brine (salt water), washed, dried and cooked in olive oil. This procedure is used to eliminate excess of water for two to five minutes.

7. Smoking: The process wherein fishes are preserved by the treatment of wooden smoke is referred to as smoking. This allows the preparation of sensitive specialties. While using this technique the temperature of smoke and its rate of movement should be controlled. The commercial smoking is executed in galleries with a smoking set up and a system for the proper movement of smokes. This technique was used to maintain the fishes in World War II but it is not recommended in the present day fish industries.

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Received date: November 02, 2021; **Accepted date:** November 16, 2021; **Published date:** November 23, 2021

Citation: Mahmud A (2021) Brief Note on Fish Preservation. Poult Fish Wildl Sci. 9:e134.