in suitable weighed lots in sealed polythene bags for retail marketing. For wholesale marketing, the fish can be packed in polythene lined gunny bags. This type of packaging prevents excessive dehydration during storage as well as contamination with harmful bacteria. Generally. one kg. of this mixture is required for dusting ten kg. of fish.

When the fish is soaked in water just before cooking to remove excess salt, this preservative mixture is also removed. This is thus a very safe, easy and effective method for preserving cured fish for a long time. Fish preserved by this method can be kept in very good condition for a minimum period of eight months.

Compared to the conventional cured product which spoils within two months, this is thus a very good method of preservation. This can be easily adopted by even the poor fishermen.

Advantages of the method

1. The method is very simple and can be easily adopted by the common man.
2. It prevents contamination with halophilic and other harmful bacteria and enhances the storage life of the cured fish considerably.
3. The calcium propionate does not affect the colour, smell, or taste of the cured fish in any way.
4. It is comparatively a very cheap method. Considering the enhanced shelf life and increased price that can be realised by curing fish by this method, the slight increase in the cost of production can be treated as negligible.

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IMPROVED METHOD OF FISH CURING

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Improved method of fish curing

Curing is the traditional, cheapest and oldest method of fish preservation in our country. Till recently, we used to export sizeable quantities of cured fish to Malaysia, Singapore, Ceylon, African countries and also to some western countries. With the advent of freezing and canning, the importance of curing as a fish preservation method has diminished. Taking sea fresh fish in prime condition to the interior parts of the country is, however, a bit difficult and costly in our country. As such, curing remains the only cheap and acceptable method of making fish available to the rural poor, in the interior parts of the country. For the same reason, curing still continues to be an important method of fish processing, but, by and large, the people engaged in curing are a bit reluctant to adopt scientific methods of processing. Compared to the industrialists in the freezing and canning fields, fish curers are backward educationally as well as financially. Because of this, industry continues to be rather primitive even today.

The present method of fish curing is most unscientific. Generally, poor quality fish is used for making cured products. The salt used is mostly of a very low quality containing a lot of dirt and sand. Fish cured using this type of salt without proper care for the hygienic conditions, are naturally of low quality. Even good quality water is not available in such fish curing yards. The fish landed are just stacked in big cement tanks with alternate layers of salt. The importance of keeping the premises neat is also often not realised. After keeping the fish in salt in this type of tank for two or three days, the fish is taken out and sun dried on the open beach. In this process, it gets contaminated with a lot of sand and this is then heaped on the ground itself without proper packing. Fish cured in this way often shows contamination with red halophilic bacteria and these products cannot be stored for more than two or three weeks at the most.

The CIFT has standardised method for preparing good quality cured fish and a brief outline of which is given below:

Method

The fresh fish landed is immediately washed in clean sea water to remove slime, adhering dirt, etc. These are then taken to the fish curing yard where very strict care is to be taken to maintain hygienic conditions and quality of material. Unlike in the traditional method, all further processing work should be done on carefully cleaned tables to avoid contamination with sand, dirt etc. It is advisable to use water chlorinated up to 10 ppm. for all these cleaning operations. On the processing tables, the fish is dressed, removing the viscera. In the case of fishes like sardines etc. it is advisable to remove the scales also to improve the appearance of the final cured product. The viscera should be immediately removed to the waste baskets kept under the tables. Care should be taken to keep the tables always clean. In the case of small fishes, evisceration and scaling is not practicable commercially. In such cases, fish is salted directly after cleaning it well.

The dressed fish is then washed in good quality water and the water is allowed to drain completely. This can be easily done in perforated plastic containers. After complete draining, the fish is taken to the salting table where good salt is applied to the fish uniformly by hand. Care must be taken to keep the hands of workers clean for this operation. In general, the salt -to-fish ratio can be 1:4 (one part salt to four parts fish).

After salting, the fish is stacked in very carefully cleaned cement tanks and kept for at least 24 hours in these tanks. After this, the fish is taken out and just rinsed in fresh water to remove excess solid salt adhering to its surface. The salted fish is then dried in clean drying platforms. These can be either on clean, raised cement platforms or on bamboo lattices. If these are not available, drying can be done on clean bamboo mats, but in this case, fish must be dried to a moisture content of 25% or below, At every stage, extreme care must be taken to maintain proper standards of hygiene.

Preservatives used

Fish dried by this method is then dusted with a mixture of calcium propionate and fine powdered salt. This mixture can be made by intimately mixing three parts by weight of calcium propionate with 27 parts by weight of powdered salt. Care must be taken to see that the mixture is applied uniformly on all parts of the fish. After this, the fish can be packed