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## **DRAFT EAST AFRICAN STANDARD**

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**Processing and handling of dried fish and fish products — Code of practice**

## **EAST AFRICAN COMMUNITY**

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## Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

FDEAS 833 was prepared by the Technical Committee EASC/TC 003, *Fish and fishery products*.



# Processing and handling of dried fish and fish products — Code of practice

## 1 Scope

This Draft East African Standard prescribes guidelines for processing and handling of dried fish and fish products intended for human consumption.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CAC/RCP 52-2003, *Code of practice for fish and fishery products*

CODEX STAN 192-1995, *General standard for food additives*

EAS 38, *Labelling of pre-packaged foods — Requirements*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 834, *Processing and handling of salted fish and fish products — Code of practice*

## 3 Terms and definitions

For the purposes of this standard, the following terms and definitions shall apply.

### 3.1

#### **drying**

process in which the moisture content in the fish and fish products is decreased to the recommended levels as specified in the respective East African Standards

### 3.2

#### **gibbing**

process of removing the gills, long gut and stomach from fatty fish such as herring, by inserting a knife or using hands at the gills; the milt or roe and some of the pyloric caeca are left in the fish

### 3.3

#### **nobbing**

process of removing the head and gut from fatty fish, in one operation by partially severing the head and pulling the head away together with the attached gut

### 3.4

#### **fish product**

any product where fish is the main component

**3.5**

**gutting**

complete removal of intestinal tract (stomach, intestines, gut) and all the internal organs of the fish

**3.6**

**solar drying**

drying technique done in a closed system that generates hot air at a constant temperature with or without solar panel

**3.7**

**fatty fish**

fish in which the main reserves of fat are in the muscle tissue and the fat content is more than 2 %

## **4 Design and construction**

### **4.1 Facilities**

The facility should include a product flow-through pattern that is designed to prevent potential sources of contamination, minimize process delays (which could result in further reduction in essential quality) and prevent cross-contamination of finished product from raw materials. Fish are highly perishable foods and should be handled carefully. Therefore, the facility should be designed to facilitate rapid processing and subsequent storage.

### **4.2 Equipment and utensils**

The equipment and utensils used in the preparation and processing of dried fish and fish products shall be made of food grade materials. All surfaces of equipment in handling areas should be non-toxic, smooth, impervious and sound condition to minimize physical contamination. Surfaces should have a minimum of sharp corners and projections. Chutes and conveyors should be designed to prevent physical damage caused by long drops or crushing and storage equipment should be fit for purpose and not lead to crushing of the product.

## **5 Handling of raw material for dried fish and fish products**

Handling of raw material for preparing dried fish and fish products shall be done in accordance with the requirements of EAS 39 and CAC/RCP 52.

## **6 General provisions**

- 6.1** The drying process should begin as soon as possible after the receipt of fish to avoid deterioration.
- 6.2** Fresh fish for drying should be checked for suitability.
- 6.3** Depending on the species and size, fish for drying should be completely bled as soon as possible.
- 6.4** Fresh fish intended for processing dried fish and fish products should be checked for visible parasites.
- 6.5** Frozen fish should not be dried before it has been thoroughly thawed and inspected for suitability.
- 6.6** For oily species, boiling should be done prior to drying to reduce fat content that may enhance rancidity.

**6.7** To minimize time delays, the processing lines should, where applicable, be designed to be continuous and sequential to permit uniform flow without stoppages or slowdowns and removal of waste.

**6.8** When drying by sun or wind, the fish and fish products should be protected from all forms of potential contamination such as Polycyclic Aromatic Hydrocarbons (PAH), soil, dust and fumes.

**6.9** Sun drying of fish and fish products should not take place near industrial point, sources of combustion of gas or in the immediate proximity of roads with intense traffic.

**6.10** Additives if used during processing and storage of dried fish and fish products shall comply with CODEX STAN 192.

**6.11** The working environment shall be kept in hygienic and sanitary conditions as stipulated under EAS 39.

## **7 Preparing fish for drying**

### **7.1 Raw, fresh or frozen fish reception**

Any process at fish receiving area should be done in a manner that the quality of fish is not impaired.

### **7.2 Filleting, skinning and trimming**

Filleting, skinning and trimming of fish intended for drying shall be done in accordance with FDEAS 834.

### **7.3 Nobbing**

Where necessary nobbing process shall be done in accordance with FDEAS 834.

### **7.4 Gibbing**

Where necessary gibbing process shall be done in accordance with FDEAS 834.

### **7.5 Sorting**

Dried fish should be sorted into species, sizes and trade quality categories for specific markets.

## **8 Drying methods**

### **8.1 Sun drying**

**8.1.1** Dried fish and fish products shall be placed on raised platform or racks away from the presence of potentially harmful contaminations.

**8.1.2** Dried fish and fish products shall be protected from vermin and contamination by birds, dropping from animals, dust and any other extraneous material.

### **8.2 Dehydrators**

**8.2.1** Dehydrators may be used for larger drying yards and processing units. Dehydration allows steady production cycle to be maintained and is an insurance against unfavorable weather conditions for sun drying.

**8.2.2** A system using a combination of initial sun drying followed by finish dehydration may be used because it has considerable advantage without loss of quality.



### **8.3 Oven drying**

**8.3.1** Fish and fish products for oven drying should be properly arranged such that voids or channels between products are minimized and that drainage is adequate.

**8.3.2** Fish piles should never be placed directly on the floor or in direct contact with the wall.

**8.3.3** Time and temperature should be carefully controlled to obtain the desired product.

**8.3.4** Fish should be re-stacked periodically with the top of the pile going to the bottom of the new pile.

**8.3.5** If the fish is re-stacked on pallets, the pallet should be clean.

**8.3.6** Racks or hanging tools should be used for large fish.

### **8.4 Solar drying**

**8.4.1** Fish and fish products for solar drying should be properly arranged such that voids or channels between products are minimized and that drainage is adequate.

**8.4.2** Fish piles should never be placed directly on the floor or in direct contact with the wall.

**8.4.3** Time and temperature should be carefully controlled to obtain the desired product.

**8.4.4** Fish should be re-stacked periodically with the top of the pile going to the bottom of the new pile.

**8.4.5** If the fish is re-stacked on pallets, the pallet should be clean.

**8.4.6** Racks or hanging tools should be used for large fish.

**8.4.7** Solar dried fish and fish products shall be placed on raised platform or racks away from the presence of potentially harmful contaminations.

**8.4.8** Solar dried fish and fish products shall be protected from vermin and contamination by birds, dropping from animals, dust and any other extraneous material.

## **9 Packaging**

**9.1** Packaging for dried fish and fish products shall be carried out under hygienic conditions.

**9.2** The packaging material shall

- a) be properly protected and segregated to prevent cross-contamination;
- b) not be in such condition as to impair the organoleptic characteristics of the dried fish and fish products;
- c) not be capable of transmitting harmful substances to fish and fish products;
- d) be strong enough to protect the fish and fish products adequately; and
- e) be stored in establishment away from the production area and be protected from dust and contamination.

## 10 Labelling

Labelling of the product shall follow the requirements stipulated within the specific product standard and the EAS 38.

## 11 Storage

**11.1** Dried fish and fish products should be stored in a clean and well ventilated room with relative humidity (RH) that should not exceed 75 % and a temperature of about 25 °C.

**11.2** A systematic stock rotation plan should be developed to ensure first-in-first-out of the product.

**11.3** Temperature and storage time should be monitored and recorded at regular intervals.

**11.4** The products should be handled carefully and not be over stacked.

## 12 Conditions for distribution and marketing of dried fish and fish products

Dried fish and fish products intended for human consumption shall be distributed in the following conditions:

- a) transport in containers that are vermin-proof, non-corrosive, easy to clean and disinfect;
- b) cover to prevent damage, exposure to direct sunlight and contamination;
- c) no passenger shall sit on fish aboard a transport facility; and
- d) no cargo shall be placed on fish aboard a transport facility.

Only fish and fish products which are safe and wholesome shall be placed on market for sale



