DEAS 826 : 2022

ICS 67.120.30

DRAFT EAST AFRICAN STANDARD

Dried fish — Silver cyprinid (*Rastrineobola argentea)* — Specification

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.

EAS 826 was prepared by the Technical Committee EASC/TC 003, *Fish and fishery products*.

Dried freshwater sardines —— Specification

1 Scope

This Draft East African Standard specifies the requirements and methods of sampling and test for dried freshwater sardines species like *Rastrineobola argentea, Stolothrissa tanganicae, Limnothrissa miodon, and Engraulicypris sardella, Engraulicypris bredoi, Brycinus nurse* intended for human consumption.

NOTE: This includes common names used in EAC such as 'Dagaa, Indagala, Isambaza' Mukene, Muziri), Omena, Ragogi and Usipa.

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.

AOAC 972.23, *Lead in fish — Atomic absorption spectrophotometric method*

AOAC 983.20, *Mercury (methyl) in fish and shellfish— Gas chromatographic method*

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

CXG 50, *General guideline on sampling*

CXC 52, *Code of practice for fish and fishery products*

EAS 12, *Drinking (potable water) — Specification*

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

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

EAS 803, *Nutrition labelling — Requirements*

EAS 805, *Use of nutrition and health claims — Requirements*

ISO 4833-1, *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony-count technique at 30 degrees C by the pour plate technique*

ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

ISO 6579-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*

ISO 6888 (all parts), *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)*

ISO 7937, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of Clostridium perfringens — Colony-count technique*

ISO 16050, *Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxin B1, B2, G1 and G2 in cereals, nuts and derived products — High performance liquid chromatographic method*

ISO 21527-1*, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colony count technique in products with water activity greater than 0,95*

ISO/TS 21872 (all parts), *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of potentially enteropathogenic Vibrio spp.*

3 Terms and definitions

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

3.1
dried freshwater sardines
whole product presented as a dried fresh water fish which has not been gutted, beheaded or split and subsequently washed and dried

3.2
sardines
sardines and sardine-like fish are groups of small often schooling ray-finned fishes of the families cyrinidae, clupeidae and alestidae

3.3
food grade container
packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour, colour or flavour to the product

3.4
sound
free from physiological deterioration or adulteration/contamination, that appreciably affects their appearance, edibility and the keeping quality of the dried fish

3.5
foreign matter
any material which is not of fish origin such as sand, stones, metallic chips, plant parts

4 Requirements

4.1 General requirements

4.1.1 Raw material

4.1.1.1 Dried freshwater sardines shall be prepared from fresh and sound sardines which is of an acceptable quality and fit for human consumption.

4.1.1.2 Dried freshwater sardines may be prepared from fermented, or precooked sound sardines which is of an acceptable quality and fit for human consumption.

4.1.1.3 Water used during fish processing shall be potable complying with EAS 12.

4.1.2 Finished product

4.1.2.1 Dried freshwater sardines may have the characteristic skin colour and odour of the specific species;

4.1.2.2 Dried freshwater sardines shall:

a) be free from any indication of spoilage such as mouldiness, colour and odour change; and

b) be free from foreign matter.

4.2 Specific requirements

4.2.1 Dried freshwater sardines shall comply with the specific requirements given in Table 1.

Table 1 – Specific requirements for dried freshwater sardines

S/N	Parameter	Requirement	Test method
i.	Moisture, %, max.	12	Annex A
ii.	Total ash, % max.	15	Annex B
iii.	Acid insoluble ash, % max.	0.5	ISO 5985

4.2.2 Dried freshwater sardines shall be presented not less than 90 % whole.

5 Food additives

Food additives may be used in the preparation of dried freshwater sardines in accordance with CODEX STAN 192.

6 Hygiene

6.1 The product shall be prepared and handled in accordance with EAS 39 and CXC 52 and shall comply with microbiological limits given in Table 2.

Table 2 — Microbiological limits for dried freshwater sardines

S/No.	Type of microorganism	Maximum limit	Method of test
1	*Salmonella* in 25 g	Absent	ISO 6579-1
2	*Escherichia coli*, CFU/g	Absent	ISO 16649-2
3	*Staphylococcus aureus*, CFU/g	10^3	ISO 6888
4	Total viable count, CFU/g	10^5	ISO 4833-1
5	*Clostridium perfrigens,* CFU/g	Absent	ISO 7937
6	Yeast and moulds, CFU/g	10^3	ISO 21527-2
7	*Vibrio spp/25g*	Absent	ISO/TS 21872

6.2 The product shall be free from any parasites.

7 Contaminants

7.1 Heavy metals

Dried freshwater sardines shall comply with the heavy metal limits given in Table 3.

Table 3 — Heavy metal limits for dried freshwater sardines

S/No.	Heavy metal	Maximum limit, mg/kg	Test method
(ii)	Lead	0.3	AOAC 972.23
(iv)	mercury	0.5	AOAC 983.20

7.2 Aflatoxins

When tested in accordance with ISO 16050, the level of total aflatoxin in dried freshwater sardines shall not exceed 10 µg/kg.

7.3 Pesticide residues

Dried freshwater sardines shall comply with those maximum pesticides residue limits established by the Codex Alimentarius Commission for similar commodities.

9 Packaging

Dried freshwater sardines) shall be packaged in food grade containers.

10 Labelling

10.1 In addition to the requirements in EAS 38, the following specific labelling requirements shall apply and shall be legibly and indelibly marked:

a) Name of the product as “Dried freshwater sardines” and/or local name (*Dagaa/Indagala / Isambaza /Mukene /Omena/ Usipa/Kapenta/Muziri/Furu).”*

b) Species name

c) name and physical address of processor/packer;

d) net weight in grams or kilograms;

e) date of packaging;

f) batch number;

g) expiry date;

h) storage conditions; and

i) country of origin.

10.2 Nutritional labelling, nutrition and health claims may be made in accordance with EAS 803, 804 and EAS 805.

11 Sampling

Sampling shall be done in accordance with CXG 50.

Annex A
(normative)

Determination of moisture content

A.1 Principle

The sample is dried to constant weight in an oven.

A.2 Apparatus

A.2.1 Moisture dishes, made of nickel, stainless steel, aluminium or porcelain, with well-fitting lids

A.2.2 Oven

A.2.3 Desiccator

A.3 Procedure

Weigh accurately about 10 g of the sample in a suitable moisture dish, previously dried in an oven and weighed. Place the dish in an oven maintained at 105 °C ± 2 °C for five hours. Cool the dish in a desiccator and weigh with the lid on. Repeat the process of heating, cooling and weighing at half-hour intervals until the loss in mass between two successive weightings is less than 1 mL. Record the lowest mass obtained. Preserve the dish containing this dried material in a desiccator for the determination of total ash (see B.2.3).

A.4 Calculation

The moisture content shall be expressed as follows:

$$\text{Moisture, \% by mass} = \frac{m_1 - m_2}{m_1 - m} \times 100$$

where

m_1 is the mass, in grams, of the moisture dish with material before drying;

m_2 is the mass, in grams, of the moisture dish with the material after drying; and

m is the mass, in grams, of the empty moisture dish.

Annex B
(normative)

Determination of total ash

B.1 Principle

Incineration of a test portion in an oxidizing atmosphere at a temperature of 550 °C – 600 °C until combustion of organic matter is complete and constant mass is obtained.

B.2 Apparatus

B.2.1 **Platinum**, porcelain or silica crucibles

B.2.2 **Muffle furnace** at 550 °C – 600 °C

B.2.3 **Desiccator**

B.3 Procedure

Weigh accurately about 5 g of the preserved material (see A.3) in a tared, clean and dry porcelain dish. Ignite the material in the dish with flame of a suitable burner for about one hour. Complete the ignition by keeping in muffle furnace at 500 °C until grey ash results. Cool in a desiccator and weigh. Repeat the process of igniting, cooling and weighing at half-hour intervals until the difference between two successive weightings is less than 1 mL. Note the lowest mass. Preserve this ash for determination of acid insoluble ash.

B.4 Calculation

The total ash shall be expressed as follows:

$$\text{Total ash (on dry basis), \% by mass} = \frac{(m_2 - m)}{(m_1 - m)} \times 100$$

where

m_2 is the mass, in grams, of the porcelain dish with the ash;

m is the mass, in grams, of the empty porcelain dish; and

m_1 is the mass, in grams, of the porcelain dish with the dried material taken.

Bibliography

KS 05-1470:1998, *Specification for fresh dried rastrineobola argentea (Omena/Dagaa)*