



DRAFT TANZANIA STANDARD

Corned beef – Specification

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0 FOREWORD

Corned beef is chopped, cured, boneless carcass meat from animals of bovine species and may include head meat, heart meat and skirt meat. It was found necessary to prepare this Tanzania standard due to an increased importation of corned beef in Tanzania.

This Tanzania standard is intended for ensuring safety and quality of corned beef traded in the country.

In the preparation of this Tanzania standard considerable assistance was drawn from CODEX STAN 88-1981 *For Corned Beef* published by the Codex Alimentarius Commission.

In reporting, the results of a test or analysis made in accordance with this standard, if the final value observed or calculated, is to be rounded off, it shall be done in accordance with TZS 4 (see clause 2).

1.0 SCOPE

This Tanzania standard specifies requirements, methods of sampling and test for corned beef.

2.0 REFERENCES

For the purpose of this Tanzania standard, the following standards shall apply. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

TZS 4 – Rounding off numerical values.

TZS 76 – General method for determination of Arsenic silver diethyldithiocarmate photometric method.

TZS 118/ISO 4833, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony-count technique at 30°C

TZS 119 – Microbiology – General guidance for the enumeration of *coliforms* – Most Probable Number technique (MPN).

TZS 121, Microbiological examination for *Clostridium botulinum* and *Clostridium botulinum* toxins – Test method.

TZS 122 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Salmonella spp.*

TZS 125 – Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) – Part 1: Technique using Baird-parker agar medium – Amendment 1: Inclusion of precision data.

TZS 131 – Microbiology - General guidance for enumeration of yeast and moulds – Colony count technique at 25 °C.

TZS 458 Code of hygiene for meat processing plant.

TZS 538 – Packaging and labelling of foods.

TZS 852-2 – Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of *Listeria monocytogenes* - Enumeration method

TZS 731 – Microbiology of food and feeding stuffs – Horizontal method for detection and enumeration of presumptive *Escherichia coli* – Most Probable Number Technique.

TZS 1760 /ISO 937 Meat and meat products – Determination of nitrogen content (Reference method).

ISO 17604 Microbiology of the food chain – Carcass sampling for microbiological analysis.

Codex Stan 193 – Codex general standard for contaminants and toxins in food and feed.

TZS 949-1 /ISO 21528-1, Microbiology of food and animal feeding stuffs – Horizontal methods for the detection and enumeration of Enterobacteriaceae – Part 1 – Detection and enumeration by MPN technique with pre-enrichment.

TZS 949-2/ISO 21528-2, Microbiology of food and animal feeding stuffs -- Horizontal methods for the detection and enumeration of Enterobacteriaceae – Part 2 – Colony count method.

TZS 1761/ISO 1443 Meat and meat products – Determination of total fat content.

ISO 1442 Meat and meat products – Determination of moisture content (Reference method)

ISO 936 Meat and meat products – Determination of total ash

3.0 TERMS AND DEFINITIONS

For the purpose of this standard, the following terms and definitions shall apply:

3.1 canned beef

packed in a tin or other hermetically sealed container and sterilized after sealing in a vacuumed state.

3.2 corned beef

a salt cured beef product.

3.3 premium cut canned corned beef

prepared from chopped, cured, boneless carcass meat from animals of bovine species.

3.4 canned corned beef

weasands, tongue-roots, bleached tripes, head meat, from which the overlying glandular and connective tissues have been removed, heart meat exclusive of heart cap and thick skirt meat excluding thin skirt.

3.5 hermetically sealed container

a container which is completely sealed, rigid and impermeable and which is made of any appropriate material, which is suitable for the product, specified in the standard.

4.0 REQUIREMENTS

4.1 General requirements

4.1.1 Raw materials

- a) Uncured beef; shall be of a quality suitable for human consumption and free from any deteriorative changes and shall not exhibit off colour, off flavour or objectionable odours;
- b) Curing ingredients consisting of food grade salt (sodium chloride); and
- c) Sodium or Potassium nitrite

4.1.2 Optional ingredients

- a) Sucrose, invert sugar, dextrose (glucose), lactose, maltose, glucose syrup (including corn syrup).
- b) Sodium monoglutamate.
- c) Where standards have been declared for ingredients named above, such ingredients shall conform to such standards.

4.1.3 Food additives

The following additives when used in canned corned beef shall comply with the requirements prescribed in Table 1, calculated on the total net content of the final product:

Table 1: List of additives and levels of use

S/N	Additive	Requirements
1.	¹ Nitrite, potassium and/or sodium salt, ppm, max.	50
2.	Potassium chloride	GMP
2.	² Ascorbic acid and its Sodium salts, ppm, max	300
3.	Iso-ascorbic acid and its sodium salt, ppm, max.	
¹ Expressed as ascorbic acid singly or in combination ² Total nitrite expressed as sodium nitrite. Maximum level calculated on the total net content of the final product		

4.1.4 Corned beef shall be prepared from coarsely cut beef that has been pre-cooked or a mixture of such pre-cooked beef to which a maximum of 5% raw beef has been added and in either case, the meat shall be cured.

The heat treatment shall be applied after the container is sealed and shall be sufficient to ensure that the finished product is shelf-stable and presents no hazard to public health.

4.1.5 Corned beef shall be;

- a) Clean and substantially free from staining from container.
- b) Uniformly and thoroughly cured with fat evenly distributed throughout the content of the can.
- c) A uniform texture and capable of being sliced at 18 °C.
- d) Free from foreign matter, and non-muscular tissues like bones, glands, blood clots, skins, hides and cartilage.
- e) Satisfactory for sterility tests.

4.2 Specific requirements

Corned beef shall comply with the requirements prescribed in Table 2.

Table 2: Specific requirements for corned beef

S/N	Characteristic	Requirement	Test methods
1.	*Moisture content, % m/m, max.	63	ISO 1442
2.	Crude fat (fat free basis), % m/m, min.	15	TZS 1761
3.	Crude protein, % m/m, min.	21	TZS 1760
4.	Total ash, % m/m, min.	1	ISO 936
	*giving a protein to moisture ratio of 1:1.2 to 1:2.5		

5.0 CONTAMINANTS

5.1 Corned beef shall comply with the requirements for heavy metals prescribed in Table 3.

Table 3: Heavy metals

S/N	Characteristic	Requirement	Test Method
1.	Copper (Cu), mg/kg, max.	20	ICP/AAS
2.	Lead (Pb), mg/kg, max.	1	TZS 268
3.	Arsenic (As), mg/kg, max.	1	TZS 76
4.	Tin (Sn): For corned meat in tinfoil, mg/kg, max.	200	AOAC 1990
5.	Tin (Sn): For corned meat in other containers, mg/kg, max.	50	AOAC 1990

5.2 Veterinary drug residues

The maximum allowable veterinary drug residue limits in corned beef shall be as prescribed in the CAC/MRL 2.

6.0 HYGIENE

6.1 Corned beef shall be prepared under strict hygienic conditions according to TZS 458 (See clause 2).

6.2 Corned beef shall comply with microbiological requirements prescribed in Table 4.

Table 4: Microbiological requirements for corned beef

S/N	Characteristic	Requirements	Method of test (see clause 2)
1.	Total plate count, cfu/g, Max.	10 ⁴	TZS 118
2.	Enterobacteriaceae, cfu/g Max.	10 ²	TZS 949 (Part 1 or 2)
3.	<i>Salmonella spp</i> /25 g,	Absent	TZS 122
4.	<i>Escherichia coli</i> , MPN/g,	Absent	TZS 731
5.	<i>Listeria monocytogenes</i> ,	Absent	TZS 852 (Part 2)
6.	<i>Clostridium botulium</i>	Absent	TZS 121
7.	<i>Staphylococcus aureus</i> , cfu/g	Absent	TZS 125 (Part 1)
8.	Yeast/moulds, cfu/ml, Max.	10 ²	TZS 131

7.0 SAMPLING AND TESTS**7.1 Sampling**

Sampling of the corned beef shall be done according to ISO 17604 (See clause 2).

7.2 Tests

Testing of corned beef shall be done according to test methods prescribed in Tables 1, 2, 3 and 4

8.0 PACKAGING, MARKING AND LABELLING**8.1 Packaging**

In addition to the packaging requirements prescribed in TZS 538 (see clause 2), Corned beef shall be packed in hermetically sealed containers and shall not be exposed to direct sun or rain.

8.2 Marking and labelling

Corned beef shall be marked and labeled in accordance with TZS 538 (see clause 2). In addition, each container shall be legibly and indelibly marked with the following information:

- a) Name of the product ;
- b) Country of origin;
- c) Declaration of preservatives used;
- d) Name and physical address of the manufacturer or packer;
- e) Net Weight content;
- f) List of ingredients;
- g) Nutritive value;
- h) Batch or code number;

- i) Date of manufacture shall be clearly shown on the container;
- j) Expiry date shall be clearly shown on the container;
- k) Instructions for use and storage;
- l) The language on the label shall be “Kiswahili” or Kiswahili and English. Additional language may be used depending on the designated market.

8.3 The container may also be marked with TBS Certification Mark.

NOTE – The TBS Standards Mark of Quality may be used by the manufacturers only under license from TBS. Particulars of conditions under which the licenses are granted may be obtained from TBS.

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