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ICS 67.120

EAST AFRICAN STANDARD

Curried and canned mutton and goat meat — Specification

EAST AFRICAN COMMUNITY

Foreword

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

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. 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.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

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.

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Introduction

In the preparation of this East African Standard, the following sources were consulted extensively:

IS 3044:1973(R2000), *Specification for Mutton and Goat Meat, Curried and Canned*

Codex Alimentarius website: http://www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp

USDA Foreign Agricultural Service website: <http://www.mrldatabase.com>

USDA Agricultural Marketing Service website: <http://www.ams.usda.gov/AMSV1.0/Standards>

USDA Plant Inspectorate Service website: http://www.aphis.usda.gov/import_export/plants

European Union: http://ec.europa.eu/sanco_pesticides/public

Assistance derived from these sources is hereby acknowledged.

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Curried and canned mutton and goat meat — Specification

1 Scope

This East African Standard specifies the requirements and the methods of test for mutton and goat meat, curried and canned.

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 Official Method 931.06:1931, *Phosphorus (Total) (P_2O_5) in Eggs*

CAC/RCP 1, *Recommended international code of practice — General principles of food hygiene*

CD-K-670:2010, *Bovine (beef) meat — Carcasses and cuts*

CD-K-671:2010, *Caprine (goat) meat — Carcasses and cuts*

CD-K-672:2010, *Ovine (sheep) meat — Carcasses and cuts*

CD-K-673:2010, *Porcine (pig) meat — Carcasses and cuts*

CD-K-692:2010, *Mutton and goat meat canned in brine — Specification*

CD-K-675:2010, *Edible meat co-products*

CD-K-683:2010, *Smoked bacon — Specification*

CD-K-692:2010, *Mutton and goat meat canned in brine — Specification*

CD-K-693:2010, *Animal casings — Specification*

CD-K-697:2010, *Code of hygienic practice for meat*

CD-K-699:2010, *Veterinary drugs residues in foods — Maximum residue limits*

CD/K/700:2010, *Ante-mortem and post-mortem inspection of meat animals — Code of practice*

EAS 5, *Refined white sugar — Specification*

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

EAS 35, *Edible salt — Specification*

EAS 38, *Labelling of prepackaged foods — Specification*

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

EAS 41, *Fruits, vegetables and derived products — Sampling and methods of test*

EAS 103, *Schedule for permitted food additives*

EAS 123, *Distilled water — Specification*

- ISO 936, *Meat and meat products — Determination of total ash*
- ISO 937, *Meat and meat products — Determination of nitrogen content (Reference method)*
- ISO 1442, *Meat and meat products — Determination of moisture content (Reference method)*
- ISO 1443, *Meat and meat products — Determination of total fat content*
- ISO 1444, *Meat and meat products — Determination of free fat content*
- ISO 1736, *Dried milk and dried milk products — Determination of fat content — Gravimetric method (Reference method)*
- ISO 1737, *Evaporated milk and sweetened condensed milk — Determination of fat content — Gravimetric method (Reference method)*
- ISO 1841-1, *Meat and meat products — Determination of chloride content — Part 1: Volhard method*
- ISO 1841-2, *Meat and meat products — Determination of chloride content — Part 2: Potentiometric method*
- ISO 2294, *Meat and meat products — Determination of total phosphorus content (Reference method)*
- ISO 2917, *Meat and meat products — Measurement of pH — Reference method*
- ISO 2918, *Meat and meat products — Determination of nitrite content (Reference method)*
- ISO 3091, *Meat and meat products — Determination of nitrate content (Reference method)*
- ISO 3496, *Meat and meat products — Determination of hydroxyproline content*
- ISO 4134, *Meat and meat products — Determination of L-(+)- glutamic acid content — Reference method*
- ISO 4831, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms — Most probable number technique*
- ISO 4832, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique*
- ISO 4833, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 degrees C*
- ISO 5537, *Dried milk — Determination of moisture content (Reference method)*
- ISO 5553, *Meat and meat products — Detection of polyphosphates*
- ISO 5554, *Meat products — Determination of starch content (Reference method)*
- ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*
- ISO 6491, *Animal feeding stuffs — Determination of phosphorus content — Spectrometric method*
- ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*
- ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

ISO 8156, *Dried milk and dried milk products — Determination of insolubility index*

ISO 9390, *Water quality — Determination of borate — Spectrometric method using azomethine-H*

ISO 13493, *Meat and meat products — Determination of chloramphenicol content — Method using liquid chromatography*

ISO 13496, *Meat and meat products — Detection of colouring agents — Method using thin-layer chromatography*

ISO 13730, *Meat and meat products — Determination of total phosphorus content — Spectrometric method*

ISO 13965, *Meat and meat products — Determination of starch and glucose contents — Enzymatic 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 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

3 Definitions and presentation

3.1 Definitions

For the purpose of this standard, the following definitions shall apply.

3.1.1

meat

the uncured sound and wholesome flesh of the goat or sheep, used as food.

3.1.2

Offal

This includes brain, fries (liver), gut, paunches, udders, sweetbreads (thymus, pancreas) tripe, spleen, lungs, salivary glands, lymphatic glands, testicles, uterus, ovaries, cartilage and bony tissue.

3.2 Presentation

Mutton and goat meat, curried and canned shall be of two types, namely:

- a) Meat, curried as chunks; and
- b) Meat, curried as mince meat.

4 Requirements

4.1 Hygienic requirements

The material shall be prepared and handled under strict hygienic conditions by persons free from contagious and infectious diseases and only in premises maintained in a thoroughly clean and hygienic condition and having adequate and safe water supply (see EAS 39) and duly approved and licensed by the public health authorities concerned. All workers shall use clean, white, washed clothings. Necessary precautions shall be taken to prevent incidental contamination of the product from soiled equipment or from personnel suffering from injuries.

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4.1.1 All equipment coming in contact with raw materials or products in the course of manufacture shall be kept clean. An ample supply of steam and water, hose, brushes and other equipment necessary for proper cleaning of machinery and equipment shall be available. The equipment may be sterilized by immersion in/ or swabbing with hypochlorite or other suitable chlorine solution.

4.1.2 Quality of water used for processing shall conform to EAS 12.

4.2 Ingredient requirements

4.2.1 Meat

All meat used shall be obtained from healthy animals slaughtered in licensed premises and subjected to ante-mortem and post-mortem inspection as prescribed in CD/K/700:2010.

4.2.1.1 After slaughter, the meat shall be hung in cold storage for such length of time as to bring the bone temperature to 2.0 ± 0.5 °C. Fasciae and depot fat shall be separated, as far as possible.

4.2.1.2 The set meat shall be freed from bones, blood clots, bruised material, all skin, stringy and fibrous tissue, tendons and excessive fat. Viscera shall not be canned.

4.2.1.3 After setting, the material shall be either minced to prepare mince meat, curry or cut into chunks 2.5 to 4 cm in dimension.

Chunks shall be obtained from only the fore and hind quarters, or from flanks capable of giving chunks of the required dimensions. For preparing mince meat, head meat, trimmed meat, meat from shanks, flanks, and thin meat may be used.

4.2.2 Fat

Only pure, wholesome, edible vegetable oil conforming to relevant East African Standards shall be used for cooking.

4.2.3 Salt

Salt used shall conform to EAS 35.

4.2.4 Other ingredients

Spices and all other ingredients used shall be clean, sound and strictly wholesome and in every way fit for human consumption.

4.3 Preparation

The meat curry shall be prepared as agreed to between the purchaser and the packer, care being taken that during preparation all the meat juices or other nutrients are retained in full during the processing.

4.4 Food additives

The material shall be free from artificial colouring matter, additives, preservatives and firming agents.

4.5 Tenderizing agents

Tenderizing agents, either natural or artificial to soften meat before processing, shall not be used.

4.6 Requirements for the finished product

4.6.1 The contents of the can on opening shall not display disintegration. Excessive separation of muscle fibres resulting in a fluffy suspension shall be considered as disintegration.

4.6.2 The curry shall have the characteristic flavour.

4.6.3 The material shall be free from pieces of bristle, hair, skin and particles of bone. It shall be free from dirt, insect or rodent contamination or any other extraneous matter.

4.6.4 Vacuum requirements

The can shall give a negative pressure of not less than 150 mm of vacuum at 27 ± 2 °C under normal atmospheric pressure.

4.6.5 The average proportion of meat to gravy shall be in the ratio of 60: 40 in case of chunks and 55: 45 in case of mince meat. A tolerance of ± 5 percent is permitted

4.6.6 The material shall also conform to the requirements prescribed in Table 1

5 Packing and marking

5.1 Packing

5.1.1 Packing in cans

The material shall be packed in suitable open top sanitary cans. The cans shall be cleaned with hot water before filling. The cans shall be either plain or internally lacquered and hermetically sealed. When lacquered, the lacquer shall not be fat soluble and such that it will not be destroyed, altered or its components transferred in the material during processing or subsequent storage and transport.

Table 1 — Microbiological and heavy metal limits for canned curried mutton and goat meat

Type of contaminant		Requirement	Method of test
(i)	Microbiological requirements	Shall be commercially sterile	E.5 of CD/K/520-1:2010
(ii)	Arsenic, mg/kg, max	1.0	EAS 41
(iii)	Copper, mg/kg, max	10	EAS 41
(iv)	Tin, mg/kg, max	250.0	EAS 41
(v)	Mercury, mg/kg, max	0.5	EAS 41
(vi)	Lead, mg/kg, max	5.0	EAS 41
(vii)	Cadmium, mg/kg, max	0.3	EAS 41
(viii)	Zinc, mg/kg, max	50.0	EAS 41
(ix)	Sodium chloride, % by mass	1.0 to 2.0	Annex B
(x)	Total fat, % by mass	3.0 to 7.0*	ISO 1443

*Fat content may be increased subject to the agreement between the packer and the purchaser.

5.1.2 Packing in cases

The cans shall be packed in suitable cases. The number of cans in each case shall be subject to agreement between the purchaser and the packer.

5.2 Marking

5.2.1 The labelling of cans may be done either by printing or lithographing on the cans themselves or by attaching labels printed on paper subject to agreement between the purchaser and the packer, and shall bear the following information:

- a) Name of the material along with brand name, if any;

- b) Name and address of the packer;
- c) Net mass of the contents of the can;
- d) Drained mass of the contents in the can;
- e) Date of manufacture (this shall be embossed indelibly on one end of the can only, and the embossing shall be raised);
- f) Batch or code number embossed indelibly on the can;
- g) Date of expiry (to be embossed indelibly on one end of the can and the embossing shall be raised) to be worded as: Use before.....;
- h) Ingredients used in descending order;
- j) Declaration to the effect that no artificial colouring matter has been used; and
- k) Licence No. and the category given by the Licensing Authority.

5.2.2 The containers may also be marked with a Standard Mark.

6 Sampling

Representative samples of the material shall be drawn according to the method prescribed in Annex H of CD-K-692:2010.

7 Tests

7.1 Tests for determining the vacuum requirements shall be carried out according to the methods prescribed in Annexes B and C of CD-K-692:2010.

7.2 Tests for determining the meat content (chunk or mince meat) in relation to the gravy shall be carried out according to the method prescribed in Annex A.

7.3 Tests for sodium chloride, total fat, metallic impurities and microbiological activity shall be carried out as prescribed in the relevant annexes of CD-K-692:2010 and ISO 1443 given in Table 1.

Annex A
(normative)

Determination of the proportion of meat to gravy

A.1 Apparatus

A.1.1 2.80-mm sieve — BS Sieve 7, ASTM Sieve 7 and Tyler Sieve 7 have their apertures within the limits specified for the sieve and may, therefore, be used as 2.80-mm sieve.

A.1.2 16-mm sieve

A.2 Procedure

A.2.1 Record the mass of the container, warm the contents of the can containing chunks. Open the container and drain over 16-mm sieve. Wash the empty container with hot water and pour it over the chunks. Dry and weigh the empty container. Pour hot water over the chunks three or four times to remove all adhering condiments and fat. Ensure that the chunks are free from all adhering matters; if necessary, repeat washing with hot water. Allow the chunks to be completely drained of water. Place the chunks in the empty container and weigh. Calculate the proportion of meat to gravy.

A.2.2 When determining the proportion of mince meat content to gravy, 2.80-mm sieve shall be used. The gravy should be ground to a fine paste so as to pass through the sieve.

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Annex B
(normative)

Determination of sodium chloride

B.1 Reagents

B.1.1 Standard Silver Solution — 0.1 N, standardized against 0.1 N sodium chloride solution.

B.1.2 Dilute Nitric Acid — 1:4.

B.1.3 Ferric Ammonium Indicator Solution — A saturated solution of ferric alum $\text{Fe}(\text{NH}_4)(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$.

B.1.4 Standard potassium thiocyanate solution — 0.1N

B.2 Procedure

B.2.1 Take 0.3 g to 0.5 g of the products in a 250-ml Erlenmeyer flask. Add a known volume of the standard silver nitrate solution in quantity more than sufficient to precipitate all the chloride as silver chloride and then add 20 ml of dilute nitric acid. Boil on a hot plate or sand bath until the solids, except silver chloride, dissolve. Cool and add 50 ml of water and 5 ml of the ferric ammonium indicator solution and titrate against the standard potassium thiocyanate solution until a permanent light brown colour appears.

B.3 Calculation

B.3.1 Sodium chloride, per cent by weight

$$= 5.85 \frac{(V_1 N_1 - V_2 N_2)}{W}$$

where,

- V_1 = volume of the standard silver nitrate solution;
 V_2 = volume of the standard potassium thiocyanate;
 N_1 = normality of the standard silver nitrate solution;
 N_2 = normality of the standard potassium thiocyanate; and
 W = weight, in g, of the dried product taken for the test.

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