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DRAFT TANZANIA STANDARD

Goat carcasses and meat cuts – Specification

Draft standard for discussion-TBS

TANZANIA BUREAU OF STANDARDS

Goat carcasses and meat cuts – Specification

0 FOREWORD

Goat meat is locally produced in Tanzania. There is potential for the development of internal as well as external trade for goat meat. The demand for goat meat is increasing day by day because of richness in nutrients especially protein. The development of this standard is necessary to ensure that the products produced have the required safety and quality.

In the preparation of this Tanzania Standard substantial assistance was drawn from Gulf standard GS 996 – 1998 *Beef, Buffalo, Mutton and Goat Fresh meat*.

In reporting the results of a test or analysis made in accordance with this Tanzania 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 prescribes the requirements, methods of sampling and test for goat carcasses and meat cuts intended for human consumption.

2.0 REFERENCES

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

TZS 4, Rounding off numerical values

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

TZS 109, Food processing units - Code of hygiene

TZS 110, Abattoir design, Ante mortem and postmortem inspection of slaughtered animals, fresh meat and processed meat products – Code of hygiene

TZS 131 /ISO 7954, Microbiology of food and animal feeding stuff – General guidance for enumeration of yeasts and moulds – Colony count technique at 25 °C

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 129, Meat and meat products – Microbiological examination – Sampling

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

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

TZS 125-1 /ISO 6888-1, 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 125-2 /ISO 6888-2, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) – Part 2: Technique using Rabbit Plasma Fibrinogen agar medium

TZS 268, General atomic absorption spectrophotometric method for determination of Lead in food and food stuffs

TZS 183, Fresh meat in retail – Code of hygiene

TZS 538, Labelling of pre-packaged foods — General requirements

TZS 731 /ISO 7251, Microbiology of food and feeding-stuffs – Horizontal method for the detection and enumeration of presumptive *Escherichia coli* – Most Probable Number Technique

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

3.0 TERMS AND DEFINITIONS

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

3.1 abattoir/slaughter house

premises approved and registered by the controlling authority used for the slaughtering of animals intended for human consumption

3.2 carcass

the body of any animal slaughtered according to Halal method, after bleeding and dressing in the abattoir

3.3 dressing

the removal of the hide or skin, viscera (including or not including heart, liver and kidney), genital organs urinary bladder, feet up to the carpal and tarsal joints and udders of lactating animals. It may or may not include removal of the head and splitting the carcass in the midline

3.4 meat

any edible part of an animal slaughtered for human consumption

3.5 meat cut

piece of meat separated from the carcass of an animal during butchering

3.5 fresh meat

meat that has not been subjected to any processing other than chilling, freezing, vacuum-packaging or wrapping in a controlled atmosphere

3.6 kid

young goat under 3 months of age, which does not have permanent incisors

3.7 wether (capra)

young castrated male goat having one but not more than two permanent incisors

3.8 nanny (doe)

mature female caprine having more than one permanent incisor

3.9 billy (buck)

mature male goat that has attained puberty.

3.10 goat

any male or female caprine animal.

4.0 REQUIREMENTS

4.1 General requirements

Goat meat shall originate from health animals slaughtered in accordance with TZS 183 and TZS 110.

4.2 Specific requirements

Types of goat carcasses and meat cuts.

4.2.1 Type A, Fresh Carcass

Fresh carcass, delivered unrefrigerated and showing no signs of deterioration.

4.2.2 Type B, Fresh, Chilled carcass

Carcass chilled such that the temperature at the deepest portion of the flesh near the bone shall be 4 °C or lower and shall show no evidence of deterioration.

4.2.3 Type C, Fresh, Frozen carcass

Carcass, frozen solid (-18 °C or below) when delivered and shall show no evidence of deterioration.

4.2.4 Type D, Fresh cuts,

- a) Legs
- b) Loins
- c) Racks
- d) Breasts
- e) Shanks
- f) Shoulders
- g) Chops

Note: Cuts shall be prepared from fresh carcasses of type A. Goat meat cuts shall be well trimmed and clean with surplus fat removed.

4.2.5 Type E, fresh, chilled cuts.

These shall be obtained from the carcasses of Type A and chilled (as listed under type D)

4.2.6 Type F, fresh, frozen cuts

These shall be obtained from the carcasses of Type A and frozen solid (as listed under type D). The cuts shall show no evidence of refreezing or deterioration.

4.3 Grading of meat cuts

The cuts shall be graded as indicated in Annex A

4.4 Fat thickness and evaluation

4.4. 1 Specification for goat carcass fat thickness shall be as detailed in Table 1.

Table 1: Specification for goat carcass fat thickness

| S/No | Fat thickness code | Category |
|------|--------------------|---|
| 1 | 0 | Not specified |
| 2 | 1 | Peeled, denuded, surface membrane removed |
| 3 | 2 | Peeled, denuded |
| 4 | 3 | 0-3 mm maximum fat thickness |
| 5 | 4 | 3-6 mm maximum fat thickness |
| 6 | 5 | 6-9 mm maximum fat thickness |
| 7 | 6 | 9-12 mm maximum fat thickness |
| 8 | 7 | 12-15 mm maximum fat thickness |
| 9 | 8 | 15 mm and above |

4.4.2 Trimming of external fat shall be accomplished by smooth removal along the contour of underlying muscle surfaces.

4.4.3 Bevelled fat edges alone do not substitute for complete trimming of external surfaces when required. Fat thickness requirements may apply to surface fat (subcutaneous and / or exterior fat in relation to the item), and seam (intermuscular fat).

4.5 Maximum fat thickness.

Evaluated by visually determining the area of a cut which has the greatest fat depth and measuring the thickness of the fat at that point.

4.6 Average (mean) fat thickness.

Evaluated by visually determining and taking multiple measurements of the fat depth of areas where surface fat is evident only. Average fat depth is determined by computing the mean depth in those areas.

4.7 Actual measurements of fat thickness (depth)

Measurements are made on the edges of cuts by probing or scoring the overlying surface fat in a manner that reveals the actual thickness and accounts for any natural depression or seam which could affect the measurement. When a natural depression occurs in a muscle, only the fat above the portion of the depression which is more than 19 mm/0.75 in width is considered (known as bridging). When a seam of fat occurs between adjacent muscles, only the fat above the level of the involved muscles is measured (known as planning).

Note: when fat limitations for peeled/denuded, surface membrane removed are specified, the bridging method shall be used for evaluating fat above a natural depression in a muscle and fat occurring between adjacent muscles.

4.8 Goat carcasses and meat cuts shall be;

- a) Intact, considering the presentation
- b) Free from visible blood clots, or bone dust
- c) Free from visible foreign matter (e.g. dirt, wood, metal particles, hair, skin)
- d) Free of offensive odour
- e) Free of obtrusive bloodstains

- f) Free of contusions having material impact on the product such as protruding or broken bones
- g) Free from freezer-burn
- h) Free of spinal cord (except for whole unsplit carcasses)
- i) Of natural colour
- j) Free from unwanted fat, bruise, spilling body fluids, aerosol and sprays of insecticides

4.9 Freezing and storage

Goat carcasses shall be chilled within six hours after slaughter. Chilling shall precede freezing process. Goat carcasses may be aged to mature for a period of 2 weeks at temperature of 1 – 4 °C.

Goat carcass and meat cuts may be stored and preserved depending on the refrigeration method used. Storage temperatures should be maintained such that throughout the supply chain uniform internal product temperatures remain as follows;

- a) Chilled meat – internal product temperature maintained at not less than -1.5 °C or more than 4 °C at any time. The product shall be consumed within two (2) weeks under proper storage.
- b) Frozen meat – internal product temperature not exceeding -18 °C at any time after freezing. Frozen carcass, sides or cuts, shall attain the temperature of -18 °C or lower within 24 hours post chilling and the product shall be consumed within 9 months.

4.10 Other requirements

- a) Cutting, trimming, and boning of cuts shall be accomplished with sufficient care to maintain cut integrity, identity, and avoid scores on lean surfaces.
- b) Ragged edges shall be removed close to the lean surfaces.
- c) Except for cuts that are separated through natural seams, all cross-sectional surfaces shall form approximate right angles with the skin surface.
- d) Minimal amount of lean, fat or bone may be included on a cut from an adjacent cut.
For boneless cuts, all bones, cartilage and visible surface lymph glands shall be removed.

4.11 Transportation

Note: All fresh, chilled or frozen goat meat shall be moved in refrigerated transport and the packages shall be handled with due care to preserve the quality of the products.

5.0 CONTAMINANTS

5.1 Heavy metal contaminants

Goat carcasses and meat cuts shall comply with the requirements for heavy metals prescribed in Table 2.

Table 2: Heavy metal requirements

| S/N | Characteristic | Requirements | Method of test (see clause 2) |
|-----|----------------------|--------------|----------------------------------|
| 1. | Arsenic, mg/kg, max. | 0.1 | TZS 76 |
| 2. | Lead, mg/kg, max. | 0.1 | TZS 268 |
| 3. | Cadmium, mg/kg, max. | 0.05 | ICP/AAS |
| 4. | Mercury, mg/kg, max. | 0.03 | ICP/AAS |

5.2 Veterinary drug residues

Goat carcasses and meat cuts shall comply with veterinary drug residue limits as prescribed in the CAC/MRL 2.

6.0 HYGIENE

6.1 Goat carcasses and meat cuts shall be produced and prepared under strict hygienic conditions according to TZS 109 and TZS 110 (See clause 2).

6.2 Goat carcasses and meat cuts shall not contain microbiological counts exceeding requirements prescribed in Table 3.

Table 3: Microbiological limits for Goat carcasses and meat cuts

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

7.0 SAMPLING AND TESTS**7.1 Sampling**

Sampling of goat carcasses and meat cuts shall be done according to TZS 129 (see clause 2).

7.2 Tests

Testing of goat carcasses and meat cuts shall be done according to test methods prescribed in Tables 2 and 3.

8.0 PACKAGING, MARKING AND LABELING**8.1 Packing**

In addition to the packaging and labelling requirements prescribed in TZS 538 (see clause 2), goat carcasses and cuts shall also be packed as follows:

8.1.1 Chilled, frozen/deep-frozen meat cuts shall be wrapped in suitable food grade paper, polyethylene or any other food grade material permitted by competent authorities for use in wrapping foods. The products so wrapped may be packed in wax cartons or other approved containers.

8.1.2 Vacuum packed cuts shall be delivered intact.

8.1.3 The packages shall not be exposed to direct sun or rain.

8.2 Marking and labelling

Goat carcasses and meat cuts shall be marked and labelled in accordance with TZS 538 (see clause 2). In addition, each container of goat carcasses and/or cuts shall be legibly and indelibly marked with the following information:

- a) Name of the product;
- b) Grade/class of carcass or cut;
- c) Name and address of processor, packer or retailer/distributor;
- d) Batch or code number;
- e) Number of pieces;
- f) Net weight;
- g) Date of packing/slaughter;
- h) Expiry date;
- i) Country of origin;
- j) Storage and cooking instructions;

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.

Annex A (Informative Appendix)

Characteristics of goat meat cuts for wholesale and retail

| Wholesale | Retail cuts | Characteristics |
|-----------|------------------------|---|
| leg | Frenched leg | Shank bone is "frenched", that is, meat is removed to expose 2.5 cm or more of lower end of shank bone. |
| | American leg | Shank meat is removed at stifle joint. Shank meat is tucked into pocket under fell and pinned into place. |
| | Half of leg | Either the shank half or the loin half |
| | Leg chops (steaks) | May contain cross section of backbone and aitchbone. Centre cut steaks look like miniature beef round steaks. |
| | Sirloin chops | Correspond to beef sirloin steaks. Pinbone chops have considerable bone. |
| | Boneless sirloin roast | Small boneless roll weighing from 1 to 1.75 kg |
| loin | Loin roast | Corresponds to beef short loin. It can be the unsplit loin but is usually one side of the split loin. |
| | Rolled loin roast | Boned and rolled loin |
| | Loin chops | Contain T-shaped bones; correspond to porter-house, T-bone, and club beef steaks. |
| | English chops | Cut across the unsplit loin. Backbone removed and boneless chop |
| Rack | Rib (rack) roast | Contains rib bones and rib eye muscle. |
| | Crown roast | Ribs are 'frenched', that is, meat is removed from rib ends, then two or more rib sections are shaped and tied into a 'crown' |
| | | Contain rib bone and rib eye muscle. |
| | Frenched chops | Same as rib chops except meat is removed from ends of ribs. |
| shoulder | Square-cut shoulder | Thickest part of forequarter, with shank, breast rib (rack), and neck removed. |
| | Cushion shoulder | Boned and left flat. Sewed on two sides. One side may be left open for stuffing, then skewered or sewed. |

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| | Rolled shoulder | Boneless roll made from square -cut shoulder. |
| | Boneless shoulder | Cut from boneless rolled shoulder. |
| chops | Mock duck | Made from outside of shoulder. Shaped like a duck. |
| | Arm chops | Contain small round bone and usually the cross-sections of 4 or 5 rib bones. |
| | Blade chops | Contain portions of rib, back and blade bones. |
| | Saratoga chops | Boneless chops made from the inside shoulder muscle. |
| | Neck slices | Round slice with neck vertebrae in center. |
| Breast | Breast | Corresponds to veal breast and to short plate and brisket of beef. Narrow strip of meat containing breast bone and ends of 12 ribs. |
| | Breast with pocket | Same as above but with pocket between ribs and lean. |
| | Rolled breast | Small boneless roll. Alternating layers of lean and fat. |
| | Riblets | Breast bone removed and breast cut between ribs. Each small piece contains part of a rib bone. |
| Shank | Shank | Contain shank and elbow bones. |