



DRAFT TANZANIA STANDARD

Chicken meat (raw and spiced) – Specification

Draft standard for public comments only

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0 FOREWORD

Chicken is the most common type of domesticated poultry in the world. Chicken meat and chicken meat cuts are locally produced and some are imported in Tanzania. There is an ample scope for the development of the internal as well as external trade for these products as they are major products in Tanzanian market especially in butchers and supermarkets. The demand for these products is increasing day by day hence the necessity to develop the standard for chicken meat.

The standard will assist in ensuring safety of consumers, export promotion as well as to ensure the quality and safety of chicken meat and chicken meat cuts traded in the country.

In the preparation of this Tanzania Standard considerable assistance was drawn from:

TAS 6700-2005 *Chicken Meat* published by the National Bureau of Agricultural Commodity and Food Standards, Thailand.

UNECE Standard: *Chicken Meat, Carcasses and Parts*, 2012 Edition, United Nations publication, ECE/Trade/355/Rev.1, United Nations, New York and Geneva, 2013.

In reporting the results of a test or analysis made in accordance with this draft 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, sampling and test methods for raw and/or spiced chicken "*Gallus domesticus*" meat carcasses or cuts intended for human consumption. It covers raw and/or spiced fresh chicken/meat carcasses or cuts products at slaughter, meat processing facility and delivery to market.

2.0 REFERENCES

The following referenced standards are indispensable for the application of this 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 34-1 – Animal feeds and feeding stuffs – Part 1 Sampling and general methods

TZS 109, Food processing units - Code of hygiene.

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 / ISO 4831, Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of coliforms – Most probable number technique

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

TZS 123 / ISO 7937, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of *Clostridium perfringens* – Colony-count technique.

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 127 / ISO/TS 21872-1, Microbiology of food and animal feeding stuffs – Horizontal method for detection of potentially enteropathogenic *Vibrio spp.* – Part 1: Detection of *Vibrio parahaemolyticus* and *Vibrio cholera*.

TZS 457, Code of hygienic practices for spices and dried aromatic plants.

TZS 459, Code of hygiene for poultry processing.

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

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

TZS 852-1 / ISO 11290-1, Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of *Listeria monocytogenes* – Part 1 – Detection method

TZS 852-2 / ISO 11290-2, Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of *Listeria monocytogenes* – Part 2 – Enumeration method

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

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

ISO 10272-1:2006 Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of *Campylobacter spp.* – Part 1: Detection method

ISO 10272-2:2006 Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of *Campylobacter spp.* – Part 2: Colony-count technique

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.

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 slaughter of animals intended for human consumption.

3.2 carcass

the body of a chicken after dressing.

3.3 chicken meat

dressed carcass, cuts thereof and edible offals that has been approved for human consumption.

3.4 chicken part

cut-up chicken carcass, whether or not de-boned or de-skinned depending on fabricated process.

3.5 breast meat

chicken meat that is separated from the back of the shoulders through sternum.

3.6 bone in leg

chicken meat that includes thigh and drum stick.

3.7 drumstick

distal portion of the leg obtained by cutting off knee joint and hock joint or slightly below.

3.8 fillet

round, elongated fusiform chicken meat that attaches to each side of the keel bone (sternum).

3.9 middle wing

the middle part of the cut off wing stick and wing tip.

3.10 thigh meat

proximal portion of the upper leg which is separated from body and knee joint.

3.11 three joint wings

the whole wing cut from the carcass at the shoulder joint.

3.12 two joint wings

the distal portion of the wing cut off wing stick.

3.13 wing stick

the proximal portion of the wing next to body, but cut off two joint wings.

3.14 wing tip

the tip of the wing obtained by cutting through the carpal joint.

3.15 conformation

a manner of animal formation with general reference to the animal's body proportions and its ratio of edible tissue to bone.

3.16 controlling authority

in relation to an abattoir, slaughter house or meat processing facility means the official authority charged by the government with the control of hygiene including meat inspection.

3.17 dressing

progressive separation of offals and inedible parts from a slaughtered chicken.

3.18 giblet

visceral organs fit for human consumption i.e. heart, liver, and gizzard.

3.19 visceral organ

all internal organs of chicken.

3.20 whole chicken

a dressed chicken carcass including gible.

4.0 REQUIREMENTS

4.1 General requirements

4.1.1 Chicken meat and cuts shall be derived from healthy chicken slaughtered and processed in approved facilities that shall comply with the requirements specified in TZS 459.

4.1.2 Chicken and carcasses thereof shall be subjected to ante and post-mortem veterinary inspection and carcasses and cuts thereof shall be approved as being wholesome, sound and free from contagious and infectious diseases and fit for human consumption.

4.1.3 The chicken shall be suitably scalded and all pinfeathers and body hairs removed by picking or singeing. The carcass shall be eviscerated; head, feet and oil glands removed, and shall be properly cleaned and washed. The carcass shall then be suitably chilled as required in **4.3**.

4.1.4 Chicken meat shall be clean, firm and have uniform natural colours. Skin tears and discoloration due to bruising shall not exceed specified quality grading provisions.

4.1.5 Chicken meat shall be free from objectionable odours and foreign odours, improper bleeding, fecal contamination, freezer-burn* and foreign matters which may be harmful to consumers.

* Freezer-burn is a burning or browning damaged caused by dehydration or oxidation due to air reaching the uncovered meat in a freezer.

4.1.6 All the carcasses inspected and passed as fit for human consumption shall bear the approval stamp in one or two places giving the date of inspection and establishment number.

4.2 Other Requirements

4.2.1 Requirements for spiced chicken meat carcasses and/or cuts

- a) Spices may be added to chicken meat carcasses and/or cuts depending on the customer preferences and these spices shall be prepared as per TZS 457 and shall comply with the standards for a particular spice(s) that is/are added.
- b) For spiced chicken meat carcasses and/or cuts, the acid insoluble ash shall be analysed according to TZS 34-1 and shall not exceed 0.5% m/m.

4.2.2 Permitted food grade colour may be used and this shall comply with Codex Stan 192.

4.3 Types of chicken meat (raw and/or spiced)

4.3.1 *Type A: Chilled chicken meat* – The carcass shall be chilled so that the temperature of the deepest portion of the flesh near the bone shall be 0 – 4 °C.

4.3.2 Type B: Frozen Chicken meat – The chilled carcass shall be individually packed in polyethylene bags and shall be frozen solid when delivered. The giblets should be removed and frozen separately, if necessary. The frozen temperatures shall be -18 °C.

4.4 Classification requirements

4.4.1 Chicken meat can be categorized into two types, whole chicken and cuts, which include breast, fillet, bone-in-leg, thigh, drum stick, three joint wing, wing stick, middle wing, two joint wing, wing tip and others e.g. feet.

4.4.2 Classification of chicken meat are based on consumption requirements as follows:

4.4.2.1 Whole chicken (raw or spiced) is classified into three classes namely Extra Class, Class I and Class II as specified in Table 1.

4.4.2.2 Cuts (raw or spiced) are classified into Extra Class and Class I as specified in Table 2.

Table 1: Quality criteria for whole chicken

Quality Factors	Criteria		
	Extra Class	Class I	Class II
1. Conformation	Free of deformities, well-rounded breast	Free of deformities, slightly thin breast	Moderate deformities
2. Breast bone	Naturally curved breast bone	Slightly curved breast bone	Bent/curved or crooked breast bone
3. Back	No deformities, neither curved nor crooked	Slightly curved or crooked	Crooked
4. Leg	Natural, neither flesh bruises nor blood congestion at skin.	Natural, slight bruises or blood congestion at skin.	Moderate bruises or blood congestion at several parts of skin
5. Wing	All parts of wing shall be intact, free of deformities and full fleshed	All parts of wing shall be intact, slight deformities and full fleshed	All parts of wing shall be intact, moderate deformities.
6. Flesh	Breast meat is thick and firm with the flesh embracing the whole breast bone or full-fleshed according to breed.	Breast meat is less firm than extra class and has a moderately thick flesh embracing the whole breast bone	Breast meat is less firm than class I
7. Pinfeather, diminutive feathers, and hairs	None	few	Numerous

8. Exposed flesh (in length)	Breast and legs shall be free of cuts, tears, and missing skin if any, the aggregated length shall not exceed 1.3 cm.	Aggregated length of cuts, tears, and missing skin at breast and legs shall not exceed 1.3 cm. or whole body not exceed 7.6 cm.	the aggregated length of cuts, tears, and missing skin of the whole body exceed 7.6 cm.
9. Bone - disjointed bone - broken bones	Not more than 1 disjointed bone Free from broken bones	Not more than 2 disjointed bones Not more than 1 broken bone, but non- protruding broken bones	Not more than 4 disjointed bones More than 1 broken bones but no more than 3 non-protruding broken bones
10. Missing part	None	Wing tips may be absent	Wing tips may be absent
11. Skin discoloration	Aggregated breast and leg skin discoloration shall not exceed 2.5 cm. or the total aggregated area of discoloration shall not exceed 5.0 cm.	Aggregated breast and leg skin discoloration shall not exceed 5.0 cm. or the total aggregated area of discoloration shall not exceed 7.6 cm.	The total aggregated area of skin discoloration shall not exceed 8.0 cm.

Table 2: Quality criteria for cuts

S/No	Quality factors	Criteria for	
		Extra Class	Class I
1	Flesh	Full fleshed and firm	Reasonably full fleshed and firm
2	Pinfeather and Diminutive feather	A few	Reasonable
3	Skin tears	None	A few
4	Missing skin	None	A few
5	Broken and disjointed bones	None	A few
6	Discoloration (e.g., discoloration from bruising)	None	A few

4.5 Tolerance requirements

Tolerances in respect of quality shall be allowed for product not satisfying the requirements of the class indicated.

4.5.1 Acceptable defect of whole chicken (raw or spiced) (proper numbering)

4.5.1.1 Extra Class

Not more than 5% by quantity of whole chicken not satisfying the requirements of Extra Class, but meeting those of Class I.

4.5.1.2 Class I

Not more than 5% by weight of whole chicken not satisfying the requirements of the class, but meeting those of Class II.

4.5.1.3 Class II

Defects other than those specified in the class are not allowed.

4.5.2 Acceptable defect of cuts (raw or spiced) quality

4.5.2.1 Extra Class

Not more than 5% by weight of cutting part not satisfying the requirements of Extra Class, but meeting those of Class I.

4.5.2.2 Class I

Defects other than those specified in the class are not allowed.

5 STORAGE AND TRANSPORTATION

5.1 Storage

5.1.1 All packed chicken meat (raw or spiced) shall be kept in cold storage. Vehicle(s) for chicken meat transport shall be equipped with cooling unit in the storage area and shall be able to maintain core temperature of the deepest muscle at 4°C or lower at all time. Storage time shall not exceed 7 days for chilled at 4 °C and 12 months for frozen at -18 °C meat.

4.6.1.2 The chicken meat (raw or spiced) shall not show any evidence of deterioration, discoloration or any slimy appearance on storage.

5.1.2 Transportation

5.1.2.1 All chicken meat (raw or spiced) shall be handled, transported and delivered clean and under good hygienic conditions as per meat transport regulations from the relevant authorities.

5.1.2.2 Vehicle for chicken meat (raw or spiced) transport shall be designed such that packaged chicken meat shall not have direct contact with vehicle's surfaces and will be able to keep its quality during transportation. It shall be designed and constructed in such a way that it is possible to clean both interior and exterior surface thoroughly.

5.1.2.3 Both fresh and frozen chicken meat (raw or spiced) shall be moved to refrigerated transport and the packages shall be handled with due care to preserve the quality and hygienic conditions of the products.

5.1.2.4 After unloading chicken meat, the vehicle shall be cleaned immediately with potable water and/or be disinfected. The vehicle shall be drained and dried properly and shall be free from objectionable odors.

6.0 CONTAMINANTS

6.1 Heavy metal contaminants

Chicken meat (raw or spiced) shall not contain any heavy metal and other contaminants in excess of the quantities specified in Codex Stan 193.

6.2 Pesticides and veterinary drug residues

The maximum residual limits (MRLs) for pesticides and veterinary drug residues in chicken meat (raw or spiced) shall be as prescribed by CAC/MRLs. The following shall also be included quinolones, tetracycline, Ox tetracycline, gentamycin, pen-strep, penicillin, Sulphur containing drugs eg. Sulphadimidine.

7.0 HYGIENE

7.1 Chicken meat (raw or spiced) shall be produced, processed, packed, stored, transported and handled under good hygienic conditions according to TZS 459, and TZS 109 (see clause 2) to prevent contamination that may be harmful to consumer.

7.2 Chicken meat (raw or spiced) shall be free from pathogenic organisms and shall comply with the microbiological limits provided in Table 3 when determined by the methods shown alongside the table.

Table 3: Microbiological limits for chicken meat

S/No	Characteristic	Requirement	Method of test (see clause 2)
1	Total plate count, cfu/g, max.	1×10^5	TZS 118
2	Total Coliforms count, MPN/g max.	1×10^3	TZS 119
3	Enterobacteriaceae, cfu/g max.	10^2	TZS 949 (Part 1 or 2)
4	<i>Escherichia coli</i> (enteropathogenic type)	Absent	TZS 731
5	<i>Staphylococcus aureus</i>	Absent	TZS 125 (Part 1 or 2)
6	<i>Salmonella</i> spp.	Absent	TZS 122
7	<i>Clostridium perfringens</i>	Absent	TZS 123
8	<i>Campylobacter</i> spp.	Absent	ISO 10272 (Part or 2)

9	<i>Vibrio cholera (Vibrio spp.)</i>	Absent	TZS 127
10	<i>Listeria monocytogenes</i>	Absent	TZS 852 (Part 1 & 2)

8 SAMPLING AND TEST

8.1 Sampling

For the purpose of this draft standard sampling of chicken meat (raw or spiced) shall be done in accordance with ISO 17604 (see clause 2).

8.2 Test

samples of chicken meat (raw or spiced) shall be tested to ascertain conformity of the product to the requirements of each specification by the methods described in the respective standards provided under Tables 1, 2, 3 and Clause 4.3 of this standard.

9 PACKAGING, MARKING AND LABELING

9.1 Packaging

In addition to the packaging and labeling requirements prescribed in TZS 538 (see clause 2), chicken meat (raw or spiced) shall also be packed as follows;

9.1.1 Before packing, the gizzard (free of the internal contents and mucosal layer), the heart, the liver (without gall bladder) and the neck should be placed into the abdominal cavity of the carcass enclosed in a polyethylene bag.

9.1.2 Chicken meat (raw or spiced) shall be packed in clean food grade materials permitted by the relevant authorities. The package shall be sealed tightly.

9.1.3 All packaging materials shall be durable during transportation. The materials shall not be torn or broken when keeping in low temperature and shall prevent product from absorbing objectionable odors from environment.

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

9.2 Marking and labeling

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

- a) Name, type and class of the chicken meat;
- b) Name and address of the manufacturer/packer;
- c) Batch or code number;
- d) Net weight;
- e) Date of production;
- f) Date of freezing, in the case of frozen chicken meat;
- g) Expiry date;
- h) Country of origin;
- i) Storage condition and/or instruction;

- j) The language on the label shall be “Kiswahili” or Kiswahili and English. Another language may be used depending on the designated market.

9.3 The container may also be marked with TBS Certification Quality 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.

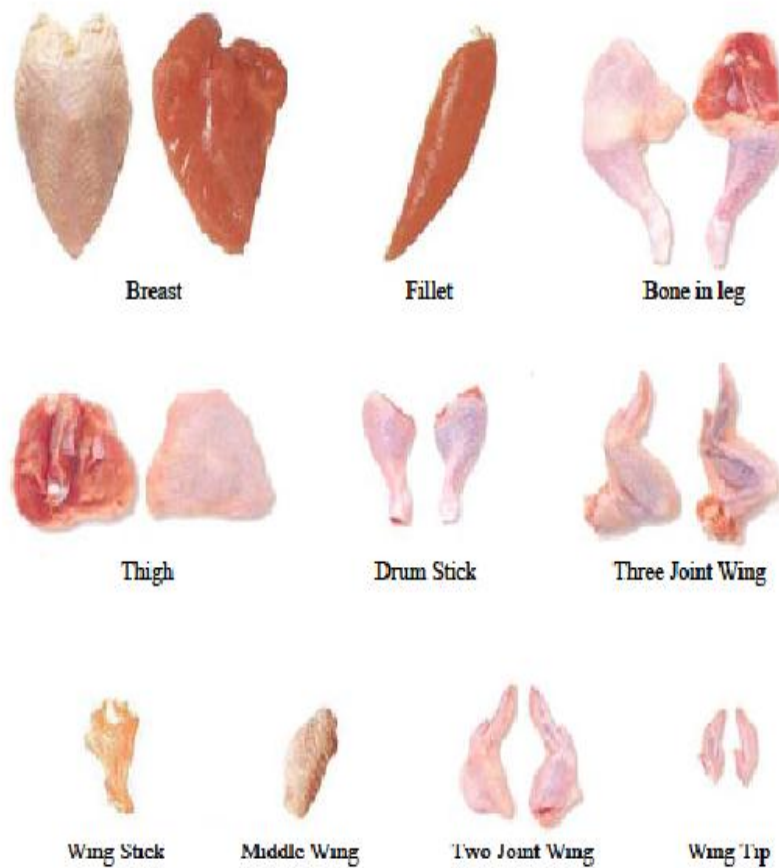


Figure 1: chicken meat cuts