



AFDC 26 (1113) DTZS

DRAFT TANZANIA STANDARD

Green beans – specification

DRAFT STANDARD FOR PUBLIC COMMENTS ONLY

TANZANIA BUREAU OF STANDARD

0 Foreword

Green beans also known as snap beans, string beans or french beans. They are grown for its long pods consumed as a vegetable while young and tender and before the seeds becomes enlarged and mature. Green beans are rich in vitamins (vitamin A, C, K, folate, thiamine, niacin), minerals (Ca, Fe, Mg, P, K, Zn), fibers and antioxidants.

This Tanzania Standard was prepared in order to provide guidance to green beans producers and traders as well as regulators, and to ensure safety and quality of the produce.

In the preparation of this Tanzania Standard considerable assistance was derived from: UNECE standard FFV-06 BEANS 2017.

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. Scope

This standard specifies requirements quality and safety requirements, methods of sampling and test of green beans of varieties (cultivars) grown from *Phaseolus vulgaris* L. and *Phaseolus coccineus* L. to be supplied fresh to the consumer. Beans for shelling or industrial processing are excluded.

2. Normative 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 standards (including any amendments) applies.

- a) TZS 4, *Rounding off of numerical values*
- b) TZS 109, *Code of hygiene for food processing unit*
- c) TZS 122-1- *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella- Part 1: Detection of Salmonella spp.*
- d) TZS 127-1 - *Microbiology of the food chain- Horizontal method for the determination of Vibrio spp. - Part 1: Detection of potentially enteropathogenic Vibriopara haemolyticus, Vibrio cholerae and Vibrio vulnificus*
- e) TZS 538, *Packaging, marking and labeling of foods*
- f) TZS 552, *Code of Hygienic Practice for Fresh leafy Vegetables*

- g) TZS 852-1- *Microbiology of the food chain - Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp - Part 1: Detection method*
- h) TZS 1002, *Fresh fruits and vegetables - Sampling.*
- i) TZS 1003, *Guide to the pre-packaging of fresh fruits and vegetables*
- j) TZS 2424-1 - *Microbiology of the food chain- Horizontal method for determination of hepatitis A virus and norovirus using real-time RT-PCR-Part 1: Method for quantification*
- k) TZS 2425 - *Microbiology of food and animal feeding stuffs- Horizontal method for the detection of Escherichia coli O157*
- l) Codex Stan 193, *Codex General standard for contaminants and toxins in food and feed*
- m) *Codex pesticide residues in food online data base*
- n) TZS 3004 - *Microbiology of the food chain - Detection and enumeration of Cryptosporidium and Giardia in fresh leafy green vegetables and berry fruits*

3 Terms and definitions

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

3.1 damage

any defect or injury which materially affects the appearance or storage quality of the vegetable

3.2 fresh

Pods are not wilted in appearance and the beans are not soft, limp, or shriveled

3.3 misshaped

Pods are so bent, twisted or otherwise misshapen that appreciable waste is thereby caused in their preparation for use

3.4 stringy

over-matured and have become fibrous beans

3.5 clean

free of any visible foreign matter

3.6 sound;

produce not affected by rotting or deterioration to make it fit for consumption

4 Requirements

4.1 General requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the beans shall be:

- intact;
- sound;
- clean;
- fresh in appearance;
- free from parchment (hard endoderm);
- practically free from pests and damage caused by them;
- free of abnormal external moisture;
- free of any foreign smell and/or taste

4.1.1 The development and condition of the green beans shall be such as to enable them to:

- withstand transportation and handling
- arrive in satisfactory condition at the place of destination.

4.2 Classification

Green beans shall be classified in three classes, as defined below:

4.2.1 “Extra” class

Green beans in this class shall be of superior quality. They shall be characteristic of the variety and/or commercial type.

They shall be:

- turgid, easily snapped
- very tender
- practically straight
- stringless.

Seeds, if present, shall be small and soft and needle beans shall be seedless.

They shall be free from defects, with the exception of very slight superficial defects, provided they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

4.2.2 Class I

Green beans in this class shall be of good quality. They shall be characteristic of the variety and/or commercial type.

They shall be:

- turgid

- young and tender
- practically stringless except in the case of beans for slicing.

Seeds, if present shall be small and soft.

The following slight defects, may be allowed, provided they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- a slight defect in shape
- slight defects in colouring
- slight skin defects.

4.2.3 Class II

This class includes green beans that do not qualify for inclusion in the higher classes but satisfy the general requirements specified in clause 4.1.

They shall be:

- reasonably tender
- free from rust spots in the case of needle beans.

Seeds, if present, shall not be too large and shall be reasonably soft.

The following defects may be allowed, provided the green beans retain their essential characteristics with regards to the quality, the keeping quality and presentation:

- defects in shape
- defects in colouring
- skin defects
- strings
- slight rust spots except in the case of needle beans.

4.3 Provisions concerning sizing

Size is determined by the maximum width of the pod measured at right angles to the seam.

To ensure uniformity in size, needle beans in the same package shall not exceed:

- 6 mm when marked "very fine"
- 9 mm when marked "fine"
- 12 mm when marked "medium"

4.4 Provisions concerning tolerances

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated.

4.4.1 Quality tolerances

4.4.1.1 “Extra” class

A total tolerance of 5%, by number or weight, of green beans not satisfying the requirements of the class but meeting those of Class I is allowed. Within this tolerance not more than 0.5% in total may consist of produce satisfying the requirements of Class II quality.

4.4.1.2 Class I

A total tolerance of 10%, by number or weight, of green beans not satisfying the requirements of the class but meeting those of Class II is allowed. Within this tolerance not more than 1% in total may consist of produce satisfying neither the requirements of Class II quality nor the general requirements, or of produce affected by decay. No tolerance is allowed for produce affected by *Colletotrichum lindemuthianum* (bean spot disease).

Within this tolerance, a maximum of 5%, by number or weight, may have strings in the case of a variety and/or commercial type that should be stringless.

In addition, a maximum of 15%, by number or weight, of green beans (excluding needle beans) may have the stalk and a small section of the narrow part of the neck missing, provided these pods remain closed, dry and not discoloured.

4.4.1.3 Class II

A total tolerance of 10%, by number or weight, of green beans satisfying neither the requirements of the class nor the general requirements is allowed. Within this tolerance not more than 2% in total may consist of produce affected by decay. No tolerance is allowed for produce affected by *Colletotrichum lindemuthianum* (bean spot disease).

In addition, a maximum of 30%, by number or weight, of green beans (excluding needle beans) may have the stalk and a small section of the narrow part of the neck missing, provided these pods remain closed, dry and not discoloured.

4.4.2 Size Tolerances

For all classes (if sized); a total tolerance of 10%, by number or weight, of green beans not satisfying the requirements with regards to sizing is allowed.

4.5 Provisions concerning presentation

4.5.1 Uniformity

The contents of each package shall be uniform and contain only green beans of the same origin, variety or commercial type, quality and size (if sized).

The visible part of the contents of the package shall be representative of the entire contents.

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6 Hygiene

6.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with TZS 109 (see clause 2) and TZS 552.

6.2 Green beans shall also comply with the microbial requirements prescribed in Table 1.

Table 1 Microbiological limits for green beans

S/N	Test	Test method	Requirement
1.	<i>Listeria monocytogenes</i> per 25g	TZS 852-1	Absent
2.	<i>Escherichia coli</i> O157:H7	TZS 2425	Absent
3.	<i>Salmonella</i> per 25g	TZS 122-1	Absent

7 Contaminants

7.1 Heavy metal contaminants

Green beans shall comply with those maximum metal contaminants established by the Codex Stan 193.

7.2 Pesticide residues

Green beans shall comply with those maximum residue limits established in the Codex pesticide residues in food online data base.

8 Sampling and tests

8.1 Sampling

Representative samples of green beans shall be drawn as prescribed in TZS 1002 (see clause 2).

8.2 Tests

Tests shall be done in accordance with the methods prescribed in this standard.

9. Packing, marking and labelling

9.1 Packing

Green beans shall be packed in such a way as to protect the produce properly. The materials used shall be of food grade, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed, provided the printing or labelling has been done with nontoxic ink or glue.

9.1.1 The containers shall meet the quality, hygiene, ventilation and resistance characteristics that shall ensure suitable handling, shipping and preserving green beans. Packages shall be free of foreign matter and objectionable smell.

9.1.2 The use of any substance tending to modify the natural characteristics of the produce, especially form, texture and taste shall be prohibited.

9.1.3 In addition to the provisions covered by this standard, green beans shall also be packed in accordance with TZS 538 and TZS 1003 (See clause 2).

9.2 Marking and labelling

9.2.1 Each package shall legibly and indelibly bear the following information in Swahili or and English on the same side:

- a) Name and address of exporter/importer, packer and/or dispatcher/distributor;
- b) Name of the produce (green beans)
- c) Name of the variety
- d) Country of origin
- e) Class;
- f) Size;
 - for needle beans expressed as “very fine”, “fine”, “medium”;
 - for other beans (if sized) expressed as minimum and maximum width of the pods
- g) Net weight (kg);
- h) Storage condition.
- i) Batch number

9.2.2 Certification mark – Each container may also be marked with TBS certification mark.
NOTE: The use of TBS certification mark is governed by provisions of the Standards Act, 2009. Details of the conditions under which a license for the use of TBS certification mark may be granted to manufacturers or producers, may be obtained from TBS.