



## DRAFT TANZANIA STANDARD

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Cucumbers - specifications

DRAFT STANDARD FOR PUBLIC COMMENTS ONLY

TANZANIA BUREAU OF STANDARD

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## 0 foreword

Cucumber is a creeping vine that roots in the ground and grows up trellises or other supporting frames, wrapping around supports with thin, spiraling tendrils. It is widely cultivated for its edible fruit that are high in water content at an immature stage near full size but before the seeds fully enlarge. The fruit of typical cultivars of cucumber is roughly cylindrical, but elongated with tapered ends and is eaten fresh, often in a salad.

This Tanzania Standard was prepared in order to provide guidance to cucumbers 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-15 CUCUMBER 2021.

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 quality and safety requirements, methods of sampling and test of cucumber varieties (cultivars) grown from *Cucumis sativus* L. to be supplied fresh to the consumer. Cucumbers for industrial processing and gherkins 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 538, *Packaging, marking and labeling of foods.*
- e) TZS 552, *Code of Hygienic practice for fresh leafy vegetables*

- f) 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*
- g) TZS 1002, *Fresh fruits and vegetables - Sampling.*
- h) TZS 1003, *Guide to the pre-packaging of fresh fruits and vegetables*
- i) TZS 2425 - *Microbiology of food and animal feeding stuffs- Horizontal method for the detection of Escherichia coli O157*
- j) Codex Stan 193, *Codex General standard for contaminants and toxins in food and feed*
- k) *Codex pesticide residues in food online data base*

### **3 Terms and definitions**

#### **3.1 sound**

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

#### **3.2 clean**

free from dirt, dust, insect stains or other foreign matter

#### **3.3 firm**

crisp and should not be shriveled, limp or pliable

#### **3.4 intact**

produce not suffered from any damage

#### **3.5 cultivar**

plant within a specie that has been produced in cultivation by selective breeding

#### **3.6 pest**

any organism that directly or indirectly affects the quality and safety of the produce

### **4 Requirements**

#### **4.1 General requirements**

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

- intact
- sound;
- clean;
- fresh in appearance, and firm;
- practically free from pests and damage caused by them

- free of bitter taste (subject to the special provision for Class II under clause 4.4.1.3)
- free of abnormal external moisture
- free of any foreign smell and/or taste.

Cucumbers shall be sufficiently developed but their seeds shall be soft.

The development and condition of the cucumbers shall be such as to enable them to:

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

## **4.2 Classification**

Cucumbers are classified in three classes, as defined below:

### **4.2.1 “Extra” Class**

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

They shall be:

- well developed
- well-shaped and practically straight (maximum height of the inner arc: 1 mm per 10cm of length of the cucumber).

They shall be free from defects, including all deformations and particularly those caused by seed formation, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

### **4.2.2 Class I**

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

They shall be:

- reasonably developed
- reasonably well-shaped and practically straight (maximum height of the inner arc: 10mm per 10cm of length of the cucumber).

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

- a slight defect in shape, but excluding that caused by seed development
- slight defects in colouring; but the light-coloured part of the cucumber, where it touched the ground during growth, is not considered a defect
- slight skin defects

### **4.2.3 Class II**

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

The following defects may be allowed, provided the cucumbers retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape, but excluding those by serious seed development; slightly crooked cucumbers having a maximum height of the inner arc of 20 mm per 10 cm of length are allowed
- defects in colouring up to one third of the surface; but the light-coloured part of the cucumber, where it touched the ground during growth, is not considered a defect
- skin defects.

Crooked cucumbers having a height of the inner arc of more than 20mm per 10cm of length are allowed, provided they have no more than slight defects in colouring and have no defects or deformation other than crookedness, and are separately packed.

### **4.3 Provisions concerning sizing**

Size is determined either by weight or by a combination of diameter and length.

Uniformity in size is compulsory for Classes “Extra” and I.

To ensure uniformity in size between produce in the same package, one of the following two options should be applied:

a) Sizing by weight

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- In the package where the smallest cucumber weighs 400g or more, the variation in weight shall not exceed 150g
- In the package where the smallest cucumber weighs between 180g and less than 400g, the variation in weight shall not exceed 100g

Cucumbers below 180g should be reasonably uniform in weight.

b) Sizing by diameter and length

The range in length shall not exceed 5cm, and cucumbers should be reasonably uniform in diameter.

### **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 cucumbers 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 cucumbers 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.

#### **4.4.1.3 Class II**

A total tolerance of 10%, by number or weight, of cucumbers 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 or of produce with tips having bitter taste.

#### **4.4.2 Size Tolerances**

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

### **4.5 Provisions concerning presentation**

#### **4.5.1 Uniformity**

The contents of each package shall be uniform and contain only cucumbers 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** Cucumber shall also comply with the microbial requirements prescribed in Table 1.

**Table 1 Microbiological limits for cucumber**

<b>S/N</b>	<b>Test</b>	<b>Test Method</b>	<b>Requirement</b>
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**

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

### **7.2 Pesticide residues**

Cucumber 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 cucumber 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**

Cucumber 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 cucumber. 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, cucumber 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 English on the same side:

- a) Name and address of exporter/importer, packer and/or dispatcher/distributor;
- b) Name of the produce (cucumber);
- c) Country of origin;
- d) Commercial specifications
  - Class
  - Size (if sized)
- e) Number of units
- f) Net weight (kg);
- g) Batch number;
- h) Storage condition

**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.**