



## DRAFT TANZANIA STANDARD

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### Vanilla — Specification

Draft for comments only

# Vanilla — Specification

## 0 Foreword

Vanilla is a spice derived from orchids of the genus vanilla which is highly valued for its flavour content.

This Tanzania standard was prepared due to increasing utilization of vanilla in culinary to ensure the safety and quality of vanilla produced for local and export market.

In the preparation of this Tanzania Standard assistance was derived from

ISO 5565-1: 2017, *Vanilla [Vanilla fragrans (Salisbury) Ames] — Part 1: Specification*, published by the International Organization for Standardization and TZS 1735: 2016 *Vanilla-specification*

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.

## 1 Scope

This Tanzania Standard specifies requirements, methods of sampling and test for vanilla belonging to the species *Vanilla fragrans* (Salisbury) Ames, syn. *Vanilla planifolia* Andrews.

This Tanzania Standard is applicable to vanilla in pods, bulk, cut or in the form of powder and not applicable to vanilla extracts.

## 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;

*TZS 4, Rounding off numerical values*

*TZS 33, Spices and condiments — Sampling*

*TZS 109 (1<sup>st</sup> Ed) - Food processing units – Code of hygiene*

*TZS 118, Microbiology of food and animal feeding stuffs — Horizontal method for enumeration of micro-organisms — Colony count technique at 30 °C*

*TZS 122, Foodstuffs — Microbial examination for Salmonella*

*TZS 131, Microbiology — General guidance for the enumeration of yeast and mould — Colony count technique at 25 °C*

*TZS 268: 1986 (1<sup>st</sup> Ed) General atomic absorption spectrophotometric method for determination of lead in food stuffs*

*TZS 442, Test methods for vanilla*

*TZS 538 (EAS 38:2014) - Labelling of pre-packaged foods — General requirements*

*TZS 730 (Part 2), Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of -β-glucuronidase-positive Escheria coli — Part 2 — Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl-β-D-glucuronide*

*TZS 799 /ISO 16050: 2003 Foodstuffs – Determination of aflatoxin B<sub>1</sub>, and the total content of aflatoxin B<sub>1</sub>, B<sub>2</sub>, G<sub>1</sub> and G<sub>2</sub> in cereals, nuts and derived products – High-performance liquid chromatographic method*

*TZS 1492, Fruits and vegetables — Determination of tin content*

*TZS 1502, Fruits and vegetables – Determination of Arsenic content*

*TZS 2616, Foodstuffs- Determination of mercury by flameless atomic absorption spectrophotometric method*

### **3 Terms and definitions**

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

#### **3.1 vanilla pod**

a whole fruit of vanilla plant

#### **3.2 cut vanilla**

parts of pods, split or not, and deliberately cut or broken;

#### **3.3 vanilla in bulk**

vanilla in pods and cuts

#### **3.4 vanilla powder**

ground dried vanilla pods without additives.

#### **3.5 vanillin content**

a crystalline phenolic aldehyde C<sub>8</sub>H<sub>8</sub>O<sub>3</sub> that is extracted from vanilla beans and is used especially in flavoring food

#### **3.6 vanilla extracts**

a liquid flavoring derived from a vanilla bean

### **4 Requirements**

#### **4.1 General requirements**

#### **4.1.1 Vanilla pods**

Vanilla pods shall:

- a) have the characteristics corresponding to their qualitative category (see clause 4.2);
- b) have undergone a suitable treatment in order to develop its flavour; and
- c) be dark chocolate brown to reddish in colour.

The vanilla pods may be naturally frosted, due to the development on their surface of crystals of natural vanillin exclusively, and may have a mark at the bottom one-third of their length.

Vanilla pods shall not:

- a) have undergone any treatment which could induce a change in their natural vanillin content or in the content of any other constituent of the flavour;
- b) be moth-eaten, mouldy, creosoted, "poiquées" (blistered) or oxidized; and
- c) have an odour which is not typical of vanilla.

#### **4.1.2 Cut vanilla**

Cut vanilla shall:

- a) be prepared from vanilla pods meeting the requirements specified in 4.1.1;
- b) be sound and of good specific flavour; and
- c) be dark chocolate brown to reddish in colour.

#### **4.1.3 Vanilla in bulk**

Vanilla in bulk shall:

- a) be obtained from vanilla pods meeting the requirements specified in 4.1.1;
- b) be sound and of good specific flavour; and
- c) be dark chocolate brown to reddish in colour.

Pods or pieces are generally woody, and may have several large stains.

#### **4.1.4 Vanilla powder**

Vanilla powder shall:

- a) be obtained from vanilla pods meeting the requirements specified in 4.1.1;
- b) be sufficiently fine to pass through a sieve of aperture size 1.25 mm insert the test method;
- c) be dark chocolate brown, light brown to reddish in colour; and
- d) have the natural and very marked flavour of vanilla.

Vanilla powder shall not:

- a) have undergone any treatment which could induce a change in its natural vanillin content or in the content of any other constituents of the flavour;
- b) contain any extraneous matter; and
- c) have a musty or creosote odour, or any other odour which is not typical of vanilla.

## **4.2 Classifications of vanilla pods**

Vanilla pods shall be classified into four categories consist of splits and non-splits vanilla pods.

### **4.2.1 Category 1**

#### **4.2.1.1 A1 non-split**

This category shall comprise pods which are whole, sound, supple and full, of typical flavour, of uniform dark chocolate brown, light brown to reddish colour, and without any stain other than the mark.

#### **4.2.1.2 B1 split**

This category shall comprise pods of the same characteristics as those of category A1, but split.

### **4.2.2 Category 2**

#### **4.2.2.1 A2 non-split**

This category shall comprise pods which are whole, sound, supple and full, of typical flavour, of uniform dark chocolate brown, light brown to reddish colour, and which may have a few stains, the total length of which does not exceed one-third of the length of the pod.

#### **4.2.2.2 B2 split**

This category comprises pods of the same characteristics as those of category A2, but split.

### **4.2.3 Category 3**

#### **4.2.3.1 A3 non-split**

This category comprises pods which are whole, sound, more or less supple, of typical flavour, of reddish colour and which may have numerous stains, the total length of which does not exceed half the length of the pod, as well as a few red filaments which do not exceed one-third of the length of the pod.

#### **4.2.3.2 B3 split**

This category comprises pods of the same characteristics as those of category A3, but split.

### **4.2.4 Category 4**

#### **4.2.4.1 A4 non-split**

This category comprises pods which are whole, sound, dry or wooded, of typical flavour, reddish in colour and which may have several stains, the total length of which does not exceed half the length of the pod.

#### **4.2.4.2 B4 split**

This category comprises pods of the same characteristics as those of category A4, but split.

### 4.3 Specific requirements

Vanilla shall comply with the specific requirements given in Table 1.

**Table 1 — Specific requirements for vanilla**

S/No	Characteristic	Limits						Test method
		Vanilla pods				Cut and bulk vanilla	Vanilla powder	
		Category						
		1	2	3	4			
i	Moisture content % m/m (max)	38	38	30	25	30	20	TZS 442
ii	Vanillin content, %, (m/m)	1.6 – 2.4						
NOTE — Pods whose vanillin content is less than 1.6 % can be considered to have resulted from faulty processing. On the other hand, those whose vanillin content is greater than 2.4 % shall be subjected to more intensive testing because of the possibility of adulteration by the addition of synthetic vanillin.								

## 5 Hygiene

Vanilla shall be prepared under good hygienic practices as stipulated in TZS 109 *Codes of hygiene for food processing units- General* and shall comply with the requirements specified in Table 2.

**Table 2 — Microbial limits for vanilla**

S/No	Characteristic	Limits (max)	Test method (see clause2)
i	Total plate count cfu/g	10 <sup>5</sup>	TZS 118
ii	Yeast and mould cfu/g	10 <sup>3</sup>	TZS 131
iii	Salmonella spp. per 25 g	Absent	TZS 122
iv	<i>E. coli</i> cfu/g	Absent	TZS 730 -2

## 6 Contaminants

### 6.1 Heavy Metal contaminants

Vanilla shall not contain any heavy metal contaminants in excess of levels specified in Table 3.

**Table 3 — Limit for metal contaminants for vanilla**

S/No	Characteristics	Limits (Max) mg/kg	Test method (see clause 2)
i	Arsenic (as As )	0.2	TZS 1502
ii	Tin (as Sn)	250	TZS 1492
iii	Lead (as Pb)	0.3	TZS 268
iv	Mercury (Hg)	0.1	TZS 2616

### 6.2 Pesticides residues

Vanilla shall comply with those maximum pesticide residue limits established by Codex Alimentarius Commission available online.

### **6.3 Aflatoxin**

Vanilla shall not have more than 5 ppb for aflatoxin B<sub>1</sub> and 10 ppb for total aflatoxin when tested according to TZS 799.

## **7 Sampling and tests**

### **7.1 Sampling**

**7.1.1** Sampling shall be carried out in accordance with the method specified in TZS 33.

**7.1.2** In the case of vanilla pods, the pods taken as increments shall be representative of the packets contained in the packages chosen for sampling.

**7.1.3** The sample shall be stored in an airtight container, away from any source of heat and shall be analyzed immediately on reception.

### **7.2 Tests**

Samples of vanilla shall be analyzed to ensure conformity with the requirements of this Tanzania Standard, as provided in Table 1, Table 2 and Table 3.

## **8 Storage and transportation**

### **8.1 Storage**

The packs of vanilla shall be stored in well designated premises, protected from the sun, rain and excessive heat.

The store shall be dry, free from objectionable odour, and proofed against entry of insects and vermin.

The ventilation shall be controlled so as to give good air circulation under dry conditions and to be fully closed under damp conditions. In a storage warehouse suitable facilities shall be available for fumigation.

### **8.2 Transport**

Vanilla shall be transported in such a way that they are protected from the rain and sun, from objectionable odours and from cross infestation (especially in the holds of ships in case of imported vanilla)

## **9 Packing, marking and labelling**

### **9.1 Packing**

Vanilla shall be packed in food grade materials and properly sealed to ensure safety and quality requirements of the product are maintained throughout the shelf life.

### **9.2 Marking and labelling**

**9.2.1** In addition to TZS 538 the following shall be legible and indelibly labelled on each container or on a label:

- a) name of the product-‘Vanilla’
- b) name and address of manufacturer/packer;
- c) category/commercial form;
- d) producing country;
- e) date of packing and/or year of harvest;
- f) code, or batch number
- g) best before.
- h) Net weight
- i) Storage condition

**9.2.2** The packages may also be marked with TBS Certification Mark of Quality.

NOTE — The use of the TBS Certification Mark of Quality is governed by the provisions of the standards Act, 2009. Details of conditions under which a license for the use of TBS certification mark may be granted to manufacturers may be obtained from TBS.