

# CODEx ALIMENTARIUS COMMISSION



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Organization of the  
United Nations



World Health  
Organization

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Agenda Item 4.1

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## JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON SPICES AND CULINARY HERBS

Fifth Session

Virtual, 20 - 29 April 2021

Report of the Informal virtual meeting on Draft Codex Standard for Dried or Dehydrated Ginger

(Prepared by Nigeria)

### **Background/ Terms of Reference**

The CCSC5 agreed to establish an in-session working group chaired by Nigeria and working in English, to deliberate and ensure general agreement on outstanding issues in Tables 2 and 3 of the Draft Standard for Dried Roots, Rhizomes and Bulbs - Dried or Dehydrated Ginger, and present same clean Tables to the Committee.

### **Changes made with Justifications**

The following changes with justifications were made during the informal:

Parameters	Changes	Justifications
<b>Table 2</b>		
Total Ash on dry basis %w/w (max)	The value for ground ginger was amended in line with that of whole/ pieces (from 8.0) to:  8.0 (unbleached)  12.0 (bleached)	Ground ginger is gotten from whole/pieces ginger (bleached or unbleached), hence its total ash is also affected if bleached.
Acid Insoluble Ash on dry basis %w/w (max)	The values for whole/ pieces and ground were amended from 2.0% to 1.5%.	In line with ISO 1003 Standard (Spices – Ginger ( <i>Zingiber officinale</i> Roscoe) – Specification).
Calcium (as oxide)** on dry basis by mass, % (max)	1.1 (unbleached) and 2.5 (bleached) levels were retained.	In line with ISO 1003 Standard (Spices – Ginger ( <i>Zingiber officinale</i> Roscoe) – Specification).
Sulfur dioxide max ( mg/kg) max	The text “Sulfur dioxide shall not be detected” was expunged.  While the parameter was included with maximum level of “150 (as residual SO <sub>2</sub> ).	Sulphur dioxide treatment of dried ginger root is permitted by an EU Regulation (EC) No 1333/2008 and maximum limit of 150 mg/kg expressed as SO <sub>2</sub> is allowed, which is also recognized by Codex GSFA Standard
Footnote:	The text “ <i>Sulphur dioxide and Calcium Oxide may be used as processing aids</i> ” was included as footnotes while ‘Bleaching as optional’ was expunged .	In practice, the two substances are used as processing aids in ginger.  Hence, the provision for ‘processing aids’ was also included in section 4.
<b>Table 3:</b>		
Whole insects, dead Count/ 100g (max)	The limit for ground ginger was changed from ‘0’ to ‘NA’.	The form has not been evaluated with the test method and no recognized/ specified value.
Live Insects Count/ 100g (max)	The parameter with values ‘0’ for whole, pieces and ground was retained.	In line with CCSC Standard Template.

Mammalian Excreta mg/kg (max)	The limit of 6.6 mg/kg was agreed for 'Mammalian Excreta' in whole ginger, and 'NA' for pieces and ground ginger.	In accordance to a recognized ASTA's Cleanliness specifications for Spices, Seeds and Herbs.
Other Excreta mg/kg (max)	The limit of 6.6 mg/kg was agreed for and 'Other Excreta' in whole ginger, and 'NA' for pieces and ground ginger.	It is 'NA' for pieces and ground ginger because these forms have not been evaluated with the method and there are no recognized/ specified values.
Mould visible/ Insect defiled/ infested %w/w (max)	"NA" was agreed for ground ginger	The form has not been evaluated with the test method and no recognized/specified value.
Extraneous Matter %w/w (max)	The limit of '1' for whole style and 'N/A' for ground style was agreed.	In line with ISO 1003 Standard (Spices — Ginger ( <i>Zingiber officinale</i> Roscoe) — Specification).
Foreign matter %w/w (max)	The limit of 'N/A' for ground style was agreed.	
Footnote	The definition of 'NA' was included as:  <i>"Not applicable, means that this form of the above product has not been evaluated for this provision, and currently there are no values. N/A does not refer to zero."</i>	For clarity and to avoid ambiguity.

### **Recommendations**

The Committee is invited to consider the relevant sections in the draft, with the view to progress the draft Standard through the Codex step procedure.

## DRAFT STANDARD FOR DRIED ROOTS, RHIZOMES AND BULBS — DRIED OR DEHYDRATED GINGER

### 1 SCOPE

This Standard applies to plant products in their dried or dehydrated form as spices, defined in Section 2.1 below, offered for direct consumption, as an ingredient in food processing, or for repackaging if required. It excludes products for industrial processing.

### 2 DESCRIPTION

#### 2.1 Product Definition

Dried or dehydrated ginger is a product obtained from the rhizomes of the plant as mentioned in Table 1.

**Table 1. Common and scientific names of plants used as dried or dehydrated ginger**

Common name	Scientific name
Dried Ginger	<i>Zingiber officinale</i> Roscoe

#### 2.2 Styles/forms

Dried or dehydrated ginger may be:

- Whole: single or branched rhizomes of varying sizes, which may be cut at both ends with the flattened circular shape intact;
- Pieces: comprising various cut, diced or sliced styles;
- Ground/powdered;

### 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

#### 3.1 Composition

Dried or dehydrated ginger as described in Section 2 above shall conform to requirements set in Annexes I and II.

#### 3.2 Quality factors

##### 3.2.1 Odour, flavour and colour

The product shall have a characteristic odour, flavour and colour, which can vary depending on geo-climatic factors/conditions, and shall be free from any foreign odour, flavour and colour especially from rancidity and mustiness.

##### 3.2.2 Chemical and physical characteristics

The generic product shall comply with the requirements specified in Annex I (Chemical characteristics – Table 2) and Annex II (Physical characteristics – Table 3). The defects allowed must not affect the general appearance of the product as regards to its quality, keeping quality and presentation in the package.

### 4 FOOD ADDITIVES

4.1 Anticaking agents listed in Table 3 of the *General Standard for Food Additives* (CXS 192-1995) are acceptable for use in powdered form of the foods conforming to this standard

#### 4.2 Processing Aids

The following processing aids used in products conforming to this Standard should be consistent with the *Guidelines on Substances used as Processing Aids* (CXG 75-2010).

	INS No.	Processing Aid	Maximum Level
4.2.1	529	Calcium oxide	2.5 mg/kg
4.2.2	220	Sulfur dioxide	[150mg/kg, as residual SO <sub>2</sub> ]???

## 5 CONTAMINANTS

**5.1** The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

**5.2** The products covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

**5.3** The products covered by this Standard shall comply with *Code of Practice for the Prevention and Reduction of Mycotoxins in Spices* (CXC 78-2017) and other relevant texts

## 6 HYGIENE

**6.1** It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969), the *Code of Hygienic Practice for Low-Moisture Foods* (CXC 75-2015) Annex III on Spices and dried culinary herbs and other relevant Codex texts.

**6.2** The products should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997).

## 7 WEIGHTS AND MEASURES

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

## 8 LABELLING

**8.1** The products covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CXS 1-1985). In addition, the following specific provisions apply:

### 8.2 Name of the product

**8.2.1** The **common** name of the product shall be as described in Section 2.1

**8.2.2** The name of the product may include an indication of the style as described in Section 2.2.

**8.2.3** Trade name, variety or cultivar may be listed on the label.

### 8.3 Country of origin and harvest

**8.3.1** Country of origin shall be indicated in accordance with section 4.5 of the *General Standard for the Labelling of Pre-packaged Foods* (CXS 1-1985), and the region of production may be indicated.

**8.3.2** Country of harvest may be indicated, if its omission would mislead or deceive the consumer.

**8.3.3** Year of harvest (optional)

### 8.4 Commercial identification

- Size (optional)

### 8.6 Labelling of non-retail containers

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, distributor or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

## 9. METHODS OF ANALYSIS AND SAMPLING

### 9.1 Methods of Analysis<sup>1</sup>

As described in Annex III, Table 4.

### 9.2 Sampling Plan

. To be developed

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<sup>1</sup>Latest edition or version of the approved method should be used

## Annex I

Table 2. Chemical characteristics for dried or dehydrated ginger

Product	Styles/ Forms						
		Total Ash on dry basis %w/w (max)	Acid Insoluble Ash on dry basis %w/w (max)	Moisture Content %w/w (max)	Volatile Oils on dry basis mL/ 100g (min)	Calcium (as oxide)** on dry basis by mass, % (max)	Sulfur dioxide (mg/kg) max
Dried or dehydrated Ginger	Whole/ Pieces	8.0 (unbleached) 12.0 (bleached)*	1.5	12.0	1.5	1.1 (unbleached) 2.5 (bleached)*	150 (as residual SO <sub>2</sub> )
	Ground/ Powdered	8.0 (unbleached) 12.0 (bleached)	1.5	12.0	1.0		

\* Sulphur dioxide and Calcium Oxide may be used as processing aids

## Annex II

Table 3. Physical characteristics for dried or dehydrated ginger

Product	Styles/ Forms								Notes
		Whole insects, dead Count/ 100g (max)	Live Insects Count/ 100g (max)	Mammalian Excreta mg/kg) (max)	Other Excreta <sup>3</sup> mg/kg (max)	Mould visible/ Insect defiled/ infested %w/w (max)	Extraneous matter <sup>1</sup> %w/w (max)	Foreign matter <sup>2</sup> %w/w (max)	
Dried or dehydrated Ginger	Whole	4.0	0	6.6	6.6	3.0*	1.0	0.5	
	Pieces	4.0	0	NA	NA	3.0*	1.0	0.5	
	Ground/ Powdered	NA	0	NA	NA	NA	NA	NA	

<sup>1</sup>Vegetative matter associated with the plant from which the product originates but not accepted as part of the final product.

<sup>2</sup>Any visible/detectable objectionable foreign matter or material not usually associated with the natural components of the spice plant, such as sticks, stones, burrs, metal, etc.

<sup>3</sup> Excreta from other animals, such as reptiles and birds.

\*The combined defects for mould visible and insect should not exceed 3.0%

N/A: Not applicable, means that this form of the above product has not been evaluated for this provision, and currently there are no values. N/A does not refer to zero.

## Annex III

Table 4. Methods of analysis

Parameter	Method	Principle	Type <sup>1</sup>
Moisture	<del>AOAC 986.21, ISO 939</del>	Distillation	I
Total Ash on dry basis <sup>2</sup>	<del>AOAC 986.21-ISO 939</del> and ISO 928	<del>Calculation</del> , Distillation and Gravimetry	I
Acid Insoluble Ash on dry basis <sup>2</sup>	<del>AOAC 986.21-ISO 939</del> and ISO 930	<del>Calculation</del> , Distillation and Gravimetry	I
Volatile Oil on a dry <del>mass</del> basis <sup>2</sup>	<del>AOAC 986.21-ISO 939</del> and ISO 6571	<del>Calculation</del> , Distillation followed by Volumetry	I
Extraneous Matter	ISO 927	Visual Examination followed by Gravimetry	I
Foreign Matter	ISO 927	Visual Examination followed by Gravimetry	I
<del>Whole dead insect</del>	<del>ISO 927</del>	<del>Visual examination</del>	<del>I</del>
Insect Damage	Method V-8 Spices, Condiments, Flavors and Crude Drugs  <del>(Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5)– <a href="https://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm105731.htm#v-117">https://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm105731.htm#v-117</a>  A. General methods for spices herbs and botanicals (V 32)</del>	Visual Examination	IV
<del>Hot</del> <del>Water</del> Insoluble Solids	<del>ADOGA method IV.C.7</del>	<del>Chemical extraction followed by Gravimetry</del>	<del>I</del>
<del>Insects/</del> Insect Fragments	ISO 927	Visual Examination	IV
Mammalian Excreta	<del>Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (for Whole/ pieces) MPM V-8 Spices, Condiments, Flavours and Crude Drugs  A. General methods for spices herbs and botanicals (V 32)</del>	Visual Examination followed by Gravimetry	IV
	<del>AOAC 993.27 (for Ground/ powdered)</del>	<del>Enzymatic Detection Method</del>	<del>IV</del>
Other Excreta	<del>Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For Whole/ Pieces) MPM V-8 Spices, Condiments, Flavours and Crude Drugs  A. General methods for spices herbs and botanicals (V 32)</del>	Visual Examination followed by Gravimetry	IV
	<del>AOAC 993.27 (For Ground/ Powdered)</del>	<del>Enzymatic Detection Method</del>	<del>IV</del>
Mould visible	Method V-8 Spices, Condiments, Flavors and Crude Drugs	Visual examination	IV

	(Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5) <a href="http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm084394.htm#v-32">http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm084394.htm#v-32</a>		
Live Insect	ISO 927 <del>AOAC 960.51</del>	Visual Examination <del>Visual Examination</del>	IV <del>IV</del>
Calcium (as oxide) on dry basis	ISO 1003, Annex A	Titration	II

<sup>1</sup> According to the definition of "types of method of analysis" as per Codex Procedural Manual Section II.

<sup>2</sup> The value is expressed on dry weight basis; hence the method of moisture determination is included.