

APPENDIX III

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

(At Step 6)

1 SCOPE

This Standard applies to dried roots, rhizomes and bulbs in their dried or dehydrated form as spices or culinary herbs, defined in Section 2.1 below, offered for direct consumption, as an ingredient in food processing, or for repacking if required. It excludes products for industrial processing.

2 DESCRIPTION

2.1 Product definition

Dried roots, rhizomes and bulbs covered by this Standard (Table 1) are sold in styles as indicated in 2.2.

Table 1. Dried roots, rhizomes, bulbs covered by this Standard

S/No	Common name	Scientific name
1.	Dried Ginger	<i>Zingiber officinale</i> , Roscoe

2.2 Styles

Dried roots, rhizomes and bulbs may be:

- Whole: single or branched rhizomes of varying sized, which may be cut at both ends with the flattened circular shape intact;
- Pieces: comprising various cut, diced or sliced styles;
- Ground/powdered; or
- Of other styles distinct from those above, provided they are labelled accordingly.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

Dried roots, rhizomes and bulbs 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

Dried roots, rhizomes and bulbs shall have a characteristic aroma, colour and flavor, which may vary depending on geo-climatic factors/conditions, and shall be free from any foreign odour, flavour and colour.

3.2.2 Chemical and physical characteristics

Dried roots, rhizomes and bulbs shall comply with the requirements specified in Annexes I (Chemical characteristics) and II (Physical characteristics). The defects allowed must not affect the general appearance of the product as regards to its quality, keeping quality and presentation in the package.

3.2.3 Classification (optional)

In accordance with the chemical and physical characteristics in Section 3.2.2, dried roots, rhizomes and bulbs may be classified into the following grades:

- Extra;
- Grade I/Class I; and
- Grade II/Class II.

When unclassified/ungraded, the provisions for class/grade II apply as the minimum requirements.

4 FOOD ADDITIVES

Anticaking agents may be used in the powdered form of the product in accordance with Table 3 of the *General Standard for Food Additives* (CXS 192-1995).

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 93-1995).

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

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), *Code of Practice for the Prevention and Reduction of Mycotoxins in Spices* (CXC 78 - 2017), 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 Prepackaged Foods* (CXS 1-1985). In particular, the following specific provisions shall apply:

8.2 Name of the product

8.2.1 The 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 Variety or cultivar, trade name/type may be listed on the label.

8.3 Country of origin/country of harvest

8.3.1 Country of origin/country of harvest shall be indicated, and the region of production may be indicated.

8.3.2 Year of harvest (optional)

8.4 Commercial identification

- Class/Grade, if applicable
- Size (optional)

8.5 Inspection mark (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 analysis¹

Table 2. Methods of analysis

Parameter	Method	Principle	Type ²
Moisture	ISO 939	Distillation	I
	AOAC 2001.12	Titration	II
	AOAC 986.21	Distillation	I
	ASTA 2.0	Distillation	I
Total Ash	ISO 928	Gravimetry	I
	AOAC 941.12	Gravimetry	I
	ASTA 3.0	Gravimetry	I
Acid Insoluble Ash	ISO 930	Gravimetry	I
	AOAC 941.12	Gravimetry	I
	ASTA 4.0	Gravimetry	I
Volatile Oil	ISO 6571	Distillation followed by Volumetry	I
	AOAC 962.17	Distillation followed by Volumetry	I
	ASTA 5.0	Distillation followed by Volumetry	I
Extraneous Matter	ISO 927	Visual Examination followed by Gravimetry	I
	AOAC 916.01	Visual Examination followed by Gravimetry	I
	ASTA 14.1	Visual Examination followed by Gravimetry	I
Foreign Matter	AOAC 960.51	Visual Examination followed by Gravimetry	I
	ISO 927	Visual Examination followed by Gravimetry	I
Insect Damage	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5) https://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm105731.htm#v-117	Visual Examination	IV
Extractable Colour	American Dried Onion and Garlic Association (ADOGA) method IV.C.5	Chemical extraction	IV

² According to the definition of “types of method of analysis” as per Codex Procedural Manual Section II.

Hot Water Insoluble Solids	ADOGA method IV.C.7	Chemical extraction followed by Gravimetry	I
Insects/Insect Fragments	Method appropriate for particular spice from AOAC Chapter 16, subchapter 14	Visual Examination	IV
Excreta Mammalian,	Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For whole)	Visual Examination	IV
Excreta Other	AOAC 993.27 (For Ground)	Enzymatic Detection Method	IV
Mould visible	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5) http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm084394.htm#v-32	Visual examination	IV
Live Insect	ISO 927	Visual Examination	IV
	AOAC 960.51	Visual Examination	IV

¹ Latest edition or version of the approved method should be used.

9.2 SAMPLING PLAN

To be developed.

Annex I

Table 3. Chemical requirements for dried roots, rhizomes and bulbs

Product Name	Styles	Total Ash %w/w (max)	Acid Insoluble Ash %w/w (max)	Moisture Content %w/w (max)	Volatile Oils mL/100g (min)	Hot Water Insoluble Solids (%) (w/w) (min)	Notes
Dried Ginger	Whole/ Pieces	8.0 (unbleached) 12.0 (bleached)	2.0	12.0	1.5	NA	[1.1% Calcium (as oxide) on dry basis by mass, max %, for unbleached.
	Ground/ Powder	8.0	2.0	12.0	1.0	10	2.5% Calcium (as oxide) on dry basis by mass, max %, for bleached. Sulfur dioxide shall not be detected.]

Annex II

Table 4. Physical requirements for dried roots, rhizomes and bulbs

Product Name	Styles	Whole insects, dead Count/100g (max)	Live Insects Count/100g (max)	Excreta mammalian mg/kg (max)	Excreta, other ³ mg/Kg (max)	Mould visible/ Insect defiled/ infested %w/w (max)	Extraneous matter ¹ %w/w (max)	Foreign matter ² %w/w (max)	Notes
Ginger	Whole	4.0	0	1.0	1.0	3.0*	2.0	0.5	
	Pieces	4.0	0	1.0	1.0	3.0*	1.0	0.5	
	Ground	0	0	0	0	[1.0]	1.0	0.5	

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

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

³ Excreta from other animals, such as reptiles and birds.

*The combined defects for mold visible and insect defiled should not exceed 3.0%.