



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

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**DRAFT STANDARD FOR DRIED ROOTS, RHIZOMES AND BULBS - DRIED OR DEHYDRATED GINGER
(UPDATED¹)**

(Report of the Electronic Working Group chaired by Nigeria)

Background

1. The 4th Session of Codex Committee on Spices and Culinary Herbs (CCSCH4, 2019) agreed to forward the proposed draft standard for dried roots, rhizomes and bulbs — dried or dehydrated ginger to CAC42 for adoption at Step 5.

Terms of Reference

2. CCSCH4 further agreed to re-establish an electronic Working Group (EWG), chaired by Nigeria and working in English only, to consider the outstanding issues such as the proposed levels of Calcium Oxide and Sulphur Dioxide, and their use as bleaching agents; and the value for Mold visible/ Insect defiled/ infested taking into account the discussions CCSCH4 and comments received at Step 6.

3. Following the postponement of CCSCH5, the CCSCH Chair together with CCSCH Secretariat, Codex Secretariat and the EWG Chairpersons, in June 2020, held an informal meeting and agreed some follow-up actions for the continuity of the work of the Committee. The informal meeting agreed to extend the Terms of Reference for the EWGs to take into account matters referred by the Codex Committee on Food Labelling (CCFL)² and by the Codex Committee on Methods of Analysis (CCMAS)³; when preparing their working documents:

Participation and Methodology

4. Codex Members and observers interested in participating in the EWG submitted their nominations and were registered in August, 2019. In total, sixteen (16) member countries and two (2) observer organisations, attached as Appendix II, registered to participate in the EWG. The EWG worked via the Codex online platform.

5. An initial draft from CCSCH4 with an overview of what is expected of the EWG was posted on 21st August, 2019. The second draft was prepared based on comments received on the first draft and was posted on 15th January, 2020 for another round of comments. Four (4) member countries (Mexico, Japan, India, and Nigeria) as well as two (2) observer organizations (THIE and IOSTA) submitted inputs through the Codex online platform.

6. Following the rescheduling of CCSCH5 due to the global COVID-19 pandemic, and consequent extension of the EWG timeline, the EWG reviewed the draft Standard based on comments received at step 6 in response to CL 2019/97/OCS-SCH; and further considered the matters referred by CCFL relating to sections 8.3, 8.3.1 and 8.5 and CCMAS relating to Table 4: Methods of analysis⁴. Four countries (Japan, Chile, Mexico and USA) submitted inputs during the period.

Analysis of Responses

7. CCFL had required clarification on whether both “Country of Origin” and “Country of Harvest” should be declared or only one is required, and if declared it should be determined if “Country of Harvest” is to be mandatory or optional. More information was also required on the intention of section “8.5 – *Inspection mark (optional)*”. The EWG agreed that only “Country of Origin” should be declared as mandatory, in line with the

¹ This Updated document takes into account the Comments at Step 6, in reply to [CL 2019/97/OCS-SCH](https://www.codexalimentarius.org/standards/CL201997OCS-SCH/)

² REP19/FL, paras 19-22

³ REP19/MAS paras 12-13

General Standard for the Labelling of Prepackaged Foods (CXS 1-1985), that the 'Country of Harvest' is not necessary and should be expunged from the draft standard.

8. Regarding Section 8.5 – *Inspection mark (optional)*, only Chile provided a response in which they requested clarification on what the inspection mark refers to and suggested that including a definition on this aspect would assist to avoid misinterpretation. The EWG Chair could not provide 'adequate' guidance on the matter as it was not well understood as to what it exactly referred to and its necessity in the Codex standard. The EWG could not conclusively resolve this matter.

9. Working with the CCSC Secretariat on the recommendations from CCMAS and relevant provisions in the Procedural Manual, the EWG developed and agreed on *Annex III (Table 4: Methods of analysis)*. The unit "*particle/10g*" was included in *Annex II (Table 3: Physical requirements for dry or dehydrated ginger)* for "Mammalian Excreta" and "Other Excreta" for Ginger in ground/ powdered form, in view of the comment from CCMAS on the referenced AOAC 993.27 method.

10. On the use of calcium oxide in dried or dehydrated ginger, the EWG generally noted that lime is used as a processing aid for purposes of bleaching ginger; therefore unintentional and unavoidable residues of the calcium (as oxide) in the final product may occur. It was also proposed that "*Calcium (as oxide) on dry basis by mass, % (max)*" be made a parameter under the *Table 2: Chemical requirements*. However, one EWG member expressed the view that taking into account that "bleaching agents" were a recognized functional class within the Codex Alimentarius, INS 529 calcium oxide and INS 220-539 sulfites, if used for bleaching, are used as food additives and the draft standard should thus be amended accordingly." The EWG could not conclusively resolve this matter.

11. Consensus was not reached on "*Mould visible/ Insect defiled/ infested %w/w (max)*" for Ginger in ground form. Some EWG members were of the view that the presence of visible fungus is preventable in the ground/ powdered form and proposed a value of zero '0' %w/w (max) instead, while other members insisted that it was not practicable to have zero '0' value since the ground/ powdered form is derived from the whole/ pieces Ginger which may have insect fragments and may consequently be found in the ground form. The second group of members proposed that the square brackets [] be removed and the value 1.0 %w/w (max) should be retained.

12. The two values are given in square brackets [] and as such submitted to the Committee for final discussion and decision.

Recommendation and Conclusion

13. The Committee is invited to consider the draft attached as **Appendix I**, with the view to progress it through the Codex step procedure.

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

(Step 7)

1 SCOPE

This Standard applies to plant products 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 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 dried roots, rhizomes and bulbs of the plant as mentioned in Table 1.

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

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

2.2 Styles/forms

Dried or dehydrated ginger 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;

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 aroma, colour and flavor, 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

Anticaking agents listed in Table 3 of the *General Standard for Food Additives* (CXS 192-1995) may be permitted for use in ground/powdered dried or dehydrated ginger.

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) 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 for the Establishment and Application of Microbiological Criteria for 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 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

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

8.3.2 Year of harvest (optional)

8.4 Commercial identification

- 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 Analysis⁵

As described in Annex III, Table 4.

9.2 Sampling Plan

For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999) relevant to the provisions in this standard shall be used.

⁵Latest edition or version of the approved method should be used

Annex I

Table 2. Chemical requirements for dried or dehydrated ginger

Product	Styles/ Forms	Chemical Properties						Notes
		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)	Hot Water Insoluble Solids (%) (w/w) (min)	Calcium (as oxide) on dry basis by mass, % (max)	
Dried or dehydrated Ginger	Whole/ Pieces	8.0 (unbleached) 12.0 (bleached)*	2.0	12.0	1.5	NA	1.1 (unbleached) 2.5 (bleached)*	Sulfur dioxide shall not be detected.
	Ground/ Powdered	8.0	2.0	12.0	1.0	10		

*Bleaching is optional

Annex II

Table 3. Physical requirements for dried or dehydrated ginger

Product	Styles/ Forms	Physical Properties							Notes
		Whole insects, dead Count/ 100g (max)	Live Insects Count/ 100g (max)	Mammalian Excreta mg/kg (for Whole/ pieces), particle/10g (for Ground/ powdered) (max)	Other Excreta ³ mg/kg (for Whole/ pieces), particle/10g (for Ground/ powdered) (max)	Mould visible/ Insect defiled/ infested %w/w (max)	Extraneous matter ¹ %w/w (max)	Foreign matter ² %w/w (max)	
Dried or dehydrated 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/ Powdered	0	0	0	0	[1.0] [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 mould visible and insect should not exceed 3.0%

Annex III

Table 4. Methods of analysis

Parameter	Method	Principle	Type ¹
Moisture	AOAC 986.21	Distillation	I
Total Ash on dry basis	AOAC 986.21 and ISO 928	Calculation Distillation and Gravimetry	I
Acid Insoluble Ash on dry basis	AOAC 986.21 and ISO 930	Calculation Distillation and Gravimetry	I
Volatile Oil on a dry mass	AOAC 986.21 and ISO 6571	Calculation 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
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
Hot Water Insoluble Solids	ADOGA method IV.C.7	Chemical extraction followed by Gravimetry	I
Insects/ Insect Fragments	ISO 927	Visual Examination	IV
Mammalian Excreta	Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (for Whole/ pieces)	Visual Examination	IV
	AOAC 993.27 (for Ground/ powdered)	Enzymatic Detection Method	IV
Other Excreta	Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For Whole/ Pieces)	Visual Examination	IV
	AOAC 993.27 (For Ground/ Powdered)	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
Calcium (as oxide) on dry basis	ISO 1003, Annex A	Titration	II

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

Appendix II

LIST OF PARTICIPANTS

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