

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

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Agenda item 6.1

CX/SCH 22/6/8 Add.1

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX COMMITTEE ON SPICES AND HERBS

Sixth Session

Virtual

26-30 September and 3 October 2022

### PROPOSED STANDARD FOR DRIED ROOTS, RHIZOMES, AND BULBS - TURMERIC

#### Comments in reply to CL 2022/30/OCS-SCH

*Comments of Canada, Cuba, Egypt, European Union, India, Saudi Arabia, Syrian Arab Republic, Uganda, USA and the American Herbal Products Association, ICUMSA, IOSTA and THIE*

#### Background

1. This document compiles comments received through the Codex Online Commenting System (OCS) in response to CL 2022/30/OCS-SCH issued in August 2022. Under the OCS, comments are compiled in the following order: general comments are listed first, followed by comments on specific sections.

#### Explanatory notes on the appendix

2. The comments submitted through the OCS are hereby attached as **Annex I** and are presented in table format.

**GENERAL COMMENTS**

<b>COMMENT</b>	<b>MEMBER/OBSERVER</b>
Cuba en principio apoya el Anteproyeto de norma para las raíces secas, rizomas y bulbos :Cúrcuma en trámite 3 dando respuesta a la CL 2022/30/OCS-SCH	<b>Cuba</b>
India supports the Draft Standard for Dried Roots, Rhizomes and Bulbs - Turmeric.	<b>India</b>
Syria accept to the the proposed draft standard, but after taking its comments on the physical characteristics (table 3)	<b>Syrian Arab Republic</b>
The United States of America submits the following comments in support of the activities of the Codex Committee on Spices and Culinary Herbs proposed draft Codex standard for Turmeric. The committee is reminded that Codex standards should always reflect international trade practices. Therefore, the proposed new standard and should not impose unwarranted provisions and/or restrictions that could impede trade practices.	<b>USA</b>
Formatting suggestions made. See bold/not bold in sub-headings	<b>ICUMSA</b>
<b>2. DESCRIPTION</b>	
<b>Table 1. Common and scientific name of dried Turmeric.</b> We suggest to Italicize the scientific name: Curcuma longa L.	<b>Canada</b>
<b>2.1 Production definiton</b> Egypt suggests to delet the table 1 , merge it with "product definition" and adding the family of the plant, to be as follow: "Dried or dehydrated Turmeric is the product obtained from drying of the rhizomes of Curcuma longaL. of family Zingiberaceae plants"	<b>Egypt</b>
<b>2.1 Production definiton</b> Dried or dehydrated Turmeric is the product obtained from drying of the rhizomes of plants <u>of curcuma spp. of family zingiberaceae as mentioned in Table 1.</u> Rationale: India proposes to include the family name in alignment with other standards.	<b>India</b>
<b>2.1 Production definiton</b> Uganda suggests that table 1 is deleted and rather add the scientific name replacing the word "...plant " in the statement "...rhizomes of plants..." Justification The common and scientific names are better represented in the text other than the table. Proposed changes "...rhizomes of Turmeric (Curcuma longa L)...."	<b>Uganda</b>
<b>2.2. STYLES</b> Issue and Rationale: The styles indicated is not consistent with the product characteristics and requires clarification. Turmeric is a rhizome and therefore it will always have a broken or cut end. It is not crushed, cracked or broken but cut into pieces. Proposal: The United States recommend that the definition of Styles in the Codex Standard for Dried Roots, Rhizomes and Bulbs: Dried or Dehydrated Ginger (CXS 343-2021) be used as the products are similar in this regard: "Dried or dehydrated turmeric may be: - Whole: single or branched rhizomes of varying sized, which may be cut at both ends with the flattened circular shape intact.	<b>USA</b>

COMMENT	MEMBER/OBSERVER
<p>- Pieces: comprising various cut, diced or sliced styles.</p> <p>- Ground/powdered.</p>	
<p><b>Table 1. Common and scientific name of dried Turmeric.</b></p> <p>Italicize "Curcuma"</p>	<p><b>American Herbal Products Association</b></p>
<p>We recommend that language is added to describe that turmeric is composed of both fingers and bulbs, where the bulbs are richer in curcuminoids, as this provides the basis for turmeric pricing.</p> <p><b>2.1 Production definiton</b></p> <p>Traditionally in India, Curcuma longa rhizomes are boiled in water around 45 minutes before it is dried and its part of the dehydration process. It may also be peeled, referred as the polishing step. Therefore, boiling and polishing are possible steps of the drying process of turmeric, which may be valuable to include in this standard.</p> <p><b>Table 1. Common and scientific name of dried Turmeric.</b></p> <p>To promote consistency with the naming scheme included used in other spice standards, we recommend the name be updated to: "cured rhizomes of Curcuma longa L."</p>	<p><b>IOSTA</b></p>
<p><b>3. ESSENTIAL COMPOSITION AND QUALITY FACTORS</b></p>	
<p><b>3.2 Quality factors</b></p> <p>Saudi Arabia suggests developing the Quality factors article for whole turmeric and ground powder turmeric in a line with the standard ISO 5562:1983 - Turmeric, whole or ground (powdered). As follow:</p> <p>Whole turmeric is graded according to its presentation (rhizomes, fingers or bulbs), its origin and its extraneous matter content. Fingers, when sold separately, shall not contain more than: 7 % (mlm) of pieces (rhizomes of length less than 15 mm and screenings or fragments); and 5 % (pnlm) of bulbs.</p> <p>Ground (powdered) turmeric is graded according to its particle size into two types, as follows :</p> <p>coarse powder : 98 % of the product shall pass through a sieve of aperture size 500 Pm; and fine powder : 98 % of the product shall pass through a sieve of aperture size 300 Fm.</p>	<p><b>Saudi Arabia</b></p>
<p><b>5. CONTAMINANTS</b></p>	
<p>5.1 The products covered by this Standard shall comply with the maximum levels of the <i>General Standard for Contaminants and Toxins in Food and Feed</i> (CXS 193-1995) and any other relevant, <i>Code of Practice for the Prevention and Reduction of Mycotoxins in Spices</i> (CXS-CXC 78-2017) and other relevant Codex texts.</p>	<p><b>Canada</b></p>
<p>5.1 Uganda notices that the statement ".....and any other relevant..." after the statement "....General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995)...." Is left hanging therefore recommending that the statement is deleted.</p> <p>Justification</p> <p>The statement is already catered for the last part of clause 5.1</p>	<p><b>Uganda</b></p>
<p><b>6. HYGIENE</b></p>	
<p>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 <i>General Principles of Food Hygiene</i> (CXC 1-1969) the <i>Code of Hygienic Practice</i></p>	<p><b>Canada</b></p>

COMMENT	MEMBER/OBSERVER																						
<p><i>for low moisture foods</i> (CXC 75-2015) Annex III Spices and <del>Aromatic</del>-Dried Culinary Herbs and other relevant Codex texts.</p> <p>6.2 The products should comply with any microbiological criteria established in accordance with the <i>Principles and Guidelines for the Establishment and Application of Microbiological Criteria for Foods</i> (CXG 21-1997).</p>																							
<p>6.1 Uganda recommends that the statement "...Annex III Spices and Aromatic Herbs..." is added to the existing brackets.</p> <p>Justification</p> <p>The statement is hanging therefore confusing whether it is part of the statement or on its own.</p> <p>Proposed changes</p> <p>"...(CXC 75-2015, Annex III Spices and Aromatic Herbs)...."</p>	<b>Uganda</b>																						
<b>8. LABELLING</b>																							
<p>8.2.1 The common name of the product shall be as described in Section 2.4.1 to avoid confusion to the consumer. The scientific name of the product is optional.</p> <p>It has been noted that turmeric may be commercialized in the international trade (especially in India) as 'Indian saffron', risking to misleading/confusing consumers about the true nature and characteristics of the product. Therefore, the common name of turmeric should not be accompanied by such terms, to avoid violation of labelling rules.</p>	<b>European Union</b>																						
<b>ANNEX I</b>																							
<p>Issue and Rationale: This is an Annex and that is appended to the draft standard therefore the numbering of the tables needs to start at number 1 and not a continuation of the table numbering in the draft standard. There are two Annexes placed on the same page- each having one table which is unnecessary as both deals with quality factors</p> <p>Proposal: The United States recommend having only one Annex with two tables as follows:</p> <p>Annex I: Chemical and Physical Characteristics for Dried and Dehydrated Turmeric.</p> <p>Table1: Chemical Characteristics for Dried or Dehydrated Turmeric</p> <p>Table 2: Physical Characteristics for Dried or Dehydrated Turmeric</p>	<b>USA</b>																						
<b>TABLE 2. CHEMICAL CHARACTERISTICS FOR DRIED OR DEHYDRATED TURMERIC</b>																							
<p>Egypt suggests the following limits:</p> <table border="0"> <thead> <tr> <th><b><u>Total Ash</u></b></th> <th><b><u>%w/w (max)</u></b></th> </tr> </thead> <tbody> <tr> <td>Whole</td> <td>8</td> </tr> <tr> <td>Crushed/ Cracked/Broken</td> <td>8</td> </tr> <tr> <td>Powdered /ground</td> <td>10</td> </tr> <tr> <th><b><u>Acid Insoluble Ash</u></b></th> <th><b><u>%w/w (max)</u></b></th> </tr> <tr> <td>Whole</td> <td>1.5</td> </tr> <tr> <td>Crushed/ Cracked/Broken</td> <td>1.5</td> </tr> <tr> <td>Powdered /ground</td> <td>2</td> </tr> <tr> <th><b><u>Total curcuminoids</u></b></th> <th><b><u>%on dry basis(min)</u></b></th> </tr> <tr> <td>Whole</td> <td>2</td> </tr> <tr> <td>Crushed/ Cracked/Broken</td> <td>2</td> </tr> </tbody> </table>	<b><u>Total Ash</u></b>	<b><u>%w/w (max)</u></b>	Whole	8	Crushed/ Cracked/Broken	8	Powdered /ground	10	<b><u>Acid Insoluble Ash</u></b>	<b><u>%w/w (max)</u></b>	Whole	1.5	Crushed/ Cracked/Broken	1.5	Powdered /ground	2	<b><u>Total curcuminoids</u></b>	<b><u>%on dry basis(min)</u></b>	Whole	2	Crushed/ Cracked/Broken	2	<b>Egypt</b>
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COMMENT	MEMBER/OBSERVER
Powdered /ground 2	
<p>Add “on dry basis” to parameters: Total Ash, Acid Insoluble Ash and Total curcuminoids.</p> <p>Rationale:</p> <p>This provision is used in Table 4 of the proposed draft Codex standard and in ISO 5562-1983(E) Standard “Turmeric, whole or ground (powdered) – Specification”.</p> <p>Replace “Total curcuminoids” with „Colouring power (curcuminoids content)”, like in the Table 4, in order to keep consistency in the document. Add „min.” at the end of the parameter’s name.</p> <p>Rationale:</p> <p>In ISO 5562-1983(E) this parameter is named: “Colouring power, expressed as curcuminoids content, % (m/m) on dry basis, min.”</p> <p>Choose one form of presenting the unit and use of tag min./max. – with or without brackets for Table 2 and Table 3. We propose presentation as follows: “Moisture content, % w/w (max.)”</p> <p>Rationale:</p> <p>To increase the clarity of the document.</p>	<b>European Union</b>
<p>India proposes to include “not less than” in row one, sixth column relating to "Total curcuminoids (%)".</p> <p>Rationale: “not less than” is the minimum requirement.</p>	<b>India</b>
<p>1-Uganda recommends that the tables are renumbered .</p> <p>Justification</p> <p>In sub clause 2.1, Uganda recommended that the table 1 is deleted, therefore it is basing on this recommendation that the tables are renumbered.</p> <p>2-Uganda notices that the Total curcuminoids (%) in the table in annex I is not indicative where it is a “min” or “max”</p> <p>Proposed changes</p> <p>“Indicate whether the indicative value is “min” or “max”;</p>	<b>Uganda</b>
<p>Table 1. Chemical Characteristics for Dried or Dehydrated Turmeric- Total curcuminoids in ground/powdered styles.</p> <p>Issue and Rationale: Due to the effects of the process of making the ground/powdered forms and their particle sizes that allow ease of evaporation, the volatile oil requirements for this style is lower than for whole and cut styles.</p> <p>Proposal: The United States recommends a maximum of 1.5% as done in trade.</p>	<b>USA</b>
<p>The current monograph for turmeric in the US Pharmacopoeia, in its dietary supplement section, and the WHO turmeric monograph (Monographs on selected medicinal plants, vol. 1; 1999) set minimum curcuminoids at 3 percent. Nonetheless, 2 percent as proposed in this standard may be appropriate for turmeric used as a food ingredient.</p>	<b>American Herbal Products Association</b>
<p>Regarding the value of 10% for the moisture content of powdered/ground tumeric, THIE would like to note that from practical experience this value is too low. Powdered/ground turmeric does not necessarily have a lower moisture content than crushed/cracked/broken or whole turmeric, which are defined as having a moisture content of 12%. THIE therefore requests an amendment, i.e. to define the moisture content of powdered/ground tumeric with 12%, too.</p>	<b>THIE – Tea &amp; Herbal Infusions Europe</b>

COMMENT	MEMBER/OBSERVER																																
<b>TABLE 3. PHYSICAL CHARACTERISTICS FOR DRIED OR DEHYDRATED TURMERIC</b>																																	
Columns 4-6 in this table 3 are missing word (max) in row 1	<b>Canada</b>																																
<p>Egypt suggests the following limits:</p> <table border="0"> <tr> <td><u>Foreign matter,</u></td> <td><u>% w/w (max)</u></td> </tr> <tr> <td>Whole</td> <td>2</td> </tr> <tr> <td>Crushed/Cracked/Broken</td> <td>2</td> </tr> <tr> <td>Powdered /ground</td> <td>2</td> </tr> <tr> <td><u>Extraneous matter,</u></td> <td><u>% w/w (max)</u></td> </tr> <tr> <td>Whole</td> <td>2</td> </tr> <tr> <td>Crushed/Cracked/Broken</td> <td>2</td> </tr> <tr> <td>Powdered /ground</td> <td>2</td> </tr> <tr> <td><u>Defective rhizomes</u></td> <td><u>%mass (max)</u></td> </tr> <tr> <td>Whole</td> <td>5</td> </tr> <tr> <td>Crushed/Cracked/Broken</td> <td>-</td> </tr> <tr> <td>Powdered /ground</td> <td>-</td> </tr> <tr> <td><u>Live Insects</u></td> <td><u>% mass (max)</u></td> </tr> <tr> <td>Whole</td> <td>0</td> </tr> <tr> <td>Crushed/Cracked/Broken</td> <td>0</td> </tr> <tr> <td>Powdered /ground</td> <td>0</td> </tr> </table>	<u>Foreign matter,</u>	<u>% w/w (max)</u>	Whole	2	Crushed/Cracked/Broken	2	Powdered /ground	2	<u>Extraneous matter,</u>	<u>% w/w (max)</u>	Whole	2	Crushed/Cracked/Broken	2	Powdered /ground	2	<u>Defective rhizomes</u>	<u>%mass (max)</u>	Whole	5	Crushed/Cracked/Broken	-	Powdered /ground	-	<u>Live Insects</u>	<u>% mass (max)</u>	Whole	0	Crushed/Cracked/Broken	0	Powdered /ground	0	<b>Egypt</b>
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<p>Add “max.” at the end of the parameters: mold visible, live insects, insect defiled/infested.</p> <p>It should be decided which term to use: “Damaged rhizomes” or “defective rhizomes”. In ISO 5562-1983(E) there is a parameter “defective rhizomes” (maximum level 5% w/w) with an explanation what defective rhizomes means, i.e.: “Shrivelled fingers and/or bulbs, internally damaged, hollow or porous rhizomes, rhizomes scorched by boiling and other types of damaged rhizomes shall be considered as defective.”</p> <p>The EUMS propose adding the definition to Codex draft standard, explaining what is meant by „damaged rhizomes” or “defective rhizomes” (if there will be a decision to change the name of the parameter).</p> <p>Mold visible or mould damage (like in Table 4.) – choose one form of description.</p> <p>According to ISO 5562-1983(E) “Whole turmeric shall be free from living insects and moulds, and shall be practically free from dead insects, insect fragments and rodent contamination”. Therefore, the EUMS suggest to change “NA” into “0” for “Live insects” in whole style. It is also worth considering whether, in the case of live insects, the value “0” should be entered for other forms of turmeric. Similarly, we propose to enter a value “0” in “Mold visible” for whole and crushed/cracked/broken style.</p> <p>The EUMS suggest to add “Dead whole insects” and “Insect fragments” separately to the table. In other Codex standards (for example for nutmeg, saffron) such parameters are mentioned separately in tables. If this proposal would be accepted, then it would be necessary to set appropriate values.</p> <p>“Insect defiled/infested” or “Insect damage” like in Table 4 – choose one form of description.</p> <p>The EUMS suggest to give definition of Extraneous/Foreign matter (for other Codex standards there is an explanation under the table). In ISO 5562-1983(E) for turmeric there is only definition of extraneous matter that includes stones and</p>	<b>European Union</b>																																

COMMENT	MEMBER/OBSERVER
<p>particles of soil. In our opinion there should be the same definition like in standard or we keep two different definitions for both parameters but underline that 2% is for sum of extraneous matter and foreign matter.</p> <p>„Mammalian excreta” or „Mammalian or/and Other excreta (like in Table 4) – choose one form of description. The EUMS suggest the form from Table 4.</p>	
<p>Syria suggest the physical characteristics for dried or dehydrated turmeric should be more strict in (table 3) especially for:</p> <p>mold visible %w/w (0 not NA),</p> <p>live insects(by count) should be 0 not NA</p> <p>also insect defiled should specified</p>	<b>Syrian Arab Republic</b>
<p>Uganda recommends that the table 4 be renumbered to table 3.</p> <p>Justification</p> <p>Uganda recommended that the table 1 in sub clause 2.1 is deleted therefore the need to renumber the tables.</p> <p>Proposed changes</p> <p>“Table 3: Method of analysis”</p>	<b>Uganda</b>
<p>Table 2. Physical Characteristics for Dried or Dehydrated Turmeric- allowances for visible mold, insect defiled and whole dead insects in whole style.</p> <p>Issue and Rationale:</p> <p>Visible Mold: There is no allowances for visible mold in whole styles whereas in trade there are. As a product that is ground in the soil, its propensity for mold is high.</p> <p>Insect defiled and whole dead insects- Turmeric is a rhizome and as such it may be affected by</p> <p>insect larva and nematodes that live in the soil or by insects that may have gotten trapped in the products during open air drying. The insects are not always seen when the product is freshly harvested or in the areas they are cut or broken from the plant.</p> <p>Proposal: The United States recommend the inclusion of the following allowances based on the American Spice Trade Association (ASTA) Cleanliness Specifications for Spices, Seeds and Herbs Rev. 2014</p> <p><a href="https://www.astaspice.org/wordpress/wp-content/uploads/dlm_uploads/2014/04/Final-with-methods.pdf">https://www.astaspice.org/wordpress/wp-content/uploads/dlm_uploads/2014/04/Final-with-methods.pdf</a></p> <ul style="list-style-type: none"> <li>• Visible Mold: 3.0%</li> <li>• Insect Defiled 2.5%</li> <li>• Whole dead insects (by count/100g max) 3.</li> </ul>	<b>USA</b>
<b>TABLE 4. METHOD OF ANALYSIS</b>	
<p>Add a method for damaged rhizomes (or defective rhizomes if the name is changed).</p> <p>Replace “Acid Insoluble Ash (dry basis)” with “Acid insoluble ash (on dry basis)”, like in Total Ash. Choose one form - with or without brackets.</p> <p>Replace „Colouring power (curcuminoids content)” with „Colouring power (curcuminoids content) on dry basis”. Add ISO 939 in the second column. There is a typo in word „curcuminoids”.</p> <p>Replace “Live insect” with “Live insects”.</p> <p>Add “Dead whole insects” and “Insect fragments” to the table with ISO 927 standard (if there will be a decision to add these parameters to Table 3).</p>	<b>European Union</b>

<b>COMMENT</b>	<b>MEMBER/OBSERVER</b>
India proposes to substitute Colouring power (curcuminoids content) in fifth row, first column with "Total curcuminoids" to align with nomenclature as mentioned in Table 2.	<b>India</b>
The measure identified in the column on Mammalian excreta is stated as "%mg/kg" should be changed to "mg/kg".	<b>American Herbal Products Association</b>