CODEX ALIMENTARIUS COMMISSION E

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda Item 8.1 **CX/SCH 21/5/9**

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

Fifth Session

Kochi, Kerala, India, 26 - 30 April 2021

PROPOSED DRAFT STANDARD FOR DRIED NUTMEG

Prepared by an electronic working group Chaired by Indonesia

(At Step 3)

Codex members and Observers wishing to submit comments at Step 3 on this draft should do so as instructed in CL 2020/38/OCS-SCH available on the Codex webpage/Circular Letters 2020: http://www.fao.org/fao-who-codexalimentarius/circular-letters/en/

Background

1. The proposal for new work of standard for dried nutmeg was first proposed at the 2nd Session of the Codex Committee on Spices and Culinary Herbs (CCSCH) that was held from 4 – 18 September 2015 in Goa India, and proposal was provided a conditional approval (in order of priority), as it required some minimal changes to be made.

2. At the 3rd session of CCSCH held from 6 - 10 February 2017 in Chennai, India, the proposal was recommended for approval for new work on dried nutmeg, and was further categorized under “Dried Seeds”.

Terms of reference

3. CCSCH3 also agreed to establish an electronic working group (EWG) chaired by Indonesia, and working in English only, to prepare a standard for nutmeg under the Spices and Culinary Herbs (SCH) group category on dried seeds; and based on the general concept of group standards for comments at Step 3 and consideration at CCSCH4.

Participation and methodology

4. CSCH4 held during 21 – 25 January 2019 in Kerala-India agreed: to return the proposed draft standard for dried nutmeg to Step 2 for redrafting, taking into account the comments made at and/or submitted to CCSCH4, then circulation for comments at Step 3; and to re-establish an EWG to proceed with the task of redrafting proposed draft standard for dried nutmeg.

5. The kick off message was issued on 15 July 2019 which 14 Codex members and 3 organisations expressed interest to participate in the EWG[1] The detailed list of EWG members is presented in Appendix II.

6. Indonesia had circulated the draft standard on 15 September 2019 and received the comments by 30 October 2019 from Nigeria, Brazil, Mexico and USA.

7. The second circulation was conducted on 30 January 2020 with the deadline was 30 March 2020. Peru and India were the countries that gave the comments.

SUMMARY OF CHANGES MADE TO THE PROPOSED DRAFT STANDARD FOR DRIED NUTMEG

8. The Proposed Draft Standard on Dried Nutmeg was first circulated for comments in September, 2017. The revised version of the first Proposed Draft, including the table summarizing the comments received and the changes made were circulated for the second comments with the deadline of March 15, 2018. The final draft of report of the eWG including the revised version of the second Proposed Draft was submitted to The Codex Secretariat in May 2018. Generally, there were no objections to the changes made based on the comments received and chair recommendations. All comments are summarized in square brackets, in order to provide more considerations by member countries.

[1] United Kingdom, USA, Japan, Peru, Chile, Egypt, Brazil, Nigeria, Hellas, Mexico, India, Iran, Srilanka, France, EU, the International Organization of Spice Trade Associations (IOSTA) and the International Council of Grocery Manufacture Associations (ICGMA).

9. The changes made to the Proposed Draft Standard for Dried Nutmeg that were generally agreed by the eWG are as follows:

1. SCOPE

- To replace "*Myristica sp*." with "*Myristica fragrans*".
- To replace "production" with "processing", since the word "processing" has a broader sense than "production".
- Myristicaceae is written in italics. The scope then be defined as:

  "This Standard applies to dried seed of nutmeg of *Myristica fragrans* of the *Myristicaceae* family offered for industrial food processing and direct human consumption or for repackaging if required"

2. DESCRIPTION

2.1. Product Definitions

- To replace "*Myristica sp*." with "*Myristica fragrans*".
- Myristicaceae is written in italics. The product definition is then defined as:

  "Dried nutmeg is the product prepared from "seeds" of *Myristica fragrans* of the *Myristicaceae* family having reached appropriate degree of development, harvested and post-harvest treated properly, by undergoing operations such as stripping, drying, sorting, cracking, grading, and/or grinding before the final packaging and storage".

3. ESSENTIAL COMPOSITIONS AND QUALITY FACTORS

3.2.2. Physical Characteristics

- In Table 1, to add the word "vegetable" in the phrase "extraneous matter content". The final phrase was changed to "extraneous vegetable matter content". This phrase is in harmony with the preliminary draft standard for cumin and thyme.

3.2.3. Chemical Characteristics

- To add the proposal from Mexico regarding 10 % of moisture content for broken and powder seeds.
- To delete the "calcium content expressed as CaO, % mass fraction (dry basis), max", as it is not determined in practice.
- To delete the "non volatile ether extract, % mass fraction (dry basis), min", as it is not determined in practice.

3.2.4. Classification

- To delete the word "premium" from the phrase "premium broken" in Table 5, since the phrase "premium broken" is unusual.
- To remove the "purity (%), max" from Table 6, since it is redundant to the criteria of impurities.

ISSUES REQUIRING FURTHER CONSIDERATION

10. The eWG could not reach a conclusion on the issues written in square brackets listed below:

14.2 Two options for subsection 3.2.2. Physical Characteristics:

Option 1

Extraneous vegetable matter content % mass fraction, max = 0.5 (referring to Indonesia National Standard and ISO 6577).

Option 2

Extraneous vegetable matter content % mass fraction, max = 1.0 (in harmony with the preliminary draft standard for cumin and thyme).

14. 2 Two options for subsection 3.2.2. Physical Characteristics:

Option 1

Mace is excluded from the scope of discussion.

Option 2

To add the proposal of India regarding the tolerance limit of 3.0%/weight (maximum) of the 'mace in nutmeg' in Table 1. Since the nutmeg seed is covered by mace, some broken mace might be mixed up with the seed during preparation and processing of the nutmeg seed.

14.3 Two options for subsection 3.2.3. Chemical Characteristics:

Option 1

Crude fiber is not concerned.

Option 2

To add the proposal of India to include the limit of crude fibre 10.0% by weight max. As a rationale, crude fiber is an important nutrition parameter.

RECOMMENDATION

11. The Committee is invited to consider the draft Proposed Standard for Dried Nutmeg presented in Appendix I.

APPENDIX I

PROPOSED DRAFT STANDARD FOR DRIED NUTMEG

(Step 3)

1. SCOPE

This Standard applies to dried seed of nutmeg of *Myristica fragrans* of the *Myristicaceae* family offered for industrial food processing and direct human consumption or for repackaging if required.

2. DESCRIPTION

2.1. Product definitions

(i) Dried nutmeg is the product prepared from "seeds" of *Myristica fragrans* of the *Myristicaceae* family having reached appropriate degree of development, harvested and post-harvest treated properly, by undergoing operations such as stripping, drying, sorting, cracking, grading, and/or grinding before the final packaging and storage.

(ii) Nutmeg has variety of shapes from ovoid to broadly ovoid, with variety of sizes about 2 – 3 cm long and 1.5 – 2 cm broad.

2.2. Styles

Dried nutmeg may be offered in one of the following styles:

a) Whole with shell

b) Whole without shell

c) Broken

d) Powder

2.3. Varietal Types

Varietal type is *Myristica fragrans* Houtt., and not applicable to other species of nutmeg.

3. ESSENTIAL COMPOSITIONS AND QUALITY FACTORS

3.1. Compositions

Product as defined in Section 2.

3.2. Quality Factors

3.2.1. Flavour and Colour

Dried nutmeg shall have a characteristic flavour which can vary, depending on geo-climatic factors/conditions. Dried nutmeg shall be free from any foreign flavour and especially from mustiness. The flavour is bitter, acrid and hot. Dried nutmeg shall has a characteristic colour varying from light grey to dark brown.

3.2.2. Physical Characteristics

Dried nutmeg shall comply with the physical requirements specified in Table 1.

Table 1. General Physical Requirements for Dried Nutmeg

Parameters	Requirement
Extraneous vegetable matter[1] content,% mass fraction, max.	0.5
Foreign matter[2] content, % mass, max.	0.5
Mould visible[3], % mass fraction, max.	Nil
Dead insect, insect fragments, rodent contamination, % mass fraction, max.	Nil
Live insect, max.	Nil
Mammalian and or other excreta (mg/kg)	Nil
[Mace in nutmeg, %, max]	3.0

[1] **Vegetative matter associated with the plant from which the product originates - but is not accepted as part of the final product"**

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

[3] **Seen by naked eyes**

3.2.3. Chemical Characteristics

Whole, broken and powder dried nutmeg shall comply with the chemical requirements specified in Table 2.

Table 2. Chemical Requirements for Whole, Broken and Powder Dried Nutmeg

Description	Specification		
	Whole	Broken	Powder
Moisture content, % mass fraction, max.	10.0	10.0	10.0
Total ash, % mass fraction (dry basis),max.	3.0	3.0	3.0
Acid-insoluble ash, % mass fraction (dry basis), max.	0.5	0.5	0.5
Water-insoluble ash, % mass fraction (dry basis), max.	1.5	1.5	1.5
Volatile oils content, % mass fraction (dry basis), min.	6.5	6.0	6.0
[Crude fibre, %, max]	[NA]	[NA]	[10.0]

3.2.4. Classification

Dried nutmeg may be classified in four styles; each has 2 classes/grades according to the Specific Requirements specified in Table 3, 4, 5, and 6.

Table 3. Quality criteria of dried nutmeg seed with shell

Physical Characteristics	Quality Criteria	
	I[1]	**II**[2]
Qualitative		
Colour	Light to dark brown, glossy	Pale brown
Seed condition	Dense, sounds when shaken	Dense, sounds when shaken
Kernel weight	Kernel weight ≥ 63% of whole seed with shell	Kernel weight ≤ 63% of whole seed with shell
Shell condition	Whole intact	cracked/broken/shrivel
I[1] = Quality class A **II[2] = Quality class B**		

Table 4. Quality criteria of dried nutmeg seed without shell

Parameter	Quality Criteria	
	I[1]	**II**[2]
Quantitative		
Well-formed seed (%), min.	98	0
Shriveled seed (%), max.	2	100
Number of seed per kg, max.	120	150
Damaged seed[3](%), max.	5	10
Broken seed[4](%), max.	2	5
Qualitative		
Condition of seed surface	Smooth	Shrivel
Seed Condition	Intact, dense	Intact, dense
I[1] = Quality class ABCD **II[2] = Quality class SS** **[3] Damaged seed : nutmeg seeds that are broken, discoloured or showing signs of bores as a result of infestation of insects so as to affect the quality of the materials ≤ 5% of the whole seed surface** **[4] Broken seed : cracked or broken seed > 5% whole seed surface**		

Table 5. Quality criteria of broken dried nutmeg seed

Parameter	Quality Class	
	I[1]	**II**[2]
Quantitative		
Half cut (%)	Min.100	Max.5
Broken into 3 – 4 pieces (%), max.	0	90
Broken into 6 – 8 (%), max.	0	5
Damaged particle	5	10
I[1] = half cut; **II[2] = broken**		

Tabel 6. Quality criteria of dried nutmeg seed powder

Parameter	Quality Class	
	I	**II**
Quantitative		
Impurities[1], max.	2	5
Particle size (mesh), min.	20	20
[1] Impurities are derived from nutmeg seed shell, not applicable to other impurities, seen with naked eyes		

3.3. Classification of "Defectives"

A lot sample that fails to meet one or more of the applicable quality requirements, as set out in Section 3.2 (except those based on sample averages), should be considered as a "defective".

3.4. Lot Acceptance

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.2 when the number of "defectives", as defined in Section 3.3, does not exceed the acceptance number of the appropriate sampling plan. For factors evaluated on a sample average, a lot will be considered acceptable if the average meets the specified tolerance, and no individual sample is excessively out of tolerance.

4. FOOD ADDITIVES

No food additive is permitted in the products covered by this Standard

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.

6. FOOD 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 (CAC/RCP 42-1995) and other relevant Codex texts such as codes of hygienic practice and codes of practice.

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 addition, the following specific provisions apply:

8.2. Name of The Products

8.2.1. The name of the product shall be Nutmeg, in dried or dehydrated forms.

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

8.2.3. Origin of produce: country of origin and optionally name of regional, local place of production/trade.

8.2.4. Commercial Identification

- Class/ Grade
- Net weight

8.2.5. Inspection mark (optional)

8.2.6. Expiry date (optional)

9. LABELING 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.

10. METHODS OF ANALYSIS AND SAMPLING

10.1. Methods of Analysis

Table 7. Methods of Analysis

Provision	Method	Principle	Type
Moisture content	ISO 939:1980	Distillation	I
Total ash	ISO 928:1997	Gravimetry	I
Acid-insoluble ash	ISO 930:1997	Gravimetry	I
Water-insoluble ash	ISO 929:1980	Gravimetry	I
Volatile oils content	ISO 6571:2008	Distillation	I
Calcium content expressed as CaO	ISO 1003:2008	Titration	I
Non-volatile ether extract	ISO 1108:1992	Gravimetry	I
Extraneous matter	ISO 927:2009	Visual examination/ Gravimetry	I
Foreign matter	ISO 927:2009	Visual examination/ Gravimetry	I
Mould visible	ISO 927:2009	Visual examination	IV
Dead insect, insect fragments, rodent contamination	ISO 927:2009	Visual examination	IV
Live insect	ISO 927:2009	Visual examination	IV
Mammalian and or other excreta	Macroanalytical Procedure Manual (MPM) USFDA technical bulletin V.41	Visual examination	IV

10.2. Sampling Plan

10.2.1. Sampling plans are developed depending on the appropriate inspection level

10.2.2. Separate sampling plan for different levels of inspection (1 and 2) are given under Table 8 and 9

Sampling Plans

The appropriate inspection level is selected as follows:
Inspection level I - Normal Sampling
Inspection level II - Disputes, (Codex referee purposes sample size), enforcement or need for better lot estimate

SAMPLING PLAN 1

(Inspection Level I, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1KG (2.2LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
4.800 or less	6	1
4.801 – 24.000	13	2
24.001 – 48.000	21	3
48.001 – 84.000	29	4
84.001 – 144.000	38	5
144.001 – 240.000	48	6
More than 240.000	60	7
NET WEIGHT IS GREATER THAN 1KG (2.2LB) BUT NOT MORE THAN 4.5 KG (10LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
2.400 or less	6	1
2.401 – 15.000	13	2
15.001 – 24.000	21	3
24.001 – 42.000	29	4
42.001 – 72.000	38	5
72.001 – 120.000	48	6
More than 120.000	60	7
NET WEIGHT GREATER THAN 4.5 KG (10LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
600 or less	6	1
601 – 2.000	13	2
2.001 – 7.200	21	3
7.201 – 15.000	29	4
15.001 – 24.000	38	5
24.001 – 42.000	48	6
More than 42.000	60	7

SAMPLING PLAN 2

(Inspection Level II, AQL = 2.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1KG (2.2LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
4.800 or less	6	1
4.801 – 24.000	13	2
24.001 – 48.000	21	3
48.001 – 84.000	29	4
84.001 – 144.000	38	5
144.001 – 240.000	48	6
More than 240.000	60	7
NET WEIGHT IS GREATER THAN 1KG (2.2LB) BUT NOT MORE THAN 4.5 KG (10LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
2.400 or less	6	1
2.401 – 15.000	13	2
15.001 – 24.000	21	3
24.001 – 42.000	29	4
42.001 – 72.000	38	5
72.001 – 120.000	48	6
More than 120.000	60	7
NET WEIGHT GREATER THAN 4.5 KG (10LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
600 or less	6	1
601 – 2.000	13	2
2.001 – 7.200	21	3
7.201 – 15.000	29	4
15.001 – 24.000	38	5
24.001 – 42.000	48	6
More than 42.000	60	7

APPENDIX II

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