

CODEx ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

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TO Codex Contact Points
Contact Points of international organizations having observer status with Codex

FROM Secretariat,
Codex Alimentarius Commission,
Joint FAO/WHO Food Standards Programme

SUBJECT Request for comments at step 5 on the proposed draft standard for quinoa

DEADLINE 15 June 2017

COMMENTS **To:**
Codex Contact Point of the United States of America
Food Safety and Inspection Service, US
Department of Agriculture
E-mail: uscodex@fsis.usda.gov
Copy to: codex.bolivia@ibnorca.org;
normaquinua@ciq.org.bo;
Henry.Kim@fda.hhs.gov

Copy to:
Secretariat
Joint FAO/WHO Food Standards Programme
Viale delle Terme di Caracalla
00153 Rome, Italy
E-mail: codex@fao.org

BACKGROUND

- The 38th Session of the Codex Alimentarius Commission¹ (CAC38) approved a new work on a standard for quinoa and agreed to reactivate the Codex Committee on Cereals, Pulses and Legumes (CCCPL) to work by correspondence on the development of the standard. The Commission also agreed to establish an electronic working group (EWG), chaired by Bolivia and co-chaired by the United States, in order to prepare an initial draft standard for quinoa for distribution for comments at Step 3. The EWG would work in English and Spanish.
- In a January 2017 Circular Letter (CL 2017/01-CPL), the initial proposed draft Standard was circulated for comments at Step 3. Comments were received from 10 member countries and 2 observer organizations. The revised proposed draft Standard based on comments received is attached as Annex I. A summary of comments on key points and pending issues is attached as Annex II.

RECOMMENDATIONS

- The CCCPL consider advancement of the revised proposed draft Standard for Quinoa in the step procedure.
- The CCCPL refers the following matter to the Codex Committee on Contaminants in Foods (CCCF):
 - The maximum levels (MLs) for cadmium (0.1 mg/L) and lead (0.2 mg/L) in cereals grains listed in the General Standard for Contaminants and Toxins in Food and Feed (GSCTFF) (CODEX STAN 193-1995) note that these MLs do not apply to Quinoa.
 - Therefore, the CCCPL refers this matter to the CCCF for guidance to determine whether the MLs for cadmium and lead continue to not apply to Quinoa, or whether the note be removed so that the MLs for cadmium and lead apply to Quinoa.
- The CCCPL re-establish an electronic working group, chaired by Bolivia and co-chaired by the United States, working in English and Spanish to continue work on the development of the Standard for Quinoa.

¹ REP15/CAC para 93

REQUEST FOR COMMENTS

6. Codex members and observers are invited to send their comments at Step 5 on the recommendations presented above and on the revised proposed draft Standard for Quinoa as presented in Annex I. In the revised proposed draft Standards for Quinoa, particular attention should be paid to those sections in square brackets that require further consideration by the CCCPL. In submitting comments, Codex members and observers are kindly invited to take into consideration the information presented in Annex II, in particular for those sections in square brackets.

PROPOSED DRAFT STANDARD FOR QUINOA
(At Step 5)

1 Scope

1.1 This standard applies to quinoa (*Chenopodium quinoa* Willd.) as defined in Section 2, suitable for human consumption, packaged or in bulk.

1.2 It does not apply to quinoa used as seeds for propagation, products derived from quinoa (e.g., flour, flakes).

2 Description**2.1 Definition of the Product**

Quinoa is the grain obtained from *Chenopodium quinoa* Willd.

2.2 Processed Quinoa

Processed quinoa are quinoa grain that have been subjected to cleaning (e.g., eliminating impurities, removing saponin-containing pericarp) and sorting (e.g. by color and size).

3 Essential Composition and Quality Factors**3.1 Quality factors - general**

3.1.1 Quinoa shall be safe and suitable for human consumption.

3.1.2 Quinoa shall be free from abnormal flavours, odours, living insects and mites.

3.1.3 Quinoa color should be a characteristic of the variety, for example white (pearly, pale, grayish), black, red, golden, brown, yellow, orange.

3.2 Quality factors - specific

3.2.1 Moisture content. 13.5% [12.5%] maximum.

3.2.2 Extraneous matter

3.2.2.1 Extraneous matter is all organic and inorganic materials other than quinoa.

3.2.2.2.1 Organic extraneous matter includes husks, stem parts, impurities of animal origin, other seed species, and leaves. 0.1% maximum.

3.2.2.2.2 Inorganic extraneous matter includes stones, plastics. 0.1% maximum.

3.2.2.2.3 Metals and glass shall not be present.

3.2.3 Defect**3.2.3.1 Definition of defect**

3.2.3.1.1 Broken Grains are pieces of grains with sizes less than three quarters of the whole grain, resulting from mechanical action.

3.2.3.1.2 Damaged Grains are grains that differ from others in their form or structure, because they have been altered by physical, chemical or biological agents.

3.2.3.1.3 Germinated Grains are grains that show development of the radicle (embryo) after processing.

3.2.3.1.4 Coated Grains are grains that retain the shell (perigone) or part of the flower attached to the grain before or after processing.

3.2.3.1.5 Immature Grains are grains that have not reached physiological maturity, characterized by small size and greenish coloration.

3.2.4 Tolerances

Requirements	Maximum Limit [%]
Broken Grains	3%
Damaged grains	2.5%
Germinated Grains	0.5%
Covered Grains	0.3%
Immature Grains	0.9%

3.2.5 Protein Content

Requirements	Minimum Limit [%]
Protein	10%

3.2.6 Saponin Content

Requirements	Maximum Limit [%]
Saponin	[0.12%]

3.2.7 Size

Grain Size	Range [mm]
Extra Large	Greater than 2 mm
Large	1.8 to 2 mm
Medium	1.4 to 1.7 mm
Small	Less than 1.4 mm

4 Food additives

The use of additives is not permitted.

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* (CODEX STAN 193-1995).

5.2. Pesticide residues

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* (CAC/RCP 1-1969) 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* (CAC/GL 21-1997).

7 Packaging

7.1 Quinoa shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

7.2 The packaging shall be safe and suitable for the intended use and shall not transfer toxic materials, unpleasant odours or flavours to the product. All the materials used inside the packaging shall be of food grade quality, clean, new and of an adequate quality so as not to cause damage to the product.

8 Labelling

The products covered by this standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CODEX STAN 1-1985).

8.1 Name of the Product

The product name appearing on the label shall be "quinoa" or "processed quinoa." Optional information, such as product origin, quality, color, etc., may be included.

8.2 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 or packer shall appear on the container. However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9 Methods of analysis and sampling²

See relevant Codex texts on methods of analysis and sampling.

	Method	Principle	Type³
Moisture content	[ISO 712]	Gravimetric	1
Saponin Content	[To Be Determined]		
Protein Content [(N x 6.25)]	[ISO 1871]	Titrimetry, Kjeldahl	1

² The listing of methods of analysis and sampling will be removed when the standard is adopted by CAC and included in CODEX STAN 234-1999.

³ CAC Procedural Manual, 25th Edition, page 77.

SUMMARY OF COMMENTS ON KEY POINTS AND PENDING ISSUES

3.2.1 Moisture Content

1. Two member countries recommended the maximum moisture content of 12.5 % maximum instead of 13.5 % maximum. One of the two member countries suggested the lower maximum moisture content would avoid growth of fungus.

3.2.4 Protein Content

2. One member country noted that composition of raw material is normally specified on a dry weight basis and, if moisture content of 13.5% maximum is allowed, the limit of the protein content will be greater than 11.6% on dry weight basis.

3. One member country recommended a maximum protein content of 13.0% in line with the FAO/Regional Office for Latin America and the Caribbean. If not, keep 10% as the minimum.

3.2.5 Saponin Content

4. One member country stated that quinoa with 0.12% still has a bitter taste that requires rinsing before consumption and recommended saponin content of less than 0.04%.

5. One member country asked if the less than 0.12% refers to processed quinoa or native quinoa. If it refers to processed quinoa, a saponin content of less than or equal to 0.05% is recommended. If it refers to native quinoa, a saponin content of less than or equal to 0.12%.

6. One member country noted that composition of raw material is normally specified on a dry weight basis and, if moisture content of 13.5% maximum is allowed, the limit of the protein content will be greater than 11.6% on dry weight basis.

7. One member country questioned the source of the value of 0.12% and stated that it is not aware of any validated methods for determining saponin in quinoa. Therefore, the member country stated that it does not agree with the less than 0.12% limit and that it is not appropriate to set a limit without a validated method.

9 Methods of Analysis and Sampling

8. One member country and an observer organization questioned whether the ISO methods listed for determining moisture and protein content are validated for Quinoa. The observer organization commented that AOAC and AACCI methods should be included where equivalent.

9. Two member countries and two observer organizations commented that a Nitrogen Conversion Factor (NCF) needs to be included for protein determination. One member country recommended a NFC of "N x Factor 5.7" while an observer organization recommended a NFC of "Protein%=Nitrogen% x 6.25."

10. One member country commented that testing method to determine saponin should be included as it is a requirement mentioned in several sections of the Standard and for compliance evaluation. Two other member countries and an observer organization asked what method was used to determine that the saponin content in quinoa should be less than 0.12%.

11. One member Country commented that a photometric method is used in its country and suggested consulting with the Codex Committee on Methods of Analysis (CCMAS) so it can use this method to determine saponin content.