

codex alimentarius commission

E



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



JOINT OFFICE: Viale delle Terme di Caracalla 00153 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

Agenda Item 4(b)

CX/FFV 09/15/8

July 2009

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON FRESH FRUITS AND VEGETABLES

Fifteenth Session

Mexico City, Mexico, 19 – 23 October 2009

PROPOSED DRAFT STANDARD FOR CHILLI PEPPER (N17-2008)

(At Step 3)

Prepared by the electronic Working Group led by Mexico

Governments and international organizations in Observer status with the Codex Alimentarius Commission wishing to submit comments on the proposed draft Standard for Chilli Pepper are invited to do so **no later than 31 August 2009** as follows: Chairperson of the Committee, Dr. Francisco Ramos Gómez, Director General, General Bureau of Standards (DGN), Av. Puente de Tecamachalco 6, 2do piso, Lomas de Tecamachalco Sección Fuentes, C.P. 53950 Naucalpan de Juárez, Estado de México, México (Tels.: +52 (55) 57 29 94 80, +52 (55) 57 29 91 00, Ext.: 43220, 43218, Fax.: +52 (55) 55 20 97 15, E-mail: jalopez@economia.gob.mx, codexmex@economia.gob.mx, codexmex2@economia.gob.mx - *preferably*), with a copy to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, Viale delle Terme di Caracalla, 00153 Rome, Italy (Telefax: +39.06.5705.4593; E-mail: Codex@fao.org - *preferably*).

BACKGROUND

1. The 14th Session of the Committee agreed to initiate new work on a Standard for Chilli Pepper, which was subsequently approved by the 31st Session of the Commission, and to establish an electronic Working Group on Chilli Pepper led by Mexico.
2. The following Members and Observers attended the electronic Working Group: Argentina, Australia, Chile, Iran, Malaysia, Poland, Slovak Republic, Thailand and United States of America.
3. The first draft of the proposed draft Standard was prepared by the host country and circulated for comments by the members of the electronic Working Group on 3 March 2009, with the deadline of 6 April 2009. Based on the comments received, a second draft was prepared and circulated on 11 May 2009 with the deadline of 26 May 2009. The final draft prepared by the host country taking into account the comments on the second draft is presented as the Annex to this document.
4. Codex Members and Observers are invited to provide comments on the proposed draft Standard for Chilli Pepper in the Annex to this document for further consideration at the 15th Session of the Committee.

ANNEX

PROPOSED DRAFT CODEX STANDARD FOR FRESH CHILLI PEPPERS (N17-2008)
(at Step 3)

1. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of fresh chilli peppers (hot ajies) grown from *Capsicum spp.*, of the *Solanaceae* family, of commercial types “ancho”, “chilaca”, “de árbol”, “habanero”, “jalapeño”, “manzano” and “serrano”¹, to be supplied fresh to the consumer, after preparation and packaging. Chilli peppers for industrial processing are excluded.

2. PROVISIONS CONCERNING QUALITY**2.1 MINIMUM REQUIREMENTS**

In all classes, subject to the special provisions for each class and the tolerances allowed, the chilli peppers must be:

- whole, well developed and of bright skin;
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter;
- practically free of pests affecting the general appearance of the produce;
- free of abnormal external moisture excluding condensation following removal from cold storage
- free of any foreign smell and/or taste;
- free of defects of mechanical, entomological, microbiological, meteorological and genetic-physiological origin²;
- characteristic of the variety in colour, shape, texture and hot/pungent taste (pungency)³;
- firm;

2.1.1 The development and condition of the chilli peppers must be such as to enable them:

- to withstand transportation and handling; and
- to arrive in satisfactory condition at the place of destination.

2.2 CLASSIFICATION

Chilli peppers are classified in three classes defined below:

2.2.1 “Extra” Class

Chilli peppers in this class must be of superior quality. They must be characteristic of the variety and/or commercial type. They must be free of defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package as set out in Table 1.

2.2.2 Class I

Chilli peppers in this class must be of good quality. They must be characteristic of the variety and/or commercial type. The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package as set out in Table 1.

¹ See Annex A: Additional definitions for each commercial type.

² See Annex B: Description of defects according to origin.

³ See Annex C: Scoville Index for different varieties of fresh chilli peppers. Can also be used the high resolution chromatography of liquids (HPLC) to measure content of capsaicin in chilies.

2.2.3 Class II

This class includes chilli peppers which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1 above. The following defects, however, may be allowed, provided the chilli peppers retain their essential characteristics as regards the quality, the keeping quality and presentation as set out in Table 1.

Table 1: classification of chilli peppers according to quality

Defects group	Classes		
	Extra	I	II
Biological and entomological	Free of damage	When defects affect an area not higher than 0,5% of the total surface area	When defects affect an area between 0,5 – 1,0% of the total surface area
Mechanical	When defects affect an area of up to 0,5% of the total surface area	When defects affect an area between 0,5 – 1,0% of the total surface area	When defects affect an area between 1,0 – 3,0% of the total surface area
Meteorological and climate related	Free of damages	When defects affect an area not higher than 0,5% of the total surface area	When defects affect an area between 0,5 – 1,0% of the total surface area
Physiological	When defects affect an area of up to 10% of the total surface area	When defects affect an area between 0,5 – 1,0% of the total surface area	When defects affect an area between 1,0 and 3,0% of the total surface area

Note: The table shows the percentages of defects by unit of chilli pepper which do not mean the sum of total defects.

3. PROVISIONS CONCERNING SIZING

Size is determined by the length and weight of the chilli peppers, in accordance with Table 2.

Table 2: Classification of chilli peppers by size and commercial type

ANCHO (poblano/mulato)				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	< 10,0	10,0 – 11,9	12,0 -14,0	>14
Weight (g)	80,0 – 110,0	110,0 -129,9	130,0 – 150,0	>150
CHILACA				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	12,0 -14,9	15,0 – 24,9	25,0 – 30	>30
Weight (g)	35,0 – 49,0	50,0 – 74,9	75,0 – 100,0	>100
ARBOL (serranito, criollo soledad)				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	<6	6,0 – 7,9	8,0 – 10,0	>10
Weight (g)	4,0	5,0	6,0	7,0
HABANERO				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	< 2	2,0 – 3,9	≥4	Not applicable
Weight (g)	---	---	---	

JALAPEÑO				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	3,0 – 4,9	5,0 – 7,5	7,6 – 9,0	> 9,0
Weight (g)	< 15	15,1 – 24,9	25 – 35	< 35
MANZANO				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	<6	6 a 8,5	>8,5	Not applicable
Weight (g)	< 36	36 - 56	>56	
SERRANO				
	SMALL	MEDIUM	LARGE	EXTRA LARGE
Length (cm.)	3,5 – 5,0	5,0 – 7,5	8,0 – 10,0	Not applicable
Weight (g)	5,0 – 7,0	6,0 – 9,0	8,0 – 14,0	

4. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package (or in each lot for produce presented in bulk) for produce not satisfying the requirements of the class indicated.

4.1 QUALITY TOLERANCES

4.1.1 “Extra” Class

5 % by number or weight of chilli peppers not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

4.1.2 Class I

10% by number or weight of chilli peppers not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

4.1.3 Class II

10% by number or weight of chilli peppers satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

4.2 SIZE TOLERANCES

For “**Extra**” Class, 5% by number or weight of chilli peppers corresponding to the size immediately above and/or below that indicated on the package.

For **Classes I and II**, 10% by number or weight of chilli peppers corresponding to the size immediately above and/or below that indicated on the package.

5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package (or lot for produce presented in bulk) must be uniform and contain only chilli peppers of the same origin, quality, size and variety. The visible part of the contents of the package (or lot for produce presented in bulk) must be representative of the entire contents.

5.2 PACKAGING

Chilli peppers must be packed in such a way as to protect the produce properly. The materials used inside the package must be new⁴, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Chilli peppers shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables (CAC/RCP 44-1995).

5.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the chilli peppers. Packages (or lot for produce presented in bulk) must be free of all foreign matter and smell.

5.3 PRESENTATION

The chilli peppers may be presented under one of the following forms:

- a) In bulk (bags);
- b) In consumer packages.

6. MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions apply:

6.1.1 Nature of Produce

If the produce is not visible from the outside, each package (or lot for produce presented in bulk) should be labelled as to the name of the produce and may be labelled as to name of the variety and/or commercial type⁵.

6.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, or in the documents accompanying the shipment. For produce transported in bulk, these particulars must appear on a document accompanying the goods.

6.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁶.

6.2.2 Nature of Produce

Name of the produce if the contents are not visible from the outside. Name of the variety and/or commercial type (optional)⁷.

6.2.3 Origin of Produce

Country of origin and, optionally, district where grown or national, regional or local place name.

6.2.4 Commercial Identification

- Class;
- Size; and
- Commercial type.

⁴ For the purposes of this Standard, this includes recycled material of food-grade quality.

⁵ The national legislation of a number of countries requires the explicit declaration of the variety.

⁶ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “packer and/or dispatcher (or equivalent abbreviations)” has to be indicated in close connection with the code mark.

⁷ The national legislation of a number of countries requires the explicit declaration of the variety.

6.2.5 Official Inspection Mark (optional)

7. FOOD ADDITIVES

This Standard applies to fresh chilli peppers as identified in Food Category 04.2.1.1 Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes (including soybeans), and aloe vera), seaweeds, and nuts and seeds and therefore, no food additives are allowed in accordance with the provisions of the General Standard for Food Additives for these categories.

8. CONTAMINANTS

8.1 PESTICIDE RESIDUES

Chilli peppers shall comply with the maximum residue limits for pesticides established by the CAC.

8.2 OTHER CONTAMINANTS

The products covered by this Standard shall comply with the Maximum Levels of the Codex General Standard for Contaminants and Toxins in Foods (CODEX/STAN 193-1995).

9. HYGIENE

9.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 4-2003), Code of Hygienic Practice for Fresh Fruits and Vegetables (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

9.2 The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

ANNEX A

DEFINITIONS FOR COMMERCIAL TYPES OF FRESH CHILLI PEPPERS

Specific definitions are included herein for the different types of commercial chilies governed by this Standard

1.1 Chile Poblano (ancho/mulato)

Fruits are conic-shaped (heartlike), with cylindrical or flat body with well-defined “cajete”. They have pointed or truncated apex (flat), with two or three cores and the wall or thick and resistant pericarp. Its color ranges from light to dark green.

1.2 Chile Chilaca (pasilla)

Long fruits with cylindrical and waved body, with smooth or slightly rough epidermis, from 12 to 35 cm length and from 2 to 4 cm width, presenting from two to four cores. Its color is bright dark green. The apex is generally pointed, and occasionally may be flat, curved or truncated.

1.3 Chile de Árbol (delgado o serranito)

Long and thin cylindrical and waved-body fruits, from 6 to 12 cm length and from 0,7 to 1,0 cm diameter, with two to three cores. Its color is emerald green to bright red when totally ripe. They have pointed apex.

1.4 Chile Habanero

These fruits are hollow berries formed by 2, 3 and 4 cores (cavities), being predominant the three-core fruit. They present characteristic forms and sizes (flared or triangular core); they are green in physiological ripeness (ripeness point) and orange when totally ripe, as well as intermediate colors characteristic in the ripeness process (apericado and/or pinto). The fruit surface (epidermis) is smooth and slightly rough with bright appearance. These fruits may be very hot or extremely hot and have a characteristic smell.

1.5 Chile Jalapeño (cuaresmeño, gordo, peludo)

Conical or long fruits, with cylindrical or marked bodies according to the number of cores (3 or 4 cores). Smooth body or with intermediate cork-like body ($\pm 30\%$). They must have thick pericarp (0,4 to 0,6 cm thick) and solid.

1.6 Chile Manzano (perón, cera o canario)

Fruits of fleshy berries, from two to four cores, bright light yellow or red color; they have different sizes and characteristic forms, flat or pointed apex, smooth and marked body, depending on the amount of cores. They must be of thick pericarp and generally an apple-like form. The seeds are black and they are housed in whiten placentas.

1.7 Chile Serrano

Straight and long cylindrical-form fruits, smooth and bright epidermis, emerald to dark green color that present from two to three cores and no internal cavities.

ANNEX B

TABLE 3: DESCRIPTION OF DEFECTS ACCORDING TO ORIGIN

Group of Defects	Description
Mechanical	<ul style="list-style-type: none"> – <u>Mechanical cracks</u>: these are fissures on the fruit’s pericarp caused by handling and mechanical actions. – <u>Scratches</u>: lesions on the pericarp of the fruit caused by a violent rubbing. – <u>Bruises</u>: soft areas or spots in the pericarp or in the skin caused by knocks or compressions.
Biological and Entomological	<ul style="list-style-type: none"> – <u>Scars</u>: these are caused by some pests that scratch the surface of the fruit, the trips among them. – <u>Fractures</u>: these are caused by some worms that feed from the fruit’s pericarp. – <u>Stings and/or punctures</u>: these are wounds that can be more or less deep, carried out by pests and birds, mainly.
MICROBIOLOGICAL	<ul style="list-style-type: none"> – <u>Spots and dots of rotting caused by fungus, bacteria or virus</u>: one of the most common diseases is the anthracnose, fungus disease that by attacking the fruits causes typical brown necrotic lesions, some times darker that can cover wide surfaces. It is caused by fungus belonging to the genres <i>Colletotrichum (Glomerella)</i>, <i>Gloeosporium</i>, <i>Gnomonia</i>, <i>Marssonina</i>, <i>Mycosphaerella</i>, <i>Neofabrae</i> and <i>Pseudopeziza</i>. – <u>Rot of the peduncular extreme</u>: this is caused by fungus or bacteria that attack the fruit in the base of the peduncle and, in many cases, permeates to the flesh and the seeds. – <u>“Fumagina”</u>: this is caused by the fixation, in film form, of the fungus mycelium <i>Capnodium</i> sp., which forms spots with the appearance of layers of soot. It affects the surface of the fruit.
METEOROLOGICAL AND CLIMATE RELATED	<ul style="list-style-type: none"> – <u>Sunburns</u>: is the change of colour of some areas in the surface of the fruit caused by excessive exposure to the sun.
GENETIC-PHYSIOLOGICAL	<ul style="list-style-type: none"> – <u>Deformations</u>: alterations of the fruits form in relation to the ones corresponding to their specie or variety. – <u>Physiological crack</u>: these are fissures on the pericarp of the fruit caused by the effect of the ripeness process. – <u>Softening</u>: the softening of the fruit mainly caused by the advanced state of the ripeness process or because the fruit is harvested before its physiological maturity (tender).

ANNEX C

TABLE 4: SCOVILLE INDEX FOR DIFFERENT FRESH CHILLI PEPPERS

Variety	Scoville Index
Ancho	1,000 – 1,500
Chilaca	1,000 – 1,500
De árbol	15,000 – 30,000
Habanero	100,000 – 350,000
Jalapeño	2,500 – 5,000
Manzano	30,000 – 60,000
Serrano	5,000 – 15,000

TABLE 5: METHODS OF ANALYSIS FOR PUNGENCY

PROVISION	METHOD
<u>Chillies</u> – Determination of Scoville Index	ISO 3513:1995
<u>Chillies and chilli oleoresins</u> - Determination of total capsaicinoid content: Part 1 - Spectrometric method	ISO 7543-1:1994
<u>Chillies and chilli oleoresins</u> - Determination of total capsaicinoid content: Part 2 - Method using high-performance liquid chromatography	ISO 7543-2:1993