

# codex alimentarius commission

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FOOD AND AGRICULTURE  
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Agenda Item 3(b)

CX/FFV 09/15/6

August 2009

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

Fifteenth Session

Mexico City, Mexico, 19 – 23 October 2009

### REVISED DRAFT STANDARD FOR APPLES

(At Step 6)

*Prepared by the Working Group led by the United States of America*

Governments and international organizations in Observer status with the Codex Alimentarius Commission wishing to submit comments on the revised draft Standard for Apples are invited to do so **no later than 15 September 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](mailto:jalopez@economia.gob.mx), [codexmex@economia.gob.mx](mailto:codexmex@economia.gob.mx), [codexmex2@economia.gob.mx](mailto: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](mailto:Codex@fao.org) - *preferably*).

## BACKGROUND

1. In forwarding the proposed draft Standard for Apples for adoption by the Commission at Step 5, the 14<sup>th</sup> Session of the Committee agreed to reconvene the electronic Working Group led by the United States of America working in English only and open to all Members and Observers. The Committee noted that there might be a need for a physical meeting of the Working Group both between sessions of the Committee as well as immediately prior to the next session of the Committee.
2. The kick-off message of the electronic Working Group was issued on 2 February 2009. Initial proposal for compromised solutions, based on comments at Steps 5 and 6, was presented by the Chairperson of the Working Group on 23 March 2009. Taking into account the comments received on the initial proposal, the report of the electronic Working Group was distributed to all Codex Members and Observers on 15 May 2009, accompanied by the invitation to a physical meeting of the Working Group to address several unresolved issues.
3. The revised draft Standard proposed by the physical Working Group, which met in Fredericksburg, VA, United States of America, from 20 to 23 July 2009, is contained in Annex 1 to this document. A summary of considerations by the physical Working Group and the list of participants are contained in Annexes 2 and 3 to this document respectively.
4. Codex Members and Observers are invited to provide comments on the revised draft Standard for Apples in Annex 1 to this document for further consideration at the 15<sup>th</sup> Session of the Committee.

## DRAFT STANDARD FOR APPLES

### 1. DEFINITION OF PRODUCE

This Standard applies to fruits of commercial varieties (cultivars) of apples grown from *Malus domestica Borkh.*, of the *Rosaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Apples 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 apples must be:

- whole, the stalk (stem) may be missing, provided the break is clean and the adjacent skin is not damaged;
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- not soft<sup>1</sup>, but of adequate flesh texture to ensure keeping and eating quality
- clean, practically free of any visible foreign matter;
- practically free of pests and damage caused by them 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 damage caused by low and/or high temperatures;
- practically free of signs of dehydration;

2.1.1 The apples must have colour that is characteristic of the variety and the area in which they are grown.

The development and condition of the apples must be such as to enable them:

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

#### 2.2 MATURITY REQUIREMENTS

Apples must be at a stage of development that enables them to continue the ripening process and to reach a stage of ripeness required in relation to the varietal characteristics.

In order to verify the minimum maturity requirements some parameters such as: morphological aspects, firmness and refractometric index can be considered.

#### 2.3 CLASSIFICATION

In accordance with the defects allowed in Annex I- Maximum Allowance for Defects, apples are classified in three classes defined below:

##### 2.3.1 "Extra" Class

Apples in this class must be of superior quality. The flesh must be sound. They must be characteristic of the variety. 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<sup>2</sup>.

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<sup>1</sup> Reservations from India who indicated that the term "not soft" is not used in Codex texts, whereas firm has been used in various Codex standards and therefore that practice be continued

<sup>2</sup> Skin and other defects must not exceed the limits as defined in Annex I.

## Annex 1

**2.3.2 Class I**

Apples in this class must be of good quality. The flesh must be sound. They must be characteristic of the variety. 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<sup>2</sup>:

- a slight defect in shape and development;
- a slight defect in colouring
- slight skin or other defects (see Annex I).

**2.3.3 Class II**

This class includes apples 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 apples retain their essential characteristics as regards the quality, the keeping quality and presentation<sup>2</sup>:

- defects in shape and development;
- defects in colouring
- skin or other defects (see Annex I).

**2.4 COLOURING**

In all classes, in the absence of national legislation, the following colour codes may be applied except for green and yellow apple varieties:

Code	Percentage of colour
A	75% or more
B	50 % or more
C	25% or more
D	Less than 25%

**3. PROVISIONS CONCERNING SIZING**

Size is determined by maximum diameter of the equatorial section or by weight of each apple.

For all varieties and all classes the minimum size is 60 mm if measured by diameter or 90 g if measured by weight. Fruit of smaller sizes may be accepted provided the Brix level of the produce meets or exceeds 10.5° Brix<sup>3</sup> and the size is not smaller than 50 mm or 70 g.

**4. PROVISIONS CONCERNING TOLERANCES**

Tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated.

**4.1 QUALITY TOLERANCES**

Within the quality tolerances include therein shall be the defects as listed in Annex I

The application of the following tolerances should take into accounts that at stages following export; products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity
- for products graded in classes other than the “Extra” Class, a slight deterioration due to their development and their tendency to perish.

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<sup>3</sup> Reservation of India:- preference for 12° Brix

## Annex 1

## 4.1.1 “Extra” Class

Five percent by number or weight of apples not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

Included therein shall be allowed not more than 1.0 % for apples affected by decay or internal breakdown at shipping point and destination.<sup>4</sup>

## 4.1.2 Class I

Ten percent by number or weight of apples not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

Included therein shall be allowed not more than 1% for apples affected by decay or internal breakdown at shipping point and destination.<sup>3</sup>

## 4.1.3 Class II

Ten percent by number or weight of apples 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.

Included therein shall be allowed not more than 2% for apples affected by decay or internal breakdown at shipping point and destination.<sup>3</sup>

Included therein shall be allowed, a maximum of 2% by number or weight of fruit which may show the following defects:

- cork like blemishing (bitter pit);
- slight damage or unhealed broken skin /cracks;
- presence of internal feeding insects/pests or damage to the flesh caused by pests.

## 4.2 SIZE TOLERANCES

For all classes of fruit subjected to rules of uniformity, 10% by number or weight of apples not meeting the size indicated on the package.

This tolerance may not be extended to include produce with a size below 50 mm or 70 g if the refractometric index is below 10.5 °Brix<sup>5</sup>

## 5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY<sup>6</sup>

The contents of each package must be uniform and contain only apples of the same origin, quality, size (if sized) and variety. For “Extra” Class, colour should be uniform. Sales packages (of a net weight not exceeding 5 kg) may contain mixtures of varieties and sizes provided they are uniform in quality, and for each variety concerned, its origin. The visible part of the contents of the package must be representative of the entire contents except for mixed sizes and varieties.

The uniformity of apples may be measured in accordance with one of the following options:

## A. By diameter:

The maximum diameter difference of apples in the same package shall be limited to

- 5 mm if the diameter of the smallest apples is less than 80 mm.
- 12 mm if the diameter of the smallest apple is equal to or over 80 mm.

Or

## B. By weight

The maximum difference by weight between apples in the same package shall be limited to:

<sup>4</sup> Reservation of India and Thailand: - preference for Zero percent.

<sup>5</sup> Reservation of India:- a preference for 12° Brix

<sup>6</sup> Reservation of the EC on uniformity provisions A, B & C

## Annex 1

- 15 g if the weight of the smallest apple is 90 g.
- 20 g if the weight of the smallest apple 90 g and over but under 135 g.
- 30 g if the weight of the smallest apple is 135 g and over but under 200 g.
- 40 g if the weight of the smallest apple is 200 g and over but under 300 g.
- 50 g if the weight of the smallest apple is over 300 g.

Or

C. Based on national legislation of importing country

## 5.2 PACKAGING

Apples must be packed in such a way as to protect the produce properly. The materials used inside the package must be new<sup>7</sup>, 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 labeling has been done with non-toxic ink or glue.

Apples 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 apples. Packages must be free of all foreign matter and smell.

## 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 shall be labelled as to the name of the produce and may be labelled as to name of the variety, class, colour code (if used) and size/weight or the number of pieces presented in rows and layers.

### 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)<sup>8</sup>.

#### 6.2.2 Nature of Produce

Name of the produce if the contents are not visible from the outside. Name of the variety or varieties (where appropriate).

#### 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;

<sup>7</sup> For the purposes of this Standard, this includes recycled material of food-grade quality.

<sup>8</sup> 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.

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- Size (if sized).
- Colour code (if used)

**6.2.5 Official Inspection Mark (optional)<sup>9</sup>****7. CONTAMINANTS****7.1 PESTICIDE RESIDUES**

Apples shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

**7.2 OTHER CONTAMINANTS**

Apples shall comply with those maximum levels for contaminants established by the Codex Alimentarius Commission for this commodity.

**8. HYGIENE**

8.1 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), 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.

8.2 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).

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<sup>9</sup> 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.

**ANNEX I**  
**MAXIMUM ALLOWANCE FOR DEFECTS**

Defects Allowed		“Extra” Class	Class I	Class II
Russetting outside Calyx/stem cavity	• smooth net-like	3% <sup>10</sup> of surface area	20% of surface area	50% of surface area
	• smooth solid	1% <sup>10</sup>	5% of surface area	33% of surface area
accumulation for both types of russetting should not exceed the following		3 % <sup>10</sup>	20 %	50% <sup>11</sup>
Accumulated Blemishes & Bruising: - Bruises with slight discoloration; - which Scabs <sup>12</sup> ( <i>Venturia inaequalis</i> ); - other defects/blemish including healed hail marks		0.50 cm <sup>2</sup>	1.0 cm <sup>2</sup> 0.25 cm <sup>2</sup> 1.0 cm <sup>2</sup>	1.5 cm <sup>2</sup> <sup>13</sup> 1 2.5 cm <sup>2</sup>
Stem or Calyx cracks (healed or well cured)		----	0.5 cm	1 cm
Maximum length of elongated shaped defects		----	2 cm	4 cm

Russetting can be simply described as a “brownish roughened area or streaks on the skin of the apple”. In some apple varieties russetting is a characteristic of the variety and for others a quality defect. Allowances for russetting will be applied to apple varieties that russetting is not a characteristic of.

<sup>10</sup> Reservation of EC & Germany:- preference for written text instead of the numerical value

<sup>11</sup> Reservation of India & Thailand

<sup>12</sup> National legislation of Thailand has Zero tolerance for Scab (*Venturia inaequalis*).

Reservation of India- preference for a zero tolerance for Scab (*Venturia inaequalis*).

<sup>13</sup> Bruising with discoloration and dark blemishes not blending with skin color are accepted in this Class.

## Report of the Physical Meeting of the CCFFV –Apple Working Group Fredericksburg, Virginia, July 20 - 23, 2009

1. The Physical meeting of the CCFFV- Apple working group was held in Fredericksburg, Virginia from July 20 – 23 2009 at the USDA/AMS-F&VP/ Fresh Products Branch Training and Development Center in Fredericksburg, Virginia USA. 20 delegates representing twelve member countries and one member organization attended.

2. On the first day of the meeting, an apple inspection workshop was held to facilitate discussions in the ensuing plenary session. The plenary session main focus was highlighted yellow text on the (unresolved text) in the draft standards- arising of previous CCFFV sessions and electronic and physical working group meetings:

### 1.1 MINIMUM REQUIREMENTS: Firm

3. The different national interpretations of “firm” in relation to apple quality were discussed, with dual meanings of being measured by pressure test and a stage of ripeness. There was added concern that “firm” as a requirement indicated by a single value could not be applied uniformly for all apple varieties due to specific characteristics of each.

4. During the discussion it became apparent that the delegations favoring the inclusion of “firm” were concerned about apples flesh texture irrespective of the variety being of a texture that enables its storage and ensures eating quality. The following compromised text language that was acceptable to all parties with reservations from India who indicated that the term “not soft” is not used in Codex texts, whereas firm has been used in various Codex standards and therefore that practice be continued:

- *not soft, but of an adequate texture to ensure keeping and eating quality*

### 2.3 COLOR CLASSIFICATION

5. Different positions on both retaining and omitting this requirement (Annex I) from the draft standard. Delegations supporting its omission indicated the difficulties in ascertaining the color varieties, the impact of geo-climatic conditions, the impact of new varieties in production varieties and the difficulties in maintaining such a list. Those favoring the retention of color classification indicated that it was a well established trade practice used in quality classification of some national legislation and price setting.

6. The delegation of the United States seconded by that of Italy expressed concern that the removal of the color requirement dilutes this Codex standard to the level impracticality. A post session discussion group led by the delegation of Australia and comprising delegations from Brazil, Chile, European Community, Germany, Italy, Mexico, New Zealand and the United States was formed to discuss this color requirement.

7. The working group unanimously adopted the following text was presented by the discussion group, inserting it as Section 2.4. It was agreed (1) compliance with the codes is optional; however, when used, they must be indicated on the package and (2) the codes are not tied to any of the three classes but as a trading guide.

### 2.4. COLOURING

*In all classes, in the absence of national legislation, the following colour codes may be applied except for green and yellow apple varieties:*

<i>Code</i>	<i>Percentage of Colour</i>
<i>A</i>	<i>75% or more</i>
<i>B</i>	<i>50 % or more</i>
<i>C</i>	<i>25% or more</i>
<i>D</i>	<i>Less than 25%</i>



## Annex 2

**3. PROVISION CONCERNING SIZING - MINIMUM SIZE AND BRIX DEGREES**

8. The Minimum Size and Brix degree requirements were discussed together as presented in the draft Codex Standard for Apples. Delegations supporting the previously agreed text that combines the minimum size to a minimum Brix degrees requirement explained its history and the studies that were undertaken in this regard. Apple industry representatives in attendance expressed frustration at the continuous discussion of this matter that was previously believed to be resolved; they further stated if this practice continues- this Codex Apple standard would not be acceptable and consequently they would withdraw support for this standard and other Codex activities.

9. Delegations favoring both higher minimum values indicated that such values are to ensure keeping and eating quality of apples and for consumer protection purposes. A new proposal of 11.0 Brix was offered by the delegation of India was discussed without any success. The delegation of India's expressed its reservation to the decision taken by the working group to maintain the previous agreed requirement of:

*For all varieties and all classes the minimum size is 60 mm if measured by diameter or 90 g if measured by weight. Fruit of smaller sizes may be accepted provided the Brix level of the produce meets or exceeds 10.5° Brix and the size is not smaller than 50 mm or 70 g.*

**4.1.1 QUALITY TOLERANCES: - Internal Breakdown and Decay**

10. The discussion on the inclusion of tolerances for internal breakdown and decay within the Draft Codex apple Standard was concluded within the framework of trading practices and the perishable nature of agricultural produce. Mixed views expressed on this issue included - the provision was contradictory with the minimum requirement "sound", it is impossible to export any fresh fruit and vegetable via long sea voyages without any piece/unit arriving at destination decayed, national inspection agencies already make unwritten allowance made for such defects, the trade accepts this defects and therefore makes allowances for this defect and there is no precedence in any CCFFV standard for these defects.

11. The following proposal was agreed to that sets the following tolerances for internal breakdown and decay at both shipping point and destination of:

*1% in Extra Class and in Class I and 2% in Class II*

12. The delegations of India and Thailand indicated their reservations to the agreed text and indicating a preference for "Zero" percent for decay and internal breakdown. The U.S delegation requested that the CCFFV indicate that holders of produce that fails conformity assessment should be allowed to bring such into conformity. It was pointed out that CCFICS Guideline 47-2003 sections 9, 10 and 27 already provide guidance on this issue. In view the US delegation requested that this CCFICS document be referenced by this apple standard. The chair offered to inform the Codex Secretariat of this request.

13. Some delegations expressed concerned about the standard's application at destination and the retail distribution trade, requested that the standard provide guidance on the tendency of agricultural produce to perish. As a result the quality/appearance of the produce at destination and the retail distribution channel will be slightly diminished.

14. Text deemed appropriate for this purpose was copied from the UNECE Apple standard and placed within Section 4.1 Quality Tolerances. Some concerns were expressed about the correctness of the copied texts. The chairperson of the apple working group indicated that the placement of the copied text within the Proposed Draft Codex Apple standard be referred to the Codex Secretariat.

**5.1.1. UNIFORMITY**

15. The different uniformity proposals for apples within the same package in the draft standard were discussed without any agreement because of significant differences in national legislations that could not be bridged. Some delegations desired progressive diameter differences correlated to the size of the fruit while other desired a fixed interval, and some delegations desire for the standard layout uniformity statement with no numeric values.

## Annex 2

16. After extensive discussions the following new text was developed and adopted with separate uniformity by diameter, weight and national legislation with the intent to meet such needs of all member countries and traders. The European Community's delegation indicated its reservation to parts A, B and C pending consultations with its Member States:

*The uniformity of apples may be measured in accordance with one of the following options:*

**A. By diameter:**

*The maximum diameter difference of apples in the same package shall be limited to*

- 5 mm if the diameter of the smallest apples is less than 80 mm.
- 12 mm if the diameter of the smallest apple is equal to or over 80 mm.

**Or**

**B. By weight**

*The maximum difference by weight between apples in the same package shall be limited to:*

- 15 g if the weight of the smallest apple is under 90 g.
- 20 g if the weight of the smallest apple 90 g and over but under 135 g.
- 30 g if the weight of the smallest apple is 135 g and over but under 200 g.
- 40 g if the weight of the smallest apple is 200 g and over but under 300 g.
- 50 g if the weight of the smallest apple is over 300 g.

**Or**

**C. Based on national legislation of importing country**

**ANNEX II: Maximum Allowance for Defects**

17. This is the first time a proposed annex with numerical values/limits for defects is included in a Codex FFV standard. Delegations supporting its inclusion pointed to the subjective interpretation of the pertinent sections of Codex standards; thus referring to the Annex as a tool that facilitates uniform international interpretation of this proposed Draft Codex standard. Opposing countries favored the relevant wording found in UNECE standard and were unsure how inspection agencies and standard interpretation bodies would view the numerical values.

18. There was consensus on the maximum allowances for russetting in all classes; with European Community and Germany's delegations indicating a reservation for numeric values. Both delegations indicated their preference for written text rather than numeric values in Extra class. The delegations of Thailand and India preferred lower values for russetting in Class I and Class II and indicated their reservations to the values.

19. There was substantial discussion on the numerical values proposed for accumulated blemishes and bruising. The need for a new indent for bruising with no discoloration was debated, and delegates agreed not to include these. Instead the table was including a separate indent for bruises with slight discoloration. Numerical values were agreed by the delegates. The delegation of India indicated its reservation to the allowance for scab within the table, and the Thailand's delegation indicated its reservation stating that within its national legislation there is a zero tolerance for scab.

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LISTE DES PARTICIPANTS  
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