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**ECONOMIC COMMISSION FOR EUROPE**

COMMITTEE FOR TRADE, INDUSTRY AND  
ENTERPRISE DEVELOPMENT

Working Party on Standardization of  
Perishable Produce and Quality Development  
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Item 3 (c) of the provisional agenda

**NUMBER SYSTEM OF THE STANDARDS**

Note by the Secretariat

At the last session of the Working Party, the Secretariat proposed changing the numbering system used in UNECE standards to a legal numbering system (e.g. 1, 1.2, 1.2.1) (see TRADE/WP.7/2001/3).

Advantages of this system are that

- references to all parts of the text are easily possible;
- no letters are needed in the numbering (avoids problems with cyrillic);
- standards are in line with ISO standard 2145:1978 on "Numbering of divisions and sub-divisions in written documents"

For the last session of GE.1 the Secretariat prepared a comprehensive example based on the Citrus Fruit standard (see TRADE/WP.7/GE.1/2002/16). In addition the "Provisions concerning quality" had been split into its three sub-sections to keep the numbering depth low (four numbers).

The Specialized Section agreed to having a separate section for maturity requirements but preferred to keep the three sections under the existing heading so that the concept of quality was not lost. In the present document the Secretariat presents a new example on the basis of the UNECE Standard for Apples.

**UNECE STANDARD FFV-50**  
concerning the marketing and commercial  
quality control of

**APPLES**

moving in international trade between and to  
UNECE member countries

**1. DEFINITION OF PRODUCE, SCOPE AND PURPOSE OF THE STANDARD**

1.1 This standard applies to apples of varieties (cultivars) grown from *Malus domestica Borkh.* to be supplied fresh to the consumer, apples for industrial processing being excluded.

1.2 The purpose of the standard is to define the quality requirements of apples at the export control stage, after preparation and packaging.

**2. MINIMUM REQUIREMENTS FOR QUALITY AND MATURITY**

**2.1 Minimum quality requirements**

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

- 2.1.1 - intact
- 2.1.2 - sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- 2.1.3 - clean, practically free of any visible foreign matter
- 2.1.4 - practically free from pests
- 2.1.5 - practically free from damage caused by pests
- 2.1.6 - free of abnormal external moisture
- 2.1.7 - free of any foreign smell and/or taste.

2.1.8 In addition, they must have been carefully picked.

2.1.9 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 Minimum maturity requirements**

2.2.1 The development and condition of the apples must be such as to enable them to continue their ripening process and to reach the degree of ripeness required in relation to the varietal characteristics<sup>1</sup>

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<sup>1</sup>Due to varietal characteristics of the Fuji variety concerning maturity at harvest, radial watercore is permitted providing it is contained within the vascular bundles of each fruit.

(further requirements to be developed)

### 3. QUALITY CLASSIFICATION

Apples are classified in three classes defined below:

#### 3.1 "Extra" Class

3.1.1 Apples in this class must be of superior quality. In shape, size and colouring they must be characteristic of the variety<sup>2</sup> and the stalk must be intact.

3.1.2 The flesh must be perfectly sound.

3.1.3 They must be free from defects with the exception of very slight superficial defects provided these do not affect the general appearance of the fruit, the quality, the keeping quality and presentation in the package.

#### 3.2 Class I

3.2.1 Apples in this class must be of good quality. In shape, size and colouring they must be characteristic of the variety.<sup>2</sup>

3.2.2 The flesh must be perfectly sound.

3.2.3 The following slight defects, however, may be allowed, on individual fruit provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

3.2.3.1 a slight defect in shape

3.2.3.2 a slight defect in development

3.2.3.3 a slight defect in colouring

3.2.3.4 slight skin defects which must not extend over more than:

(i)- 2 cm in length for defects of elongated shape

(ii)- 1 cm<sup>2</sup> of total surface area for other defects, with the exception of scab (*Venturia inaequalis*), which must not extend over more than 0.25 cm<sup>2</sup> cumulative in area.

- slight bruising not exceeding 1 cm<sup>2</sup> in area and not discoloured.

3.2.4 The stalk may be missing, provided the break is clean and the adjacent skin is not damaged.

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<sup>2</sup>The criteria for colouring and russeting as well as a non-exhaustive list of varieties are set out in the Annex of this standard.

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### 3.3 Class II

3.3.1 This class includes apples which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above.<sup>2</sup>

3.3.2 The flesh must be free from major defects.

3.3.3 The following defects are allowed provided the fruit retains its essential characteristics as regards the quality, the keeping quality and presentation.

3.3.3.1 defects in shape

3.3.3.2 defects in development

3.3.3.3 defects in colouring

3.3.3.4 skin defects which must not extend over more than:

(i) 4 cm in length for defects of elongated shape

(ii) 2.5 cm<sup>2</sup> total surface area for other defects, including slightly discoloured bruising, with the exception of scab (*Venturia inaequalis*), which must not extend over more than 1 cm<sup>2</sup> cumulative in area.

- slight bruising not exceeding 1.5 cm<sup>2</sup> in area which may be slightly discoloured.

## 4. SIZING

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

### 4.2 Minimum Size

A minimum size<sup>3</sup> by diameter is required<sup>4</sup> for each class as follows:

	<b>Extra</b>	<b>Class I</b>	<b>Class II</b>
Large fruited varieties <sup>2</sup>	65 mm	60 mm	60 mm
Other varieties	60 mm	55 mm	50 mm

<sup>3</sup>The European Community and Slovakia have adopted larger minimum sizes for apples as follows:

*Large fruited varieties: 70mm for "Extra" Class; 65mm for Classes I and II*

*Other varieties: 60mm for "Extra" Class; 55mm for Classes I and II*

<sup>4</sup>New Zealand, Chile and South Africa do not consider there to be an effective correlation between fruit sized by weight and the requirements for minimum diameter. New Zealand will propose that separate minimum requirements for weight sizing be included in the standard once further data has been obtained on this and the related issue of maturity requirements.

### 4.3 Uniformity

4.3.1 To ensure there is uniformity of size within a package, the difference in diameter between fruit in the same package shall be limited to:

- 4.3.1.1 - 5 mm for "Extra" Class fruit and for Class I and II fruit packed in rows and layers<sup>5</sup>
- 4.3.1.2 - 10 mm for Class I fruit packed loose in the package or in consumer packages.<sup>6</sup>

4.3.2 For fruit sized according to weight, the difference in weight between fruit in the same package shall be limited to;

- 4.3.2.1 - 20% of the average individual fruit weight in the package for Class Extra and for Class I and II fruit packed in rows and layers
- 4.3.2.2 - 25% of the average individual fruit weight in the package for Class I fruit packed loose in the package or in consumer packages.

4.3.3 There is no sizing uniformity limit for Class II fruit packed loose in the package or in consumer packages.

## 5. TOLERANCES

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

### 5.1 Quality tolerances

#### 5.1.1 "Extra" Class

5 per cent 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.

#### 5.1.2 Class I

10 per cent 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.

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<sup>5</sup>However, for apples of the varieties Bramley's Seedling (Bramley, Triomphe de Kiel) and Horneburger, the difference in diameter may amount to 10 mm.

<sup>6</sup>However, for apples of the varieties Bramley's Seedling (Bramley, Triomphe de Kiel) and Horneburger the difference in diameter may amount to 20 mm.

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### 5.1.3 *Class II*

5.1.3.1 10 per cent 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.

5.1.3.2 Within this tolerance, a maximum of 2 per cent by number or weight of fruit is allowed which shows the following defects:

- (i) serious attacks of cork (bitter pit) or water-core
- (ii) slight damage or unhealed cracks
- (iii) very slight traces of rot
- (iv) presence of internal feeding pests and/or damage to the flesh caused by pests.

## 5.2 **Size tolerances**

For all classes:

5.2.1 for fruit which is subject to the rules of uniformity, 10 per cent by number or weight of fruit corresponding to the size immediately above or below that marked on the package, with, for fruit classified in the smallest grade allowed a maximum variation of 5 mm below the minimum;

5.2.2 for fruit which is not subject to the rules of uniformity, 10 per cent by number or weight of fruit below the minimum size laid down, with a maximum variation of 5 mm below the minimum size.

## 6. **PRESENTATION**

### 6.1 **Uniformity**

6.1.1 The contents of each package must be uniform and contain only apples of the same origin, variety, quality, and size (if sized) and the same degree of ripeness.

6.1.2 In the case of the "Extra" Class, uniformity also applies to colouring.

6.1.3 The visible part of the contents of the package must be representative of the entire contents.

6.1.4 Uniformity of variety and origin are not required for apples in consumer packages of a net weight not exceeding 5 kg.

### 6.2 **Packaging**

6.2.1 The apples must be packed in such a way as to protect the produce properly. In particular, consumer packages of a net weight exceeding 3kg shall be sufficiently rigid to ensure proper protection of the produce.

6.2.2 The materials used inside the package must be new, 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.

6.2.3 Packages must be free of all foreign matter.

### 6.3 Presentation

For "Extra" Class fruit must be packed in layers.

## 7. MARKING

Each package<sup>7</sup> must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

### 7.1 Identification

Packer	)	Name and address or
and/or	)	officially issued or
Dispatcher	)	accepted code mark. <sup>8</sup>

### 7.2. Nature of produce

7.2.1 - "Apples", if the contents are not visible from the outside

7.2.2 - Name of the variety

In the case of consumer packages containing a mixture of apples of different varieties, names of the different varieties.

### 7.3. Origin of produce

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

In the case of consumer packages containing a mixture of varieties of apples of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

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<sup>7</sup>*Consumer packages shall not be subject to these marking provisions but shall conform to the national requirements. However, the markings referred to shall in any event be shown on the transport packaging containing such package units.*

<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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#### **7.4. Commercial specifications**

7.4.1 - Class

7.4.2 - Size, or for fruit packed in rows and layers, number of units.

7.4.3 If identification is by the size, this should be expressed:

- (a) for produce subject to the uniformity rules, as minimum and maximum diameters or weight;
- (b) for produce not subject to the uniformity rules, the diameter or weight of the smallest fruit in the package.

#### **7.5. Official control mark (optional)**

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\*This text was previously part of a combined standard for apples and pears (FFV-01), published in 1960 with revisions in 1996, 2000. An explanatory brochure for this standard was published by the OECD Scheme.