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Working Party on Standardization of
Perishable Produce and Quality Development

Specialized Section on Coordination of
Standardization of Fresh Fruit and Vegetables
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REPORT OF THE FORTY-SEVENTH SESSION

Addendum 1

Note by the Secretariat : This document contains the revised draft UNECE Standard for Apples (FFV-01a). This document is being distributed for comments to be sent to the rapporteur (New Zealand).

UNECE STANDARD FFV-01a
concerning the marketing and commercial
quality control of

APPLES
moving in international trade between and to
UNECE member countries

I. DEFINITION OF PRODUCE

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

II. PROVISIONS CONCERNING QUALITY

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

A. Minimum requirements

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

- intact
- 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 from pests
- practically free from damage caused by pests
- free of abnormal external moisture
- free of any foreign smell and/or taste.

[*In addition, they must have been carefully picked*].

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

- to continue their maturing process and to reach the degree of maturity required in relation to the varietal characteristics¹
- to withstand transport and handling, and
- to arrive in satisfactory condition at the place of destination.

¹*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.*

B. Classification

Apples are classified in three classes defined below:

(i) *"Extra" Class*

Apples in this class must be of superior quality. In shape, size and colouring they must be characteristic of the variety² and the stalk must be intact.

The flesh must be perfectly sound.

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.

(ii) *Class I*

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

The flesh must be perfectly sound.

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:

- a slight defect in shape
- a slight defect in development
- a slight defect in colouring
- [- *slight skin defects which must not extend over more than:*
- *2 cm in length for defects of elongated shape*
 - *1 cm² of total surface area for other defects, with the exception of scab (*Venturia inaequalis*), which must not extend over more than 0.25 cm² cumulative in area.*
- *slight bruising not exceeding 1 cm² in area and not discoloured.]*

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

(iii) *Class II*

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

The flesh must be free from major defects.

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

- defects in shape

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

- defects in development
- defects in colouring
- skin defects which must not extend over more than:
 - 4 cm in length for defects of elongated shape
 - 2.5 cm² 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 cm² cumulative in area.

III. PROVISIONS CONCERNING SIZING

Size is determined by maximum diameter of the equatorial section or by weight. Fruit must meet one of the following minimum size requirements:

[i) A minimum size³ by diameter for each class as follows:

	Extra	Class I	Class II
Large fruited varieties ⁴	65 mm	60 mm	60 mm
Other varieties	60 mm	55 mm	50 mm

Or

ii) A minimum fruit weight for each class as follows:

	Extra	Class I	Class II
Large fruited varieties	110 gm	90 gm	90 gm
Other varieties	90 gm	80 gm	75 gm]

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

- For fruit packed in rows and layers
 - 5 mm for "Extra" Class fruit and for Class I and II fruit⁵
- or

³The European Community has adopted larger minimum sizes for apples as follows:

Large fruited varieties:	70mm fro "Extra" Class; 65mm for Classes I and II
Other varities:	60mm for "Extra" Class; 55mm for Classes I and II

⁴The non-exhaustive list of large fruited varieties is given in the Annex of this standard.

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

- 20% of the average individual fruit weight in the package
- For fruit packed in bulk in the package or in consumer packages
 - 10 mm for Class I fruit⁶
- or
- 25% of the average individual fruit weight in the package
- There is no sizing uniformity limit for Class II fruit packed in bulk in the package or in consumer packages.]

IV. PROVISIONS CONCERNING TOLERANCES

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

A. Quality tolerances

- (i) **"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.
- (ii) **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.
- (iii) **Class II**
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.

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

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

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

B. Size tolerances

[For all classes:

- (a) *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 / 10 gm below the minimum;*
- (b) *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 / 10 gm below the minimum size.]*

V. PROVISIONS CONCERNING PRESENTATION

A. Uniformity

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.

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

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

Uniformity of variety and origin are not required for apples in consumer packages of a net weight not exceeding [2 kg].

B. Packaging

The apples must be packed in such a way as to protect the produce properly.

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.

Packages must be free of all foreign matter.

C. Presentation

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

VI. PROVISIONS CONCERNING MARKING

Each package⁷ must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

⁷*Package units of produce prepacked for direct sale to the consumer 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.*

A. Identification

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

B. Nature of produce

- "Apples", if the contents are not visible from the outside
- Name of the variety or varieties (where appropriate)

C. Origin of produce

- Country or countries (where appropriate) of origin and, optionally, district where grown, or national, regional or local place name.

D. Commercial specifications

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

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.

E. Official control mark (optional)

Published 1960
Revised 1996, 2000
The UNECE Standard for Apples and Pears
has led to an explanatory brochure published by the OECD Scheme

⁸*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.*