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**SPECIALIZED SECTION ON STANDARDIZATION
OF FRESH FRUIT AND VEGETABLES**

Texts for adoption as revised/new UNECE standards

Avocados

Note by the secretariat

This text, considered at the May 2009 session of the Specialized Section on Standardization of Fresh Fruit and Vegetables, is submitted to the Working Party for approval as a revised Standard for Avocados.

The document is prepared in accordance with paragraph 5 of the Working Party's Terms of Reference.

STANDARD FFV-42
concerning the marketing and commercial quality control of

AVOCADOS

I. DEFINITION OF PRODUCE

This standard applies to avocados of varieties (cultivars) grown from *Persea americana Mill.* to be supplied fresh to the consumer, parthenocarpic fruit and avocados for industrial processing being excluded.

II. PROVISIONS CONCERNING QUALITY

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

However, if applied 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.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder shall be responsible for observing such conformity.

A. Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the avocados 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
- free from damage caused by pests affecting the flesh
- free from damage caused by low temperature
- having a stalk not more than 10 mm in length which must be cut off cleanly. However, its absence is not considered a defect on condition that the place of the stalk attachment is dry and intact
- free of abnormal external moisture
- free of any foreign smell and/or taste.¹

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

¹ The use of preserving agents or any other chemical substance liable to leave a foreign smell on the skin of the fruit is permitted where it is compatible with the regulations of the importing country.

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

B. Maturity requirements

The development of the avocados should have reached a physiological stage, which will ensure a continuation of the ripening process to completion.

The fruit should have a minimum dry matter content, to be measured by drying to constant weight:

- 21 % for the variety Hass
- 20 % for the varieties Fuerte, Pinkerton, Reed and Edranol
- 19 % for the other varieties except for Antillian varieties that may show a lower dry matter content.

The ripe fruit should be free from bitterness.

C. Classification

Avocados are classified in three classes, as defined below:

(i) "Extra" Class

Avocados in this class must be of superior quality. In shape and colouring they must be characteristic of the variety and/or commercial type.

They must be free from 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. If present, the stalk must be intact.

(ii) Class I

Avocados 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:

- a slight defect in shape
- slight defects in colouring
- slight skin defects (corkiness, healed lenticels) and sunburn, provided they are not progressive; the maximum total area should not exceed 4 cm².

In no case may the defects affect the fruit flesh.

The stalk, if present, may be slightly damaged.

(iii) Class II

This class includes avocados that do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above.

The following defects may be allowed, provided the avocados retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape
- defects in colouring
- skin defects (corkiness, healed lenticels) and sunburn, provided they are not progressive; the maximum total area should not exceed 6 cm².

In no case may the defects affect the fruit flesh.

The stalk, if present, may be damaged.

III. PROVISIONS CONCERNING SIZING

Size is determined by the weight or count of the fruit.

Minimum weight for avocados is 123 g except for Hass where it is 80 g and for Antillean varieties where it is 170 g.

To ensure uniformity in size:

- (a) For Antillean varieties

The weight of the smallest fruit shall be not less than 75 percent of the weight of the largest fruit in the same package.

- (b) For other varieties the following size scale applies:

Size code	Weight scale (g)
4	781 to 1220
6	576 to 780
8	456 to 576
10	364 to 462
12	300 to 371
14	258 to 313
16	227 to 274
18	203 to 243
20	184 to 217
22	165 to 196

24	151 to 175
26	144 to 157
28	134 to 147
30	123 to 137
S ²	80 to 123 (Hass variety only)

IV. PROVISIONS CONCERNING TOLERANCES

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

A. Quality tolerances

(i) *"Extra" Class*

A total tolerance of 5 per cent, by number or weight, of avocados not satisfying the requirements of the class but meeting those of Class I is allowed. Within this tolerance, not more than 0.5 per cent in total may consist of produce satisfying the requirements of class II quality.

(ii) *Class I*

A total tolerance of 10 per cent, by number or weight, of avocados not satisfying the requirements of the class but meeting those of Class II is allowed. Within this tolerance not more than 1 per cent in total may consist of produce satisfying neither the requirements of Class II quality nor the minimum requirements or of fruit affected by rotting or any other serious flesh defects.

(iii) *Class II*

A total tolerance of 10 per cent, by number or weight, of avocados satisfying neither the requirements of the class nor the minimum requirements is allowed. Within this tolerance not more than 2 per cent in total may consist of fruit affected by rotting or any other serious flesh defects.

B. Size tolerances

For all classes: a total tolerance of 10 per cent, by number or weight, of avocados not satisfying the requirements as regards sizing is allowed.

² The difference between the smallest and largest fruit within a package should not be more than 25 g.

V. PROVISIONS CONCERNING PRESENTATION

A. Uniformity

The contents of each package must be uniform and contain only avocados of the same origin, variety, quality, colouring³ and size.

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

B. Packaging

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

The materials used inside the package must be 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.

Stickers individually affixed on the produce shall be such that, when removed, they neither leave visible traces of glue nor lead to skin defects.

Packages must be free of all foreign matter.

VI. PROVISIONS CONCERNING MARKING

Each package⁴ must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

A. Identification

Packer) Name and physical address (e.g. street/city/region/postal code and,
and/or) if different from the country of origin, the country) or
Dispatcher/shipper) a code mark officially recognized by the national authority.⁵

B. Nature of produce

- "Avocados", if the contents are not visible from the outside
- "Antillean/Florida" or equivalent denomination, where appropriate

³ A change in the colour of the dark-skinned varieties is not considered as a defect, but the colouring of the fruit in each package must be uniform at the point of dispatch.

⁴ According to the Geneva Protocol, footnote 2, "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".

⁵ 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, and the code mark should be preceded by the ISO 3166 (alpha) country/area code of the recognizing country, if not the country of origin.

- Name of the variety.

C. Origin of produce

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

D. Commercial specifications

- Class
- Size expressed in minimum and maximum weight or by count
- Code number of the size scale and number of fruits when it is different from code number or, optionally, code number of the size scale and the net weight of the package.

E. Official control mark (optional)

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The OECD Scheme for the Application of International Standards for Fruit and Vegetables has published an explanatory illustrated brochure on the application of this standard. The publication may be obtained from the OECD bookshop at: www.oecdbookshop.org.
