

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture  
Organization of  
the United Nations



World Health  
Organization

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## STANDARD FOR AVOCADO

CXS 197-1995

Adopted in 1995. Amended in 2015. Revised in 2013.

## 1. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of avocados grown from *Persea americana* Mill., of the *Lauraceae* family, to be supplied fresh to the consumer, after preparation and packaging. Parthenocarpic fruit and avocados 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 avocados must be:

- whole;
- 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 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;
- practically free of damage caused by low and/or high temperatures;
- 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 whole.

**2.1.1** The avocados must have reached a stage of physiological development which will ensure the completion of the ripening process, in accordance with criteria proper to the variety and to the area in which they are grown. The mature fruit should be free of bitterness.

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

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

### 2.1.2 Maturity requirements

The fruit should have a minimum dry matter content<sup>1</sup> at the harvest, according to the variety, to be measured by drying to constant weight:

- 21 % for the variety Hass;
- 20 % for the varieties Torres, Fuerte, Pinkerton, Edranol and Reed.

Other varieties including Antillean/West Indian/Guatemalan may show a lower dry matter content.

## 2.2 Classification

Avocados are classified in three classes defined below:

### 2.2.1 “Extra” Class

Avocados in this class must be of superior quality. 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. If present, the stalk must be intact.

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<sup>1</sup> This requirement applies to a fruit lot and not to individual fruits.

**2.2.2 Class I**

Avocados in this class must be of good quality. 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:

- slight defects in shape and colouring;
- slight skin defects (corkiness, healed lenticels) and sunburn; the maximum total area should not exceed 4 cm<sup>2</sup>.

The defects must not, in any case, affect the flesh of the fruit.

The stalk, if present, may be slightly damaged.

**2.2.3 Class II**

This class includes avocados 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 avocados retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape and colouring;
- skin defects (corkiness, healed lenticels) and sunburn; the maximum total area should not exceed 6 cm<sup>2</sup>.

The defects must not, in any case, affect the flesh of the fruit.

The stalk, if present, may be damaged.

**3. PROVISIONS CONCERNING SIZING**

Avocados can be sized through one of the following options:

- (a) By weight of the fruit, in accordance with the following table:

| Size Code | Weight (in grams)         |
|-----------|---------------------------|
| 2         | > 1220                    |
| 4         | 781 – 1220                |
| 6         | 576 – 780                 |
| 8         | 456 – 576                 |
| 10        | 364 – 462                 |
| 12        | 300 – 371                 |
| 14        | 258 – 313                 |
| 16        | 227 – 274                 |
| 18        | 203 – 243                 |
| 20        | 184 – 217                 |
| 22        | 165 – 196                 |
| 24        | 151 – 175                 |
| 26        | 144 – 157                 |
| 28        | 134 – 147                 |
| 30        | 123 – 137                 |
| 32        | 80 – 123 (only Hass type) |

The minimum weight for avocados of Antillean/West Indian/Guatemalan and other not defined varieties is 170 g.

- (b) By count: To ensure uniformity in size between produce in the same package when they are sized by count, the weight of the smallest fruit shall be not less than 75% of the weight of the largest fruit in the same package.

#### **4. 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.

##### **4.1 Quality Tolerances**

###### **4.1.1 “Extra” Class**

Five percent by number or weight of avocados 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**

Ten percent by number or weight of avocados 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 avocados affected by decay.

###### **4.1.3 Class II**

Ten percent by number or weight of avocados satisfying neither the requirements of the class nor the minimum requirements, with the exception of avocados affected by decay that should be not more than 2%.

##### **4.2 Size Tolerances**

For all classes, 10% by number or weight of avocados corresponding to the size immediately above or below that indicated on the package.

#### **5. PROVISIONS CONCERNING PRESENTATION**

##### **5.1 Uniformity**

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

##### **5.2 Packaging**

Avocados must be packed in such a way as to protect the produce properly. The materials used inside the package must be new<sup>2</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 labelling has been done with non-toxic ink or glue.

Avocados shall be packed in each container in compliance with the *Code of Practice for the Packaging and Transport of Fresh Fruits and Vegetables* (CXC 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 avocados. 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 *General Standard for the Labelling of Prepackaged Foods* (CXS 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.

##### **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

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<sup>2</sup> For the purposes of this Standard, this includes recycled material of food-grade quality.

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>3</sup>.

#### **6.2.2 Nature of Produce**

Name of the produce if the contents are not visible from the outside. Name of the variety (optional).

#### **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 expressed in minimum and maximum weight in grams or by number (by count);
- Net weight (optional).

#### **6.2.5 Official Inspection Mark (optional)**

### **7. CONTAMINANTS**

**7.1** The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995)

**7.2** The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

### **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 *General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 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 and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997).

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<sup>3</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.