

C O D E X A L I M E N T A R I U S

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

E-mail: codex@fao.org - www.codexalimentarius.org

STANDARD FOR PINEAPPLES

CXS 182-1993

Adopted in 1993. Revised in 1999. Amended in 2005, 2011.

1. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of pineapples grown from *Ananas comosus* (L.) Merr., of the *Bromeliaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Pineapples 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 pineapples must be:

- whole, with or without the crown;
- 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 damage caused by pests;
- practically free of pests 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;
- fresh in appearance, including the crown, when present, which should be free of dead or dried leaves;
- free of damage caused by low and/or high temperatures;
- free of internal browning;
- free of pronounced blemishes.

When a peduncle is present, it shall be no longer than 2.0 cm, and the cut must be transversal, straight and clean. The fruit must be physiologically ripe, i.e., without evidence of unripeness (opaque, flavourless, exceedingly porous¹ flesh) or overripeness (exceedingly translucent or fermented flesh).

2.1.1 The pineapples have reached an appropriate degree of development and ripeness in accordance with criteria proper to the variety and/or commercial type and to the area in which they are grown.

The development and condition of the pineapples 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 total soluble solids content in the fruit flesh should be at least 12°Brix (twelve Brix degrees). For the determination of Brix degrees a representative sample of the juice of all the fruit shall be taken.

2.2 Classification

Pineapples are classified in three classes defined below:

2.2.1 "Extra" Class

Pineapples in this class must be of superior quality. They must be characteristic of the variety and/or commercial type. 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.

¹ Except in certain varieties such as those of the Queen Group.

The crown, if present, shall be simple and straight with no sprouts, and shall be between 50 and 150% of the length of the fruit for pineapples with untrimmed² crowns.

2.2.2 Class I

Pineapples 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:

- slight defects in shape;
- slight defects in colouring, including sun spots;
- slight skin defects (i.e., scratches, scars, scrapes and blemishes) not exceeding 4% of the total surface area.

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

The crown, if present, shall be simple and straight or slightly curved with no sprouts, and shall be between 50 and 150% of the length of the fruit for pineapples with trimmed or untrimmed³ crowns.

2.2.3 Class II

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

- defects in shape;
- defects in colouring, including sun spots;
- skin defects (i.e., scratches, scars, scrapes, bruises and blemishes), not exceeding 8% of the total surface area.

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

The crown, if present, shall be simple or double and straight or slightly curved, with no sprouts.

3. PROVISIONS CONCERNING SIZING

Size is determined by the average weight of the fruit with a minimum weight of 700 g, except for small size varieties³, which can have a minimum weight of 250 g, in accordance with the following table:

Size Code	Average Weight (+/-12%) (in grams)	
	with crown	without crown
A	2750	2280
B	2300	1910
C	1900	1580
D	1600	1330
E	1400	1160
F	1200	1000
G	1000	830
H	800	660

² Trimming consists in tearing some leaves off the top of the crown.

³ such as Victoria and Queen.

Significant volumes of pineapples in international trade are packaged and sold by count per box. Boxes are packed to minimum weight expectations e.g. 10 kg, 20 lbs, 40 lbs, appropriate for the various markets. Fruit are segregated for packaging by weights which approximate the above size codes, but may not consistently fall within a single size code, but would retain the uniformity required by the code.

4. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each inspection lot 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 pineapples 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 pineapples not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

4.1.3 Class II

Ten percent by number or weight of pineapples 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.

4.2 Size Tolerances

For all classes, 10% by number or weight of pineapples 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 pineapples of the same origin, variety and/or commercial type, quality and size. For "Extra" Class, colour and ripeness should be uniform. The visible part of the contents of the package must be representative of the entire contents.

5.2 Packaging

Pineapples must be packed in such a way as to protect the produce properly. The materials used inside the package must be new⁴, 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.

Pineapples shall be packed in each container in compliance with the *Code of Practice for 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 pineapples. 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) specific provisions apply:

⁴ For the purposes of this Standard, this includes recycled material of food-grade quality.

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 and/or commercial type. The absence of the crown should be indicated.

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.

6.2.1 **Identification**

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁵.

6.2.2 **Nature of Produce**

Name of the produce if the contents are not visible from the outside. Name of the variety or commercial type (optional). The absence of the crown should be indicated.

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 (size code or average weight in grams);
- Number of units (optional);
- 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).

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.