

<p align="center"><u>REVISED CODEX STANDARD FOR PINEAPPLES</u> <u>CODEX STAN 182-1993 (rev. 1-1999)</u></p>	<p align="center"><u>DRAFT UN/ECE STANDARD</u> <u>concerning the marketing and commercial quality</u> <u>control of</u></p>
<p>1. DEFINITION OF PRODUCE</p> <p>This standard applies to commercial varieties of pineapples grown from <i>Ananas comosus</i> (L.) Merr. of the Bromeliaceae family, to be supplied fresh to the consumer, after preparation and packaging. Pineapples for industrial processing are excluded¹.</p> <p>2. PROVISIONS CONCERNING QUALITY</p> <p>2.1 MINIMUM REQUIREMENTS</p> <p>In all classes, subject to the special provisions for each class and the tolerances allowed, the pineapples must be:</p> <hr/> <p>¹ Governments, when indicating the acceptance of the Codex Standard for Pineapples, should notify the Commission which provisions of the Standard would be accepted for application at the</p>	<p>1. DEFINITION OF PRODUCE</p> <p>This standard applies to commercial varieties/<u>cultivars</u> of pineapples grown from <i>Ananas comosus</i> (L.) Merr. of the Bromeliaceae family, to be supplied <u>as fresh, whole fruit</u> to the consumer, after preparation and packaging. Pineapples for industrial processing are excluded.</p> <p>2. PROVISIONS CONCERNING QUALITY</p> <p><u>The purpose of the standard is to define the quality requirements of pineapples at the export inspection stage, after preparation and packaging.</u></p> <p>2.1 MINIMUM REQUIREMENTS</p> <p>In all classes, subject to the special provisions for each class and the tolerances allowed, the pineapples must be:</p>

JUSTIFICATIONS
FOR CHANGES
(underlined)

amplification

Product definition

amplification

<p>point of import, and which provisions would be accepted for application at the point of export.</p> <ul style="list-style-type: none"> - whole, with or without the crown; - fresh in appearance, including the crown, when present, which should be free of dead or dry leaves; - 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; - free of internal browning; - practically free of pests affecting the general appearance of the produce; - practically free of damage caused by pests; - free of pronounced blemishes ; - free of damage caused by low and/or high temperature; - free of abnormal external moisture, excluding condensation following removal from cold storage; 	<hr/> <ul style="list-style-type: none"> - <u>intact, complete with the crown, which may be reduced⁽¹⁾ and/or trimmed⁽²⁾</u> - fresh in appearance, including the crown, <u>which should be free of wilted, dry, loose or damaged leaves</u> - 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; - free of internal browning; - practically free of pests affecting the general appearance of the produce; - practically free of damage caused by pests; - free of pronounced blemishes, <u>in particular, unhealed cuts, bruising, scorching, holes, deep cracks (healed or not) ;</u> - free of damage caused by <u>excessively</u> low and/or high temperature; - free of abnormal external moisture, excluding condensation following removal from cold storage; - free of any foreign smell and/or taste ;
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See note A below

Amplification

Highlights the commonly found problems

Amplification

- A.
1. The crown is an integral and traditional part of a natural, whole, fresh pineapple as recognised by the European consumer
 2. The appearance and condition of the crown is a useful indicator for the consumer of the freshness and condition of the fruit
 3. There is no record of any demand in the EU for a fresh pineapple without the crown
 4. Cutting or breaking off the entire crown after harvest introduces additional risks of infection of the fruit by disease pathogens
 5. Preventive treatment of cut surfaces post-harvest entails the additional use of chemicals that would otherwise be unnecessary
 6. It is a matter of record that the use of chemicals as post harvest treatments is one of the most common reasons for exceedances of MRLs, thus the removal of the crown increases the risks of incurring severe financial penalties and loss of trade.

- free of any foreign smell and/or taste;

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 porous² flesh) or overripeness (exceedingly translucent or fermented flesh).

² Except in certain varieties such as those of the Queen Group.

When a peduncle (stem) 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 porous⁽³⁾ flesh) or overripeness (exceedingly translucent or fermented flesh).

A transverse section of the fruit must not reveal flesh that is excessively fibrous⁽³⁾ or lacking in aroma. The "eyes" should be well-filled, according to the characteristics of the variety⁽³⁾

- (1) “Reducing” of the crown refers to the mechanical destruction of the apical growing point in the heart of the crown during the growth period at about 2 months from harvest by means of a gouge or similar instrument. Done correctly, this leaves no visible scar at harvest and requires no special subsequent treatment.
- (2) “Trimming” is defined as the removal after harvest of dead, wilted or damaged leaves, either by hand or with a sharp blade. Only when explicitly so specified by a particular market outlet should crowns be removed in their entirety.
- (3) Varieties such as “Queen Victoria” may have more porous flesh.

Clarification

Amplification

Definition of terminology

Definition of terminology and allowance for crown removal if specified by customer

Clarification

2.1.1. The pineapples must have been carefully picked and 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.

2.2 MATURITY REQUIREMENTS

The total soluble solids content of 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.

2.3. CLASSIFICATION

Pineapples are categorised in three classes defined below:

2.3.1 "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 that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

The crown, if present, shall be simple and straight with no sprouts, and shall be between 50 and 150 per cent of the length of the fruit for pineapples with untrimmed crowns³

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

The maturity 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.

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

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Pineapples are categorised in three classes defined below:

2.3.1 "Extra" Class

Pineapples in this class must be of superior quality. They must be characteristic of the variety/cultivar and/or commercial type. They must be fresh in appearance and firm, with well-developed eyes. They must be free of defects, with the exception of very slight superficial defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package. The crown should be simple and straight with no side-shoots, and should not exceed 150 per cent of the length

Clarification

Amplification

Clarification

Clarification

Amplification

*Omission of "if present"
Clarification of
terminology*

³ Trimming consists in tearing some leaves off the top of the crown.

2.3.2 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 per cent 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 per cent of the length of the fruit for pineapples with trimmed or untrimmed³ crowns.

2.3.3. Class II

This class includes pineapples which do not qualify for inclusion in the higher classes, but satisfy the minimum

of the fruit.⁽¹⁾⁽²⁾ (see footnotes p.2)

2.3.2 Class I

Pineapples in this class must be of good quality. They must be characteristic of the variety/cultivar and/or commercial type. They must be fresh in appearance and firm, with well-developed eyes. 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 scorch;
- slight skin defects (i.e. scratches, scars, scrapes and blemishes) not exceeding 4 per cent of the total surface area.

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

The crown may be simple or double and straight or slightly curved, with no side-shoots and should not exceed 150 per cent of the length of the fruit. The maximum inclination of the crown should not exceed 30 from the longitudinal axis of the fruit.

Pineapples failing to meet the requirements for Class I are not recommended for export to the European Union.

2.3.3 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.

Amplification

Preferred term (English)

Specifications reflect European market demand.

<p>inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1. above.</p> <p>The following defects may be allowed, provided the pineapples retain their essential characteristics as regards the quality, the keeping quality and presentation.</p> <ul style="list-style-type: none"> - defects in shape; - defects in colouring, including sun spots; - skin defects (i.e. scratches, scars, scrapes, bruises and blemishes) not exceeding 8 per cent of the total surface area. 	<p>The following defects may be allowed, provided the pineapples retain their essential characteristics as regards the quality, the keeping quality and presentation.</p> <ul style="list-style-type: none"> - defects in shape; - defects in colouring, including sun <u>scorch</u>; - skin defects (i.e. scratches, scars, scrapes, bruises and blemishes) not exceeding 8 per cent of the total surface area.
<p>The defects must not, in any case, affect the pulp of the fruit.</p> <p>The crown, if present shall be simple or double and straight or slightly curved, with no sprouts.</p> <p>3. PROVISIONS CONCERNING SIZING</p> <p>Size is determined by the average weight of the fruit with a minimum weight of 700 g, except for small size varieties⁴, which can have a minimum weight of 250 g, in</p>	<p>The defects must not, in any case, affect the pulp of the fruit.</p> <p><u>The crown may be simple or double and straight or slightly curved, with no <u>side shoots</u>.</u></p> <p>2.4. <u>Classification by exterior colouring</u> (This section is optional, but is to be used as a trade reference when so required)</p> <p><u>Colour criteria of the fruit are as follows :</u></p> <ul style="list-style-type: none"> - <u>C0: totally green exterior.</u> - <u>C1: beginning to turn yellow/orange on ¼ of the fruit.</u> - <u>C2: yellow/orange on ½ of the fruit.</u> - <u>C3: yellow/orange on ⅔ of the fruit.</u> - <u>C4: totally yellow/orange fruit.</u> <p>3. PROVISIONS CONCERNING <u>SIZE GRADING</u></p> <p><u>Alternative method 3.1</u></p> <p>Size is determined by the average weight of the fruit with a minimum weight of 700 g, except for small size varieties⁴, which can have a minimum weight of 250 g,</p>

Preferred term (English)

*Omission of “if present”
Clarification of
terminology*

*Option to use colour
grading system
traditionally used in
Europe for pineapples of
West African origin*

Preferred term (English)

*As for Codex, but
excluding weights
minus crown*

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

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. 10kg, 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.

in accordance with the following table:

Size Code	Average Weight (+/- 12%) (in grams)
A	2750
B	2300
C	1900
D	1600
E	1400
F	1200
G	1000
H	800

3 Such as "Queen Victoria"

Alternative method 3.2.

Size grade is determined by the weight of the fruit. Pineapples are classified in the seven following size grades:

- A5* fruit of 2.101 ~ 2.400 kg
- A6: :fruit of 1.801 ~ 2.100 kg
- A8: fruit of 1.501 ~ 1.800 kg
- B9: fruit of 1.301 ~ 1.500 kg
- B10: fruit of 1.101 ~ 1.300 kg
- C12: fruit of 0.901 ~ 1.100 kg
- D14: fruit of 0.701 ~ 0.900 kg

Commercial variety name is "Queen Victoria"

This system is currently used in Europe for pineapples of West African origin. It is based on the number of fruit packed in a standard carton of 10 -14kgs

Provision for small varieties

* number indicates fruit per carton (of 10-14kg net)

The above provisions do not apply to the “Queen Victoria” variety or to fruit destined for the ornamental trade.

4. PROVISIONS CONCERNING TOLERANCES

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

4.1. QUALITY TOLERANCES

4.1.1 "Extra" Class

Five per cent 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 per cent 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 per cent 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. PROVISIONS CONCERNING TOLERANCES

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

4.1. QUALITY TOLERANCES

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Ten per cent 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 per cent 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.

<p>4.2 SIZE TOLERANCES</p> <p>For all classes, 10 per cent by number or weight of pineapples corresponding to the size immediately above and/or below that indicated on the package.</p> <p>5. PROVISIONS CONCERNING PRESENTATION</p> <p>5.1 UNIFORMITY</p> <p>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.</p> <p>The visible part of the contents of the package must be representative of the entire contents.</p> <p>5.2 PACKAGING</p> <p>Pineapples must be packed in such a way as to protect the produce properly.</p> <p>The materials used inside the package must be new⁵, 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.</p> <p>Pineapples shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Tropical Fresh Fruit and Vegetables (CAC/RCP 44-1995).</p>	<p>4.2. SIZE TOLERANCES</p> <p>For all classes, not more than 10 per cent by number or weight of pineapples corresponding to the size immediately above and/or below <u>the grade</u> indicated on the package.</p> <p>5. PROVISIONS CONCERNING PRESENTATION</p> <p>5.1 UNIFORMITY</p> <p>The contents of each package must be uniform and contain only pineapples of the same origin, variety/<u>cultivar</u> and/or commercial type, quality and size. For "Extra" Class, colour and maturity should be uniform.</p> <p>The visible part of the contents of the package must be representative of the entire contents.</p> <p>5.2. PACKAGING</p> <p>Pineapples must be packed in such a way as to protect the produce <u>effectively</u>.</p> <p>The materials used inside the package must be new⁵, 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.</p> <p>Pineapples shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Tropical Fresh Fruit and Vegetables (CAC/RCP 44-1995).</p>

Clear terminology

Amplification

Clarification

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 Codex general Standard for Labelling of Pre-packaged Foods (CODEX STAN 1-1985, Rev.2-1999), 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 the name of the variety /and/or commercial type. The absence of the crown should be indicated.

5.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics that ensure suitable handling, shipping and preserving of the pineapples.

Packages must be free of all foreign matter and smell.

5.2.2 Presentation

Pineapples can be presented in either one of the following ways:

- laid down horizontally in the carton
- stood up vertically in the carton with the crowns uppermost.

6. PROVISIONS CONCERNING MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex general Standard for Labelling of Pre-packaged Foods (CODEX STAN 1-1985, Rev.2-1999), 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 (pineapples) and may be labelled as to the name of the variety /cultivar and/or commercial type. (If the crown is absent, this must be clearly indicated)

⁵ For the purposes of this Standard, this includes recycled material of food-grade quality.

*Grammar correction
(Eng)*

*Omission from Codex that
requires inclusion in the
ECE standard*

Consistency of titling

Amplification

⁵ For the purposes of this Standard, this includes recycled material of food-grade quality

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

6.2.1 Identification

Name and address of Exporter, Packer and/or Dispatcher. Identification code (optional).⁷

6.2.2 Nature of Produce

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

⁶ Governments, when indicating their acceptance of this Standard, should notify the Commission as to which provisions of this Section apply.

⁷ 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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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

6.2.1 Identification

Name and address of Exporter, Packer and/or Dispatcher.
Identification code (optional).⁷

6.2.2 Nature of Produce

Name of produce (pineapples) if the contents are not visible from the outside. Name of variety/cultivar and/or commercial type(optional). (If the crown is absent , this must be clearly indicated)

⁶ Governments, when indicating their acceptance of this Standard, should notify the Commission as to which provisions of this Section apply.

⁷ 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.

Amplification

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 HEAVY METALS

Pineapples shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for this commodity.

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

Mandatory:

- Produce Class
- Size grade: (reference code or weight range)
- Number of fruits

Recommended: (optional)

- Tare weight of the package
- Net weight in kilograms
- Degree of coloration
- The indication "To be stored at 8 C°"
- The minimum total soluble solids content (in degrees Brix)

6.2.5 Official Inspection Mark (optional)

7 PROVISIONS CONCERNING CONTAMINANTS

7.1 HEAVY METALS

Pineapples shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for this commodity.

Revised system proposed for more clarity.

Consistency of titling

<p>7.2 PESTICIDE RESIDUES</p> <p>Pineapples shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.</p> <p>8 HYGIENE</p> <p>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 Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.</p> <p>8.2 The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).</p>	<p>7.2. PESTICIDE RESIDUES</p> <p>Pineapples shall, <u>as a minimum requirement</u>, comply with those maximum residue <u>levels (MRLs)</u> established by the Codex Alimentarius Commission for this commodity. <u>Where more stringent EU or other national MRLs apply in an importing country, these shall always take precedence.</u></p> <hr/> <p>8 PROVISIONS CONCERNING HYGIENE</p> <p>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 Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.</p> <p>8.2. The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods(CAC/GL 21-1997).</p> <hr/>
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New EU regulations on pesticide residues make it necessary for more precision in defining import requirements.

Consistency of titling

