

## II. Provisions concerning quality

The purpose of the Standard is to define the quality requirements for pineapples 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
- 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/seller shall be responsible for observing such conformity.

*Advice: At the packing stage, special attention should be paid to ensure that the minimum requirements have been met. Produce with any progressive defects will deteriorate during transportation and distribution.*

### A. Minimum requirements

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

- intact, with crown: however the crown may be reduced, trimmed or removed
- 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
- fresh in appearance, including the crown
- free of abnormal external moisture
- free of any foreign smell and/or taste.

When a peduncle/stalk is present, it shall not be longer than 2 cm long measured from the bottom of the fruit, and the cut must be transversal, straight and clean.

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

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

**Interpretation:** Pineapples must not have any damage or injury. The skin of the produce must be intact. Pineapples with unhealed injuries or that have holes that expose the interior of the produce are not allowed. The crown (where present) must be largely intact. The crown may be

slightly damaged according to the provisions of Classes I and II. For products graded in classes other than “Extra” Class, produce with splits or fresh cuts, caused by bad packing or handling, are only allowed within the tolerances of Classes I and II.

Examples relating to the minimum requirement “intact” are shown in **Photos 9-14**.

Minimum requirement: “intact”

**Photos 9 and 10**

Crown removed. Acceptable in all Classes



**Photo 9**

Crown removed.  
Acceptable in all classes

comments



**Photo 10**

Crown removed.  
Acceptable in all classes

comments



**Photo 11**

Minimum requirement:  
“intact”. Crown reduced by  
clean cut to remove excess  
part. Acceptable in all  
Classes

comments



**Photo 12**

Minimum requirement: “intact”. Damage,  
injury not allowed

comments



**Photo 13**

Minimum requirement: “intact”. Hole  
exposing the interior of the produce – not  
allowed

comments

<i>Photo needed. Unhealed, split/cut.</i>
<p><b>Photo 14</b>                  Minimum requirement: “intact”.                  Unhealed injuries that expose the interior of the produce – not allowed.</p>
comments

Sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded.

**Interpretation:** Pineapples must be free from disease or serious deterioration, which appreciably affects their appearance, edibility or market value. Pineapples showing the following defects are therefore excluded:

- rotting, even if the signs are very slight, or the rot affects the crown only, but such signs are liable to make the pineapples unfit for consumption upon arrival at their destination
- severe bruising
- diseases
- damage caused by low temperature or frost
- physiological defects.

Examples relating to the minimum requirement “sound” are shown in **Photos 15-23**.



**Photo 15**

Minimum requirements: “Sound”. Severe bruising – not allowed, external view

comments

**Photo 16**

Minimum requirements: “Sound”. Severe bruising – not allowed, internal view

comments

**Photo 17**

Minimum requirements: “Sound”. Rot – not allowed, external view

comments

**Photo 18**

Minimum requirements: “Sound”. Rot – not allowed, internal view

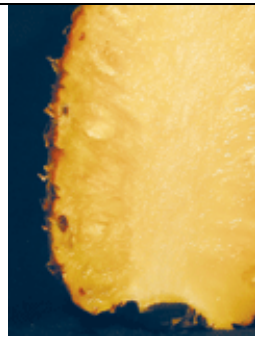
comments



**Photo 19**

Minimum requirements: “Sound”. Internal discoloration – not allowed

comments



**Photo 20**

Minimum requirements: “Sound”. Internal soft rot – not allowed

comments



**Photo 21**

Minimum requirements: “Sound” Multiple crowns – not allowed

comments



**Photo 22**

Minimum requirements: “Sound” Physiological defects – not allowed

comments



**Photo 23**

Minimum requirements: "Sound" Mould growth on cut – not allowed  
comments

Clean, practically free of any visible foreign matter

**Interpretation:** Pineapples must be practically free of visible soil, dust, chemical residue or other foreign matter. Extensive soiling or any traces of inorganic deposits are not allowed. Any deposits of a blue, green or other unusual colour indicating the presence of traces of pesticide residues are not allowed.

Examples relating to the minimum requirement "clean" are shown in **Photos 24-25**.



**Photo 24**  
Minimum requirements:  
“Clean” Excessive soiling – not allowed  
comments



**Photo 25**  
Minimum requirements:  
“Clean”. Pest residue at base – not allowed.  
comments

[Practically free from pests](#)

**Interpretation:** The presence of pests can detract from the commercial presentation and acceptance of the pineapples. Therefore, the acceptable limit would be the odd insect, mite or other pest in the package or sample, any colonies would lead to rejection of the produce.

Examples relating to the minimum requirement “pests” are shown in **Photos 26–27**.



**Photo 26**  
Minimum requirements:  
“Practically free from pests”.  
Pests present – not allowed  
comments



**Photo 27**  
Minimum requirements: “Practically  
free from pests”. Insect colonies  
- not allowed.  
comments

[Free from damage caused by pests affecting the flesh](#)

**Interpretation:** Pineapples must be free of internal and external damage caused by pests affecting the flesh. Pest damage affecting the flesh makes the produce unfit for consumption. However, slight damage caused by pests affecting the skin only is **allowed** within the skin defects **allowed** within each class.

Examples relating to the minimum requirement “pest damage” are shown in **Photos 28–32**.



**Photo 28**  
Minimum requirements: “Free from damage caused by pests affecting the flesh”. Pest damage – not allowed

comments



**Photo 29**  
Minimum requirements: “Free from damage caused by pests affecting the flesh” Damage caused by birds – not allowed

comments



**Photo 30**  
Minimum requirements: “Free from damage caused by pests affecting the flesh” Damage caused by birds – not allowed

comments



**Photo 31**  
Minimum requirements: “Free from damage caused by pests affecting the flesh” Damage caused by pests affecting the flesh – not allowed. External view.

comments



**Photo 32**  
Minimum requirements: “Free from damage caused by pests affecting the flesh” Damage caused by pests affecting the flesh – not allowed. Internal view.

comments



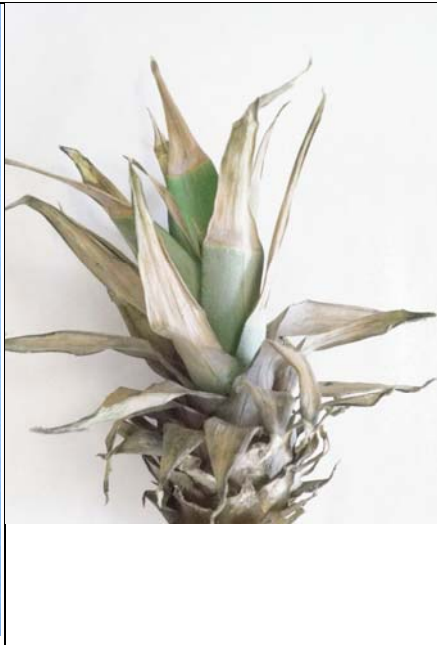
comments



Fresh in appearance, including the crown

**Interpretation:** Pineapples showing lack of freshness and discolouration are excluded. They should be firm and turgid, including the crown, which if present should be free of wilted, dry loose or damaged leaves. Pineapples that have lost freshness and/or show signs of shrivelling or dehydration are excluded.

Examples relating to the minimum requirement “fresh” are shown in **Photos 33–35**.

		
<p><b>Photo 33</b> Minimum requirements: “Fresh in appearance” Shrivelled fruit – not allowed</p>	<p><b>Photo 34</b> Minimum requirements: “Fresh in appearance” Dehydrated fruit – not allowed</p>	<p><b>Photo 35</b> Minimum requirements: “Fresh in appearance” Crown, with wilted, dry loose or damaged leaves – not allowed</p>
<p>comments</p>	<p>comments</p>	<p>comments</p>

Free of abnormal external moisture

**Interpretation:** This provision applies to excessive moisture, for example, free water lying inside the package. However, it does not include condensation on produce following release from cool storage or a refrigerated vehicle.

Free of any foreign smell and/or taste

**Interpretation:** This provision applies to, any abnormal smell and/or taste as a result of poor storage or transportation.

When a stalk is present, it shall be not longer than 2 cm. long, measured from the bottom of the fruit.

**Interpretation:** The stalk must not be longer than 2 cm. in length and must be cut transversally, and be straight and clean.

Examples relating to the minimum requirement “stalk length” are shown in **Photos 36-37**.



**Photo 36**  
Stalk longer than 2 cm. not allowed.

comments:



**Photo 37**  
Stalk of 2 cm in length.  
Acceptable in all Classes

comments:



comments:

## B. Maturity requirements

Pineapples must have reached an appropriate degree of maturity and ripeness in accordance with the variety, and /or commercial type and area in which they are grown.

**Interpretation:** Pineapples that are sufficiently developed show yellow green cast at the stem scar after removing the calyx. Plus the grooves of the two layers of eyes from the bottom are turning yellow and are far apart. Fruit must be physiologically ripe, i.e. without evidence of unripeness (opaque, flavourless, or exceedingly porous flesh), or over-ripeness (exceedingly translucent or fermented flesh).

Examples relating to the maturity requirements are shown in **Photos 38-47**.

		
<p><b>Photo 38</b> Insert caption:</p>	<p><b>Photo 39</b> Add Caption <b>Interpretation:</b> over-ripe fruit with exceedingly translucent flesh – not allowed</p>	
<p>comments</p>	<p>comments</p>	

**Interpretation:** Under-ripe fruit with opaque, flavourless flesh – not allowed.

## Example commercial classification of maturity by external fruit coloration

Photo 40



**C0** – Totally green

Photo 41



**C1** – Beginning to turn yellow/orange on one quarter of surface

Photo 42



**C2** – Yellow/orange on one half of fruit surface

Photo 43



**C3** – Yellow/orange on two thirds of fruit surface

Photo 44



**C4** – Totally orange/yellow fruit

## Maturity requirements

The total soluble solids content of the fruit should be at least 10/12<sup>0</sup> Brix.

**Interpretation:** For the measurement of soluble solids, juice must be taken from the lower half of the fruit. A transverse section of the fruit must not reveal flesh that is excessively fibrous or lacking in aroma. Brix levels lower than 12<sup>0</sup> are allowed provided established values for sugar/acid ratio are met.



**Photo 45**

Maturity requirements: MD2  
green fruit – 14.8<sup>0</sup> Brix

comments



**Photo 46**

Maturity requirements: MD2  
greenish colouration 16.1<sup>0</sup> Brix

comments



**Photo 47**

Maturity requirements: MD2 full  
colour 19.0<sup>0</sup> Brix

comments

## C. Classification

Pineapples are classified into three classes as defined below:

(i) *“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 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.

**Interpretation:** Very slight defects that developed during cultivation, during harvest, storage, transportation or packing are allowed.

The crown, if present, must be fresh, simple and straight without side shoots, undamaged and not discoloured.

**Interpretation:** The crown if present must be straight, without side shoots and be undamaged. It must be between 50 and 150% of the length of the fruit.

Examples of “Extra” Class pineapples are shown in **Photos 48-50**.



**Photo 48**  
Overall view – “Extra” Class: MD2 – very slight superficial defects and the crown is straight, without side shoots and undamaged, plus it is between 50 and 150% of the length of the fruit  
comments



**Photo 49**  
Close view – “Extra” Class: MD2 – very slight superficial defects – allowed  
comments



**Photo 50**  
“Extra” Class: Queen Victoria – very slight superficial defects. No winter speckles – allowed  
comments

(ii) *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:

- a slight defect in shape
- slight defects in colouring, including sun-scorch
- slight skin defects (i.e. scratches, scars, scrapes and blemishes) not exceeding one-twentieth of the total surface area
- a slight bruising not exceeding 2 cm<sup>2</sup>, provided it can be removed by peeling.

The defects may in any case only slightly affect the flesh of the fruit:

- the crown, if present, may be slightly damaged and discoloured
- the crown, if present, may be simple or double and straight or slightly curved, with no side-shoots. The maximum inclination of the crown should not exceed 30° from the longitudinal axis of the fruit.

Examples of crown shape allowable in Class I are shown in **Photos 51-54**.





**Photo 51**  
Crown more than 150% of the length of the fruit – acceptable in Class I  
comments



**Photo 52**  
Crown less than 50% of the length of the fruit – acceptable Class I  
comments



**Photo 53**  
Crown not exceeding 30° inclination – limit of Class I  
comments



**Photo 54**  
Crown showing slight damage and discolouration due to handling and packaging – limit of Class I  
comments

Slight defects in colouring, including sun-scorch



**Photo 55**

Slight defects in colouring, including sun-scorch – limit of Class I

comments

comments

comments

**Interpretation:** However, changes in colouration as the pineapples ripen are not considered a colour defect, but are important for the uniformity requirements in **Classes "Extra" and I. Photo ?**

Slight skin defects (i.e. scratches, scars, scrapes and blemishes) not exceeding one-twentieth of the total surface area



**Photo 56**

Queen Victoria – slight skin defects: winter speckles – limit of Class I

comments



**Photo 57**

Slight skin defects – acceptable in Class I

comments

comments

(iii) *Class II*

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

- defects of shape
- defects of colouring, including sun-scorch
- slight skin defects (i.e. scratches, scars, scrapes, and blemishes) not exceeding one tenth of the total surface area
- slight bruising not exceeding 4 cm<sup>2</sup>, provided it can be removed by peeling.

The flesh must be free from major defects.

Examples of defects of shape allowable in Class II are shown in **Photos 58-66**.



**Photo 58**

Crown

Insert picture caption

comments



**Photo 59**

Crown

Insert picture caption

comments



**Photo 60**

Long crown – exceeding

150% of length –  
acceptable for Class II

comments

**Interpretation:** Inclination of crown exceeding 30° from the longitudinal axis of the fruit – acceptable in Class II (photo 58)

**Interpretation:** Double crowns – acceptable in Class II (photo 59)

Defects in colouring



**Photo 61**  
External view colour defect – class II  
comments



**Photos 62 and 63**  
Colour defect – internal appearance  
Comments



**Photo 64**  
Defect of colouring,  
including sun scorch – sun  
scorch – limit allowed  
Class II  
comments



**Photo 65**  
Queen Victoria – winter  
speckles – limit of Class II.  
comments



**Photo 66**  
Skin defects – acceptable in Class II  
comments