

International Standards for Fruit and Vegetables: Papaya

1. DEFINITION OF PRODUCE

This Standard applies to fruits of commercial varieties of papayas grown from *Carica papaya* L., of the *Caricaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Papayas for industrial processing are excluded.

~~There are many varieties of this tropical fruit with huge variation in size, form and colour. Nonetheless, some Papaya varieties are commercially distinguished; the green papaya (i.e., unripe) has to be also mentioned because of its distinct aspect and use.~~

There are many varieties of this tropical fruit with variation in size, shape and colour (e.g., skin and/or flesh). All varieties may be marketed fully unripe (i.e., Green).

- a) Solo;
- b) Formosa; and
- b) ~~Green~~ [Aurora.] open for discussions as not actually a variety

<i>Illustration No.</i>	<i>Name of illustration</i>
1	Papaya variety Solo
2	Papaya variety Formosa
3	Green papaya-Aurora

2. PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

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

- whole;

~~The same as intact,~~ Papayas must not have any damage or injury affecting the integrity of the produce.

<i>Illustration No.</i>	<i>Name of illustration</i>
3	Intact – Missing peduncle, Crack affecting the flesh

- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;

Papayas must be free from disease or deterioration which appreciably affects its appearance, edibility or keeping quality. In particular, papayas affected by rotting, even if the signs are very

slight, but liable to make the produce unfit for consumption upon arrival at its destination, are to be excluded.

Papayas showing the following defects are therefore excluded:

- a) Any spot of anthracnose and Stem-end rot;*
- b) Severe sunburn; and*
- c) Extensive skin freckles, black spot and smallpox of papaya.*

Varieties with parthenocarpic, i.e., seedless fruits are allowed, regarding that no seed is present. (evaluate with Aurora variety)

Illustration No.	Name of illustration
4	Sound - Skin freckles of papaya, Black spot, Smallpox of papaya, Papaya anthracnose

- clean, practically free of any visible foreign matter;

Papayas must be practically free of visible soil, dust, chemical residue or other foreign matter.

The presence of visible foreign matter can detract from commercial presentation and acceptance of papaya. Therefore, the acceptable limit for “practically free” would be – in all classes – very slight traces of dust. Any traces of dust, soiling or visible chemical residues would lead to the rejection of the produce.

Illustration No.	Name of illustration
5	Clean

- practically free of damage caused by pests;

~~*Papayas must be free of damage caused by pests (ex., insect bites, mold bruises, mite scars etc). Produce affected by damage caused by pests can detract from commercial presentation and acceptance of the papayas.*~~

~~*Any pest damage, affecting the skin only, is allowable within the limits allowed for skin damage in the respective classes.*~~

Pest damage affecting the flesh makes the produce unfit for consumption. Therefore, the acceptable limit for “practically free” would be in all cases traces of damage caused by pests

Any pest damage affecting the skin only is evaluated within the limits allowed for skin damage in the respective classes.

- practically free of pests affecting the general appearance of the produce;

The presence of pests can detract from the commercial presentation and acceptance of the papayas. Therefore, the acceptable limit for “practically free” would be - in all classes - the occasional insect, mite or other pest; any colonies would lead to the rejection of the produce.

- free of abnormal external moisture, excluding condensation following removal from cold storage;

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

- free of any foreign smell and/or taste;¹

This provision applies to papayas stored or transported under poor conditions, which have consequently resulted in their absorbing abnormal smells and/or tastes, in particular through the proximity of other produce which gives off volatile odours.

It does not refer to any smell emanating from products used in conformity with the regulations for their use to improve keeping properties.

- firm;

*Papayas must be in a level of firmness that enables trading, storing and keeping acceptable eating quality. **A loss of firmness due to ripening is allowed at stages following dispatch.** ~~The fruits must not present defects and/or injuries that show signs of deterioration, shriveling and/or compression.~~*

- fresh in appearance;

Papayas are subject to a rapid flesh softening. The fruits are harvested at a maturity stage that enables them to enter the distribution chain in good condition and that allows the continuation of the maturity process to ensure the ripening.

~~Papayas must not show signs of degradation or excessive mushiness. Loss of firmness is allowed (and desired) at all stages following dispatch.~~

During preparation and transport, the produce must not show [any signs of wilting] [excessive signs of wilting and/or softening]. At stages following dispatch, a slight lack of freshness is allowed in all classes.

Illustration No.	Name of illustration
6	<i>Fresh in appearance, wilting, softening</i>

¹ This provision allows for smell caused by conservation agents used in compliance with corresponding regulations.

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

Papayas must be free from damage caused by frost and/or excessive temperatures which appreciably affects its appearance, edibility or keeping quality.

Papayas are affected by temperature fluctuation after harvesting, therefore, it is recommended not to return to refrigeration a fruit that had been exposed to temperatures above 25°C

Motivation: It was discussed for the text in Section 2.1 that a new paragraph explaining what would be the minimum temperature requirements for good quality papayas would be interesting to the trade of the fruit.

Illustration No.	Name of illustration
7	Frost damage

The peduncle, if present, should not exceed a length of 1 cm.

Papaya with peduncle longer than 1 cm is not allowed.

Illustration No.	Name of illustration
8	Limit for peduncle length

2.1.1. The papayas must have reached an appropriate degree of development and ripeness account being taken of the characteristics of the variety and/or commercial type and the area in which they are grown.

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

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

The degree of development and the stage of ripeness are visually expressed in terms of colour of the skin.

Papayas may be offered at different maturity stages, defined according to the skin colour as follows:

Green Papaya

~~*The state of ripening has to be such as to include underdeveloped and/or an immature fruit only.*~~

Green Papaya are underdeveloped and/or immature fruit with white seeds, white flesh and dark green skin.

Illustration No.	Name of illustration
9	<i>Degree of development – Green papaya (colour of the skin and seeds characteristic)</i>

Papaya harvested at a stage not fully immature (green papaya) and/or not sufficiently mature to allow the fruit to undergo the ripening process are not allowed.

Illustration No.	Name of illustration
10	<i>Degree of development (colour of the skin and of the seeds characteristic of fruit not fully immature and/or not sufficiently mature to continue the ripening process)</i>

The state of ripening has to be such as to guarantee that the fruit will continue the ripening process at all stages following dispatch.

Illustration No.	Name of illustration
11	<i>Degree of development papaya Solo (colour of the skin characteristic of sufficiently mature and/or a fully ripe fruit)</i>
12	<i>Degree of development papaya Formosa (colour of the skin characteristic of sufficiently mature and/or a fully ripe fruit)</i>

2.2 CLASSIFICATION

Papayas are classified in three classes defined below:

2.1.1 “Extra” Class

Papayas 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.

~~Papaya skin is weak and has increased softness with maturation. For this reason, fruits are harvested at a maturity stage which enables them to enter the distribution chain in good condition and to continue the ripening.~~

~~Very slight superficial defects mean that the surface must be unbroken and without signs of deterioration, shriveling and/or compression. Slight bruises on the skin may be present to the extent they do not affect the general appearance of the produce.~~

Papaya skin is weak and has increased softness with maturation. For this reason, fruits are harvested at a maturity stage which enables them to enter the distribution chain in good condition and to continue maturation and ripening.

Very slight superficial defects are very slight skin defects or very slight bruises that do not affect the pulp of the fruit.

(For illustrations numbers see below)

2.2.2 Class I

Papayas 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 skin defects (i.e. mechanical bruising, sun spots and/or latex burns). The total area affected shall not exceed 10% of the total surface.

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

(For illustrations numbers see below)

2.2.3 Class II

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

- defects in shape;
- defects in colouring;
- skin defects (i.e., mechanical bruising, sun spots and latex burns). The total area affected should not exceed 15% of the total surface;
- slight marks caused by pests.

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

<i>Illustration No.</i>	<i>Name of illustration</i>
13	<i>Allowances for skin defects, bruises</i>
14	<i>Allowances for skin defects, sun burns</i>
15	<i>Allowances for latex burns</i>
16	<i>Allowances for shape defects</i>

<i>Illustration No.</i>	<i>Name of illustration</i>
17	<i>Allowances for shape defects</i>

3. PROVISIONS CONCERNING SIZING

Size is determined by the weight of the fruit with a minimum weight of 200 g, in accordance with the following table:

Size Code	Weight (in grams)
A	200 - 300
B	301 - 400
C	401 - 500
D	501 - 600
E	601 - 700
F	701 - 800
G	801 - 1100
H	1101 - 1500
I	1501 - 200
J	>2001

4. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package (or in each lot for produce presented in bulk) for produce not satisfying the requirements of the class indicated.

Tolerances are provided to allow for deviation in handling and for natural deterioration of fresh produce over time.

Conformity with tolerances should be determined using at least the Operating Rules for the Conformity Checks as set out in Annex II to the Council Decision Revising the OECD "Scheme" for the Application of International Standards for Fruit and Vegetables [C(2006)95].²

4.1 QUALITY TOLERANCES

4.1.1 "Extra" Class

Five percent by number or weight of papayas not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

² <https://legalinstruments.oecd.org/api/print?ids=216&lang=en>

The 5 per cent tolerance covers all shape and skin defects allowed in Class I.

Exceptionally, tolerance covers all shape and skin defects, as well as defects in colour and slight marks caused by pests allowed in Class II and all defects not meeting the minimum requirements, but not defects rendering the produce unfit for consumption (decay).

4.1.2 Class I

Ten percent by number or weight of papayas not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

The 10 per cent tolerance covers all shape, skin and colour defects, as well as slight marks caused by pests, allowed in Class II.

Exceptionally, tolerance covers all defects not meeting the minimum requirements, but not defects rendering the produce unfit for consumption (decay).

4.1.3 Class II

Ten percent by number or weight of papayas 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.

The tolerance does not include defects rendering the produce unfit for consumption (decay).

4.2 SIZE TOLERANCES

For all classes, 10% by number or weight of papayas corresponding to the size immediately above and/or below that indicated on the package, with a minimum of 190 g for those papayas packed in the smallest size range.

5 PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package (or lot for produce presented in bulk) must be uniform and contain only papayas 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 (or lot for produce presented in bulk) must be representative of the entire contents.

Presentation should not be misleading, i.e. concealing in the lower layers of the package produce inferior in quality and size to that displayed and marked.

Illustration No.	Name of illustration
18	Uniform colouring and ripeness

5.2 PACKAGING

Papayas must be packed in such a way as to protect the produce properly. The materials used inside the package must be new,³ 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.

Packages must be of a quality, strength and characteristic to protect the produce during transport and handling.

Clean materials should be used to protect the produce from foreign matter such as leaves, sand or soil, which could cause a negative impact on the produce and its presentation. A visible lack of cleanliness in several packages could result in the goods being rejected.

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

Papayas shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables (CAC/RCP 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 papayas. Packages (or lot for produce presented in bulk) must be free of all foreign matter and smell.

~~In the case of re-used packages, all previous labels must be carefully removed and/or previous indications deleted. (**moved to 6.2)~~

6 MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 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 and/or commercial type.

The name of the produce may be replaced by a photo or a drawing of the produce.

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

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

shipment. For produce transported in bulk, these particulars must appear on a document accompanying the goods.

In the case of packed produce, all particulars must be grouped on the same side of the package, either on a label attached to or printed on the package, with water-insoluble ink.

In the case of re-used packages, all previous labels must be carefully removed and/or previous indications deleted.

6.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional).⁴

For inspection purposes, the “packer” is the person or firm responsible for the packaging of the produce (this does not mean the staff that actually carry out the work, who are responsible only to their employer). The code mark is not a trademark, but an official control system enabling the person or firm responsible for packaging to be readily identified. The dispatcher (shipper or exporter) may assume sole responsibility, in which case identification of the “packer” as defined above is optional.

6.2.2 Nature of Produce

Name of the produce if the contents are not visible from the outside. Name of the variety and/or commercial type. The name of the produce may be replaced by a photo or a drawing of the produce.

6.2.3 Origin of Produce

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

Marking must include the country of origin, i.e. the country in which the papayas were grown (e.g., “Produce of Country A”).

The indication must be with the full name or a commonly used name. The term “full” means that abbreviations or acronyms are not allowed. On the other hand, the full name of a country is the official name of the country (e.g. Kingdom of the Netherlands). The commonly used name is e.g. the Netherlands or Holland for the Kingdom of the Netherlands. A commonly used name is USA for the United States of America. In this context “USA” is the only acronym allowed when indicating the country of origin.

Optionally, district of origin in national, regional or local terms may also be shown.

6.2.4 Commercial Identification

- Class;

⁴ 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.

Stating the class is compulsory.

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

6.2.5 Official Inspection Mark (optional)

<i>Illustration No.</i>	<i>Name of illustration</i>
19	Marking on a package

7 CONTAMINANTS

7.1 The produce covered by this Standard shall comply with the maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 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 Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969), Code of Hygienic Practice for Fresh Fruits and Vegetables (CAC/RCP 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 for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

1

Definition of Product

Définition du produit

Papaya / Papayes - Solo

Typical of the variety / Typique de la variété



2

Definition of Product

Définition du produit

Papaya / Papayes - Formosa

Typical of the variety / Typique de la variété



3

Minimum requirements - Intact

Caractéristiques minimales – Entières



1



2

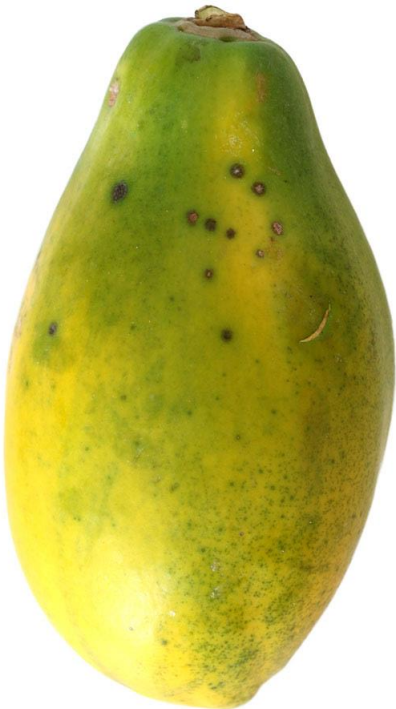
Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Intact Entières		-		1, 2	1. Missing peduncle – not allowed 2. Crack affecting the flesh – not allowed

4

Minimum requirements - Sound
Caractéristiques minimales – Saines



1



2



3



4

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Sound Saines	1	2, 3	4	<ul style="list-style-type: none"> 1. Skin freckles of papaya – limit allowed 2. Black spot – limit allowed. 3. Smallpox of papaya - limit allowed 4. Papaya anthracnose – not allowed 	

5

Minimum requirements – Clean

Caractéristiques minimales – Propres

1



2



3



Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Clean - Foreign Matter Propres - Matières Étrangères	1	2	-	3	1. Papaya natural wax - allowed 2. Clean. Practically free – limit allowed 3. Not practically free from visible foreign matter.

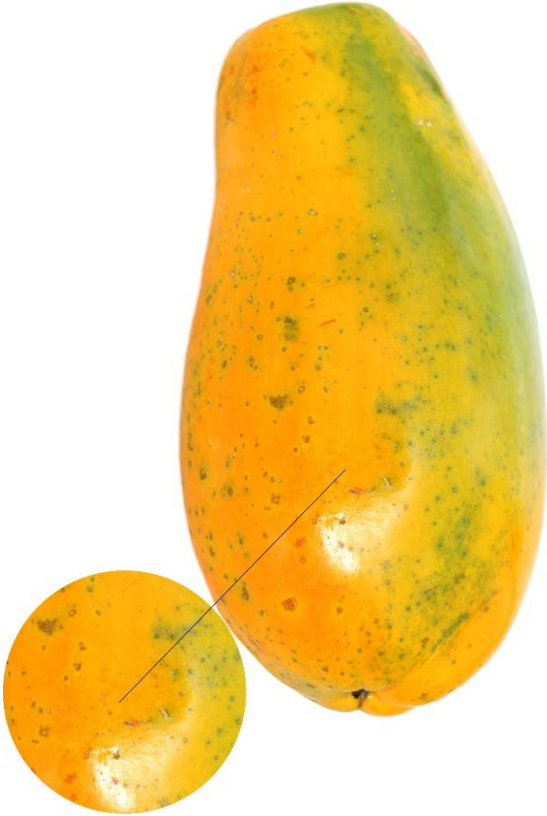
6

Minimum requirements - Fresh in appearance

Caractéristiques minimales – D’aspect frais



1



2



3

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Fresh in appearance D’aspect frais	-	-	1, 2	3	1. Wilting – limit allowed 2. Softening – limit allowed. 3. Softening – not allowed.

7

Minimum requirements - Free of damage caused by low and/or high temperatures

Caractéristiques minimales – Exemptes de dommages causés par de basses et/ou hautes températures

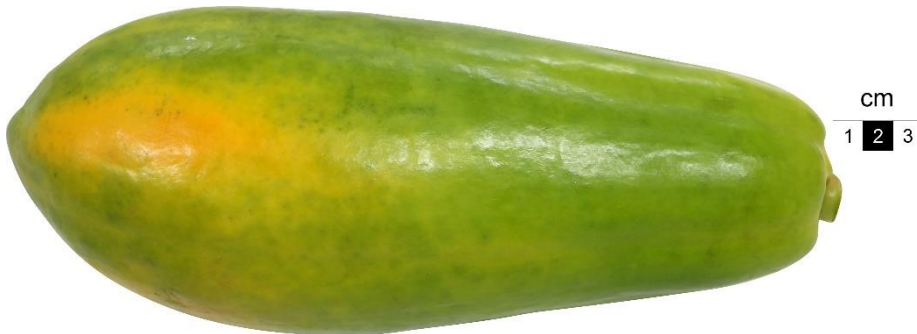


1

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Frost damage Dammages causes par le gel		-		1	1. Frost damage – not allowed.

Minimum requirements - Peduncle Length

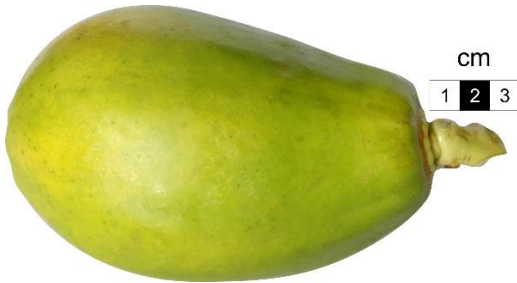
Caractéristiques minimales – Longueur du pédoncule



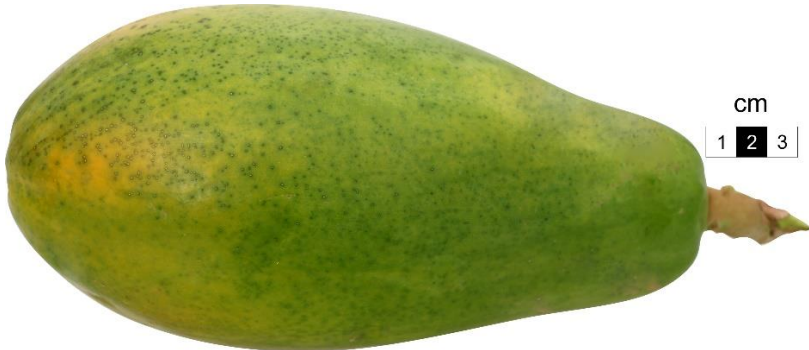
1



2



3



4

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Peduncle Length Longueur du pédoncule		1		2, 3, 4	1. Peduncle Length – limit allowed. 2- 4. Peduncle Length – not allowed.

9

Minimum requirements - Degree of development Green papaya

Caractéristiques minimales – Degré de développement papaye Verte

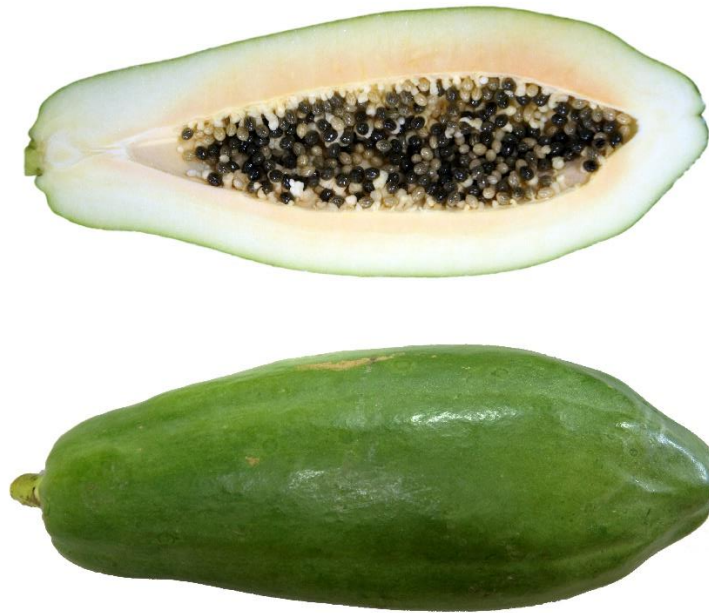


1

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Appropriate degree of development Degré de développement satisfaisant		1		-	1. Colour of the skin and seeds characteristic – allowed for Green papaya

Minimum requirements - Degree of development

Caractéristiques minimales – Degré de développement



1

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Appropriate degree of development Degré de développement satisfaisant		-		1	1. Not sufficiently matured fruit – not allowed for all varieties and classes.

Minimum requirements - Degree of development of variety Solo
Caractéristiques minimales – Degré de développement variété Solo



1



2



3



4

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Appropriate degree of development and ripeness Degré de développement et de maturité satisfaisant		2, 3, 4		1	1. Immature fruit – not allowed. 2. Mature fruit – limit allowed 3. Mature fruit – allowed. 4 Fully ripe papaya Solo – allowed.

Minimum requirements - Degree of development of Variety Formosa

Caractéristiques minimales – Degré de développement variété Formosa



1



2



3

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Appropriate degree of development and ripeness Degré de développement et de maturité satisfaisant		1, 2, 3		-	1. Mature fruit – limit allowed 2. Mature fruit – allowed. 3 Fully ripe papaya Solo – allowed.

Classification - Skin Defects

Classification - Défauts de l'épiderme



Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Skin defects Défauts de l'épiderme	1	2, 3	4	5	<p>1. Very slight bruises – limit allowed.</p> <p>2. Mechanical bruises not affecting the flesh –allowed.</p> <p>3. Mechanical bruises 10% - limit allowed.</p> <p>4. Mechanical bruises 15% - limit allowed.</p> <p>5. Mechanical bruises – not allowed.</p>

Classification - Skin Defects

Classification - Défauts de l'épiderme



1



2



3



4

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Skin defects Défauts de l'épiderme	-	1	2	3, 4	1. Sun spots 10% – limit allowed. 2. Sun spots 15% – limit allowed. 3-4. Severe sun burns - not allowed.

Classification - Latex Burns

Classification - Brûlures de latex



1



2



3

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Skin defects Défauts de l'épiderme	-	1, 2	3	-	1. Latex burns 2% - allowed. 2. Latex burns 7% - allowed. 3. Latex burns 11% - allowed.

Shape defects- Variety Solo
Défauts de forme – Variété Solo



1



2



3



4

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Shape defects Défauts de forme	1, 2,	3	4	-	1. Regular shape - allowed. 2. Regular shape – limit allowed. 3. Slight defect in shape – limit allowed. 4. Defect in shape – limit allowed.

Shape defects – Variety Formosa

Défauts de forme – Variété Formosa



1



2



3



4

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Shape defects Défauts de forme	1, 2	3	4	-	1. Regular shape - allowed. 2. Regular shape – limit allowed. 3. Slight defect in shape – limit allowed. 4. Defect in shape – limit allowed.

Uniform Colouring and Ripeness

Homogénéité de la couleur et le degré de maturité



1



2



3

Papayas	Extra Class Cat. <<Extra>>	Class I Cat. I	Class II Cat II	Out of Grade Non conforme	Notes
Uniform Colouring and Ripeness Homogénéité de la couleur et le degré de maturité	1,2	3	-	-	1. Papaya Solo. 2. Papaya Solo. 3. Papaya Formosa.

A

B

C



Papayas	Notes
Marking particulars Indications de marquage	A. Country of origin. / Pays de origine. B. Identification: packer and/or dispatcher/exporter. / Identification : emballeur et/ou expéditeur/exportateur. C. Class. / Catégorie.