



These Test Guidelines have been superseded by a later version. The latest adopted version of Test Guidelines can be found at http://www.upov.int/test_guidelines/en/list.jsp

Ces principes directeurs d'examen ont été remplacés par une version ultérieure. La version adoptée la plus récente des principes directeurs d'examen figure à l'adresse suivante : http://www.upov.int/test_guidelines/fr/list.jsp

Diese Prüfungsrichtlinien wurden durch eine neuere Fassung ersetzt. Die neueste angenommene Fassung von Prüfungsrichtlinien ist unter http://www.upov.int/test_guidelines/de/list.jsp zu finden.

Las presentes directrices de examen han sido reemplazadas por una versión posterior. La versión de las directrices de examen de más reciente aprobación está disponible en http://www.upov.int/test_guidelines/es/list.jsp.



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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

PAPAYA

UPOV Code: CARIC_PAP

Carica papaya L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Carica papaya</i> L.	Papaya, Papaw	Papayer	Melonenbaum, Papaya	Papayo, Lechosa

The purpose of these guidelines (“Test Guidelines”) is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to vegetatively propagated varieties of *Carica papaya* L.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of hermaphrodite plants.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

6 hermaphrodite plants.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Number of Growing Cycles*

3.1.1 The minimum duration of tests should normally be two growing cycles.

3.1.2 The growing cycle is considered to be the duration of a single growing season, beginning with vegetative growth, followed by flowering and fruit harvest.

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 “Examining Distinctness”.

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.3.2 In particular, it is essential that the trees produce a satisfactory crop of fruit in each of the two growing cycles.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 6 plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations should be made on 6 plants or plant parts.

3.6 *Additional Tests*

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.2 *Uniformity*

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 For the assessment of uniformity, a population standard of 1% and an acceptance probability of 95% should be applied. In the case of a sample size of 6 plants, one off-type is allowed.

4.3 *Stability*

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

- (a) Plant: height of attachment of first inflorescence (characteristic 2)
- (b) Leaf blade: ratio length/width (characteristic 9)
- (c) Fruit: ratio length/diameter (characteristic 22)
- (d) Fruit: shape (characteristic 23)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 *States of Expression and Corresponding Notes*

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.3 *Types of Expression*

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 *Example Varieties*

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 *Legend*

(*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3

QN Quantitative characteristic – see Chapter 6.3

PQ Pseudo-qualitative characteristic – see Chapter 6.3

(a)-(f) See Explanations on the Table of Characteristics in Chapter 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8.2

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (+)	Young plant: color of stem	Jeune plante : couleur de la tige	Jungpflanze: Farbe des Triebs	Planta joven: color del tallo		
PQ	only green	seulement verte	nur grün	sólo verde	Ishigaki Sango	1
	yellowish green	vert jaunâtre	gelblichgrün	verde amarillento	Tainung N° 1	2
	brown	brune	braun	marrón		3
	green and purple	verte et pourpre	grün und purpurn	verde y púrpura	Sunrise	4
	only purple	seulement pourpre	nur purpurn	sólo púrpura		5
2. (*) (+)	Plant: height of attachment of first inflorescence	Plante : hauteur de l'attache de la première inflorescence	Pflanze: Höhe der Ansatzstelle der ersten Blüte	Planta: altura de la inserción de la primera inflorescencia		
QN (a)	low	basse	niedrig	baja	Ishigaki Sango	3
	medium	moyenne	mittel	media	Sunrise, Tainung N° 1	5
	high	haute	hoch	alta	Cera	7
3. (*) (+)	Plant: branching	Plante : ramification	Pflanze: Verzweigung	Planta: ramificación		
QL	absent	absente	fehlend	ausente	Ishigaki Sango, Maradol, Sunrise	1
	present	présente	vorhanden	presente		9
4. (+)	Stem: diameter	Tige : diamètre	Stamm: Durchmesser	Tallo: diámetro		
QN (a)	small	petit	klein	pequeño		3
	medium	moyen	mittel	medio	Ishigaki Sango, Sunrise, Tainung N° 1	5
	large	large	groß	grande		7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	Stem: number of nodes	Tige : nombre de nœuds	Stamm: Anzahl Knoten	Tallo: número de nudos		
QN (a)	few	petit	wenige	bajo	Ishigaki Sango	3
	medium	moyen	mittel	medio	Sunrise, Tainung N° 1	5
	many	grand	viele	alto		7
6.	Stem: length of internode	Tige : longueur de l'entrenœud	Stamm: Internodienlänge	Tallo: longitud del entrenudo		
QN (a)	short	courte	kurz	corto	Ishigaki Sango	3
	medium	moyenne	mittel	medio	Sunrise, Tainung N° 1	5
	long	longue	lang	largo		7
7.	Leaf blade: length	Limbe : longueur	Blattspreite: Länge	Limbo: longitud		
(+)						
QN (b)	short	court	kurz	corta		3
	medium	moyen	mittel	media	Ishigaki Sango, Sunrise, Tainung N° 1	5
	long	long	lang	larga		7
8.	Leaf blade: width	Limbe : largeur	Blattspreite: Breite	Limbo: anchura		
(+)						
QN (b)	narrow	étroit	schmal	estrecha		3
	medium	moyen	mittel	media	Sunrise, Tainung N° 1	5
	broad	large	breit	amplia		7
9.	Leaf blade: ratio length/width	Limbe : rapport longueur/largeur	Blattspreite: Verhältnis Länge/Breite	Limbo: relación longitud/anchura		
(*)						
QN (b)	slightly elongated	légèrement allongé	leicht langgezogen	ligeramente alargado		1
	moderately elongated	modérément allongé	mäßig langgezogen	moderadamente alargado	Ishigaki Sango, Sunrise, Tainung N° 1	2
	very elongated	très allongé	sehr langgezogen	muy alargado		3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10. (*) (+)	Leaf blade: presence of tertiary lobes	Limbe : présence de lobes tertiaires	Blattspreite: Vorhandensein von Lappen dritter Ordnung	Limbo: presencia de lóbulos terciarios		
QL (b)	absent	absents	fehlend	ausencia		1
	present	présents	vorhanden	presencia	Ishigaki Sango, Sunrise, Tainung N° 1	9
11. (+)	Leaf blade: pubescence on lower side	Limbe : pubescence sur la face inférieure	Blattspreite: Behaarung der Unterseite	Limbo: pubescencia en envés		
QL (b)	absent	absente	fehlend	ausente	Ishigaki Sango, Sunrise, Tainung N° 1	1
	present	présente	vorhanden	presente		9
12.	Petiole: length	Pétiole : longueur	Blattstiel: Länge	Pecíolo: longitud		
QN (b)	short	court	kurz	corta		3
	medium	moyen	mittel	media	Ishigaki Sango, Sunrise, Tainung N° 1	5
	long	long	lang	larga		7
13.	Petiole: anthocyanin coloration	Pétiole : pigmentation anthocyanique	Blattstiel: Anthocyanfärbung	Pecíolo: pigmentación antociánica		
QN (b)	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Ishigaki Sango	1
	medium	moyenne	mittel	media	Sunrise, Tainung N° 1	3
	very strong	très forte	sehr stark	muy fuerte		5
14. (*)	Inflorescence: number of flowers	Inflorescence : nombre de fleurs	Blütenstand: Anzahl der Blüten	Inflorescencia: número de flores		
QN (c)	few	petit	wenige	bajo	Ishigaki Sango	3
	medium	moyen	mittel	medio	Sunrise	5
	many	élevé	viele	alto	Tainung N° 1	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15.	Inflorescence: length of main axis	Inflorescence : longueur de l'axe central	Blütenstand: Länge der Hauptachse	Inflorescencia: longitud del eje central		
QN	(c)					
	short	court	kurz	corta	Ishigaki Sango, Sunrise	3
	medium	moyen	mittel	media		5
	long	long	lang	larga	Tainung N° 1	7
16.	Inflorescence: anthocyanin coloration of axis	Inflorescence : pigmentation anthocyanique de l'axe	Blütenstand: Anthocyanfärbung der Achse	Inflorescencia: pigmentación antociánica del eje		
QN	(c)					
	absent or weak	absente ou faible	fehlend oder schwach	ausente o débil	Ishigaki Sango, Sunrise, Tainung N° 1	1
	medium	moyenne	mittel	media		2
	strong	forte	stark	fuerte		3
17.	Flower: length of corolla	Fleur : longueur de la corolle	Blüte: Länge der Krone	Flor: longitud de la corola		
QN	(d)					
	short	courte	kurz	corta		3
	medium	moyenne	mittel	media	Sunrise	5
	long	longue	lang	larga	Tainung N° 1	7
18.	Flower: color of corolla	Fleur : couleur de la corolle	Blüte: Farbe der Krone	Flor: color de la corola		
PQ	(d)					
	white	blanche	weiß	blanca		1
	cream	crème	cremefarben	crema	Sunrise, Tainung N° 1	2
	yellow	jaune	gelb	amarilla		3
	green	verte	grün	verde		4
	purple	pourpre	purpurn	púrpura		5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19.	Peduncle: length	Pédoncule : longueur	Blütenstiel: Länge	Pedúnculo: longitud		
QN	(e)					
	short	court	kurz	corta	Ishigaki Sango, Sunrise	3
	medium	moyen	mittel	media		5
	long	long	lang	larga	Tainung N° 1	7
20. (*)	Fruit: length	Fruit : longueur	Frucht: Länge	Fruto: longitud		
QN	(e)					
	short	petit	kurz	corta	Du Roi Solo, Sunrise	3
	medium	moyen	mittel	media	Ishigaki Sango	5
	long	long	lang	larga	Cera	7
21. (*)	Fruit: diameter	Fruit : diamètre	Frucht: Durchmesser	Fruto: diámetro		
QN	(e)					
	small	petit	klein	pequeño	Du Roi Solo, Sunrise	3
	medium	moyen	mittel	medio	Ishigaki Sango	5
	large	large	groß	grande	Cera	7
22. (*)	Fruit: ratio length/ diameter	Fruit : rapport longueur/diamètre	Frucht: Verhältnis Länge/Durchmesser	Fruto: relación longitud/diámetro		
QN	(e)					
	slightly elongated	légèrement allongé	leicht langgezogen	ligeramente alargado	Sunrise	3
	moderately elongated	modérément allongé	mäßig langgezogen	moderadamente alargado	Ishigaki Sango	5
	very elongated	très allongé	sehr langgezogen	muy alargado	Cera	7
23. (*) (+)	Fruit: shape	Fruit : forme	Frucht: Form	Fruto: forma		
PQ	(e)					
	ovate	ovale	eiförmig	ovado		1
	elliptic	elliptique	elliptisch	elíptico	Ishigaki Sango	2
	obovate	obovale	verkehrt eiförmig	obovado	Du Roi Solo, Red Lady	3
	pyriform	pyriforme	birnenförmig	piriforme	Kapoho, Rainbow	4
	oblong	oblong	länglich	oblongo	Amarela	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.	Fruit: shape of stalk end	Fruit : forme de l'extrémité pédonculaire	Frucht: Form am Stielende	Fruto: forma del extremo peduncular		
(+)						
PQ	(e)					
	pointed	pointue	spitz	en punta		1
	rounded	arrondie	abgerundet	redondeado		2
	truncate	tronquée	stumpf	truncado	Sun Rice Solo	3
	depressed	déprimée	eingesunken	deprimido	Du Roi Solo, Ishigaki Sango	4
25.	Fruit: shape at distal end	Fruit : forme à l'extrémité distale	Frucht: Form am distalen Ende	Fruto: forma en el extremo distal		
QN	(e)					
	rounded	arrondi	abgerundet	redondeado	Tainung N° 1	1
	weakly pointed	pointu	leicht spitz	ligeramente puntiagudo	Ishigaki Sango, Sunrise	2
	strongly pointed	fortement pointu	stark spitz	muy puntiagudo	Du Roi Solo	3
26.	Fruit: main color	Fruit : principale couleur	Frucht: Hauptfarbe	Fruto: color principal		
(*)						
PQ	(f)					
	green	verte	grün	verde		1
	yellow green	vert jaune	gelbgrün	verde amarillento		2
	yellow	jaune	gelb	amarillo	Amarela, Kapoho, Tainung N° 1	3
	medium orange	orange moyen	mittelorange	anaranjado medio	Ishigaki Sango, Maradol, Mulata	4
	dark orange	orange foncé	dunkelorange	anaranjado oscuro	Mamey	5
27.	Fruit: ridges	Fruit: cannelures	Frucht: Rippen	Fruto: aristas		
(+)						
QN	(f)					
	absent or very weak	absentes ou très faibles	fehlend oder sehr schwach	ausentes o muy débiles	Ishigaki Sango, Sunrise, Tainung N° 1	1
	weak	faibles	schwach	débiles		2
	moderate	modérées	mittel	moderadas		3
	strong	fortes	stark	fuertes		4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28. (*) (+)	Fruit: thickness of skin	Fruit : épaisseur de l'épiderme	Frucht: Dicke der Schale	Fruto: grosor de la piel		
QN (f)	thin	mince	dünn	delgada		1
	medium	moyenne	mittel	media	Sunrise	2
	thick	épaisse	dick	gruesa	Tainung N° 1	3
29. (*)	Fruit: color of flesh	Fruit : couleur de la chair	Frucht: Fleischfarbe	Fruto: color de la pulpa		
PQ (f)	yellow	jaune	gelb	amarillo	Amarella, Cera, Kapoho	1
	orange	orange	orange	anaranjado	Sunrise, Tainung N 1	2
	red orange	rouge orangé	rotorange	anaranjado rojizo	Ishigaki Sango, Maradol	3
30.	Fruit: firmness of flesh	Fruit : fermeté de la chair	Frucht: Festigkeit des Fleisches	Fruto: firmeza de la pulpa		
QN (f)	soft	molle	weich	blanda	Cera, Mamey	3
	medium	moyenne	mittel	media	Maradol	5
	firm	ferme	fest	firme	Sunrise, Tainung N 1	7
31. (+)	Fruit: sweetness	Fruit : goût sucré	Frucht: Süße	Fruto: sabor dulce		
QN (f)	low	faible	niedrig	bajo	Cera	3
	medium	moyen	mittel	medio	Maradol, Tainung N° 1	5
	high	fort	hoch	alto	Ishigaki Sango, Sunrise	7
32.	Fruit: aroma of flesh	Fruit : arôme de la chair	Frucht: Aroma des Fleisches	Fruto: aroma de la pulpa		
QN (f)	weak	faible	schwach	débil	Maradol	1
	moderate	modéré	mittel	moderado	Ishigaki Sango, Sunrise	2
	strong	fort	stark	fuerte	Cera	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33.	Fruit: abundance of placental tissue	Fruit : abondance de tissu placentaire	Frucht: Menge des plazentalen Gewebes	Fruto: abundancia de tejido placentario		
QN (f)	scarce	rare	spärlich	escaso	Mamey	3
	moderate	moyen	mittel	moderado	Sunrise, Tainung N° 1	5
	abundant	abondant	üppig	abundante	Cera	7
34.	Fruit: width of central cavity	Fruit : largeur de la cavité centrale	Frucht: Breite der zentralen Höhlung	Fruto: anchura de la cavidad central		
(+)						
QN (f)	narrow	étroite	eng	estrecha	Sunrise	3
	medium	moyenne	mittel	media	Ishigaki Sango, Tainung N° 1	5
	broad	large	breit	amplia		7
35.	Fruit: shape of central cavity	Fruit : forme de la cavité centrale	Frucht: Form der zentralen Höhlung	Fruto: forma de la cavidad central		
(+)						
PQ (f)	circular	circulaire	rund	circular		1
	angular	angulaire	winklig	angular	Tainung N° 1	2
	star-shaped	en forme d'étoile	sternförmig	estrellada	Du Roi Solo, Ishigaki Sango, Sunrise	3
	irregular	irrégulière	unregelmäßig	irregular		4
36.	Fruit: number of seeds	Fruit : nombre de graines	Frucht: Anzahl Samen	Fruto: número de semillas		
(*)						
QN (f)	absent or very few	nul ou très faible	fehlend oder sehr gering	ninguna o muy pocas	Ishigaki Sango	1
	few	petit	wenige	pocas	Du Roi Solo	3
	medium	moyen	mittel	medio		5
	many	grand	viele	numerosas	Sunrise	7
	very many	très grand	sehr viele	muy numerosas	Cera, Tainung N° 1	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37.	Seed: color	Graine : couleur	Samen: Farbe	Semilla: color		
PQ (e)	grey yellow	jaune gris	graugelb	amarillo grisáceo		1
	grey	grise	grau	gris		2
	medium brown	brun moyen	mittelbraun	marrón medio	Tainung N° 1	3
	dark brown	brun foncé	dunkelbraun	marrón oscuro	Sunrise	4
	black	noire	schwarz	negro	Maradol	5
38.	Seed: length	Graine : longueur	Samen: Länge	Semilla: longitud		
QN (e)	short	courte	kurz	corta		3
	medium	moyenne	mittel	media	Sunrise, Tainung N° 1	5
	long	longue	lang	larga	Cera	7
39.	Seed: width	Graine : largeur	Samen: Breite	Semilla: anchura		
QN (e)	narrow	étroite	schmal	estrecha		3
	medium	moyenne	mittel	media	Sunrise, Tainung N 1	5
	broad	large	breit	amplia		7
40.	Seed: ratio length/width	Graine : rapport longueur/largeur	Samen: Verhältnis Länge/Breite	Semilla: relación longitud/anchura		
QN (e)	compressed	comprimé	zusammengedrückt	comprimida		1
	circular	circulaire	rund	circular	Sunrise, Tainung N° 1	2
	elongated	allongé	länglich	alargada		3
41.	Seed: position of broadest part	Graine : position de la partie la plus large	Samen: Position der breitesten Stelle	Semilla: posición de la parte más ancha		
(+)						
QN (e)	at middle	au milieu	in der Mitte	en el medio	Sunrise	1
	slightly towards base	légèrement vers la base	leicht zur Basis hin	ligeramente hacia la base	Tainung N° 1	2
	clearly towards base	nettement vers la base	deutlich zur Basis hin	claramente hacia la base		3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
42.	Seed: amount of mucilage	Semence : quantité de mucilage	Samen: Schleim- menge	Semilla: cantidad de mucílago		
QN (e)	small	petite	gering	pequeña		1
	moderate	modérée	mittel	moderada	Sunrise, Tainung N 1	2
	large	grande	groß	grande	Cera	3

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

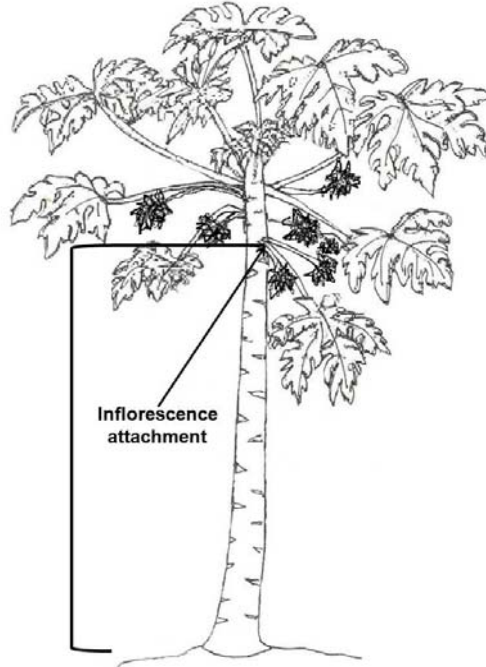
- (a) Plant and stem: Observations on the plant and stem should be made when the first fruit has reached harvest maturity.
- (b) Leaf blade and petiole: Observations on the leaf blade and petiole should be made on mature leaves. Leaves should be taken from the middle third of the current season's growth when the fruit has reached its full size.
- (c) Inflorescence: Observations on inflorescence should be taken after the fourth one has appeared, when it has reached its full length. Single flowers should be excluded from all observations.
- (d) Flower: Observations on the flower should be made during the first flower opening, at the start of anther dehiscence, on hermaphrodite flowers.
- (e) Peduncle, fruit and seed: Observations on the peduncle, fruit and seed should be made on 5 typical fruits, taken from the middle part of the fruiting region at the time of harvest maturity. Seed characteristics should only be observed on fully-developed seeds.
- (f) Ripe: Observations on the fruit should be made when the color change is complete.

8.2 *Explanations for individual characteristics*

Ad. 1: Young plant: color of stem

The color of stem should be observed when the first node is formed.

Ad. 2: Plant: height of attachment of first inflorescence



Ad. 3: Plant: branching

The branching should be observed at the beginning of flowering.

Ad. 4: Stem: diameter

The diameter should be observed half-way up the stem, at the beginning of flowering.

Ad. 5: Stem: number of nodes

The number of nodes should be observed from the ground up to the first flower.

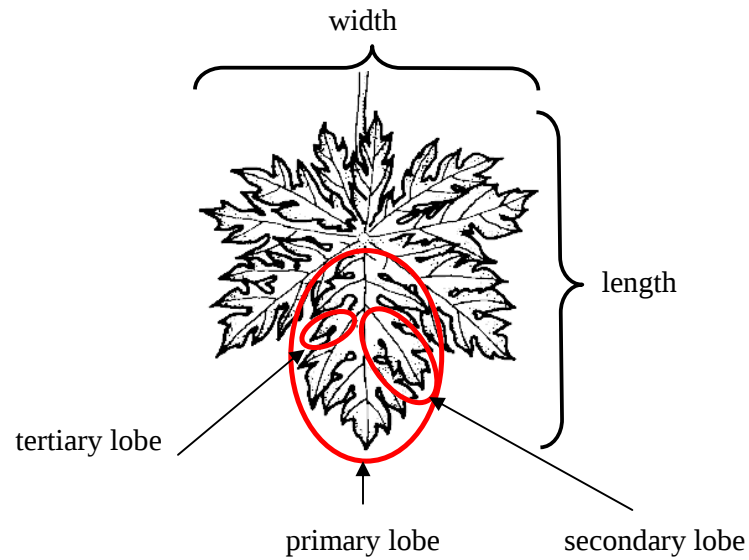
Ad. 6: Stem: length of internode

The length of internode should be observed midway between the ground and the first inflorescence.

Ad. 7: Leaf blade: length

Ad. 8: Leaf blade: width

Ad. 10: Leaf blade: presence of tertiary lobes



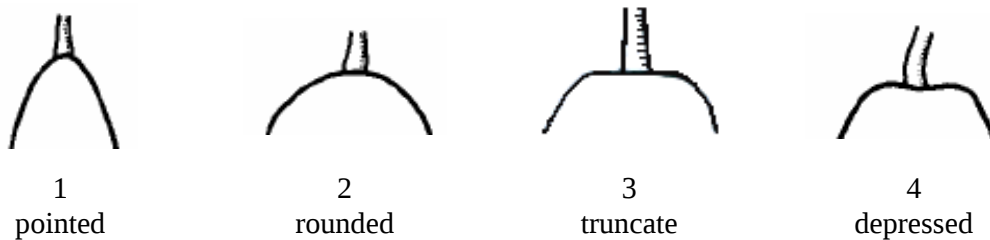
Ad. 11: Leaf blade: pubescence on lower side

Observations on pubescence should be made with the aid of a magnifying glass.

Ad. 23: Fruit: shape

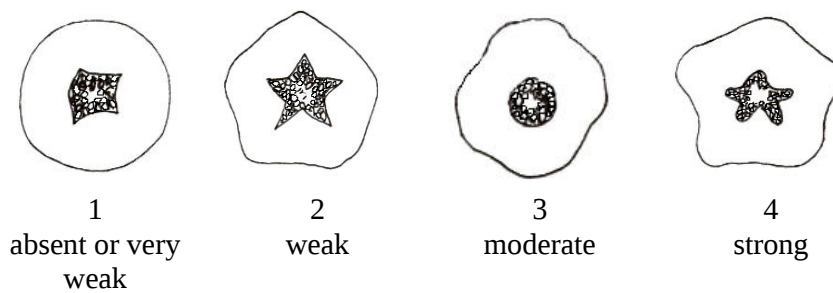
		< <u>broadest part</u> >		
		(below middle)	at middle	(above middle)
< <u>lateral outline</u> >	flat parallel sides		 5 oblong	
	rounded	 1 ovate	 2 elliptic	 3 obovate
	rounded with neck			 4 pyriform

Ad. 24: Fruit: shape of stalk end



Ad. 27: Fruit: ridges

To be observed in transverse section.



Ad. 28: Fruit: thickness of skin

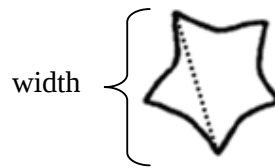
The thickness of the skin is observed in transverse section.

Ad. 31: Fruit: sweetness

To be determined by tasting the fruit.

Ad. 34: Fruit: width of central cavity

The width of the central cavity should be observed at the broadest part.



Ad. 35: Fruit: shape of central cavity



1
circular



2
angular

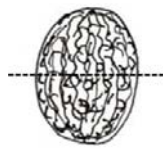


3
star-shaped

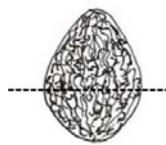


4
irregular

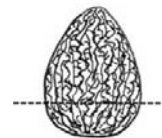
Ad. 41: Seed: position of broadest part



1
at middle



2
slightly towards base



3
clearly towards base

9. Literature

IBPGR, 1988: Descriptors for Papaya. International Board for Plant Genetic Resources. Rome, IT, 34 p.

Loyola, J. L. D., Pinto, R. M. de S., Lima, J. F. de, Ferreira, F. R. 2000: Catálogo de germoplasma de mamão (*Carica papaya* L.). Embrapa Mandioca e Fruticultura, Cruz das Almas, Bahia, BR, 40 p.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1	Botanical name	Carica papaya L.
1.2	Common name	Papaya
2. Applicant		
	Name	
	Address	
	Telephone No.	
	Fax No.	
	E-mail address	
	Breeder (if different from applicant)	
3. Proposed denomination and breeder's reference		
	Proposed denomination (if available)	
	Breeder's reference	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding Scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross (please state parent varieties)	[]
(b) partially known cross (please state known parent variety(ies))	[]
(c) unknown cross	[]

4.1.2 Mutation []
(please state parent variety)

4.1.3 Discovery and development []
(please state where and when discovered and how developed)

4.1.4 Other []
(please provide details)

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings	[]
(b) <i>in vitro</i> propagation	[]
(c) Other (state method)	[]

4.2.2 Other []
(please provide details)

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

Characteristics	Example Varieties	Note
5.1 Plant: height of attachment of first inflorescence (2)		
low	Ishigaki Sango	3[]
medium	Sunrise, Tainung N° 1	5[]
high	Cera	7[]
5.2 Leaf blade: ratio length/width (9)		
slightly elongated		1[]
moderately elongated	Ishigaki Sango, Sunrise, Tainung N° 1	2[]
very elongated		3[]
5.3 Fruit: ratio length/diameter (22)		
slightly elongated	Sunrise	3[]
moderately elongated	Ishigaki Sango	5[]
very elongated	Cera	7[]
5.4 Fruit: shape (23)		
ovate		1[]
elliptic	Ishigaki Sango	2[]
obovate	Du Roi Solo, Red Lady	3[]
pyriform	Kapoho, Rainbow	4[]
oblong	Amarela	5[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Fruit: shape</i>	<i>ovate</i>	<i>elliptic</i>
Comments:			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics, which may help to distinguish the variety?

Yes ☐ No ☐

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes ☐ No ☐

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety should accompany the Technical Questionnaire

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes ☐ No ☐

(b) Has such authorization been obtained?

Yes ☐ No ☐

If the answer to (b) is yes, please attach a copy of the authorization.

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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9. Information on plant material to be examined or submitted for examination.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes []	No []
(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes []	No []
(c) Tissue culture	Yes []	No []
(d) Other factors	Yes []	No []

Please provide details for where you have indicated “yes”.

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name			
Signature		Date	

[End of document]