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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

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DRAFT

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Acca sellowiana (Berg) Burret *

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from New Zealand

to be considered by the

Technical Committee at its fifty-first session,
to be held in Geneva from March 23 to 25, 2015

Disclaimer: this document does not represent UPOV policies or guidance

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Acca sellowiana (Berg) Burret	Feijoa, Pineapple Guava, Guavasteen	Feijoa	Feijoa	Feijoa

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.]

TABLE OF CONTENTS PAGE

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Acca sellowiana* (Berg) Burret.

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 one-year-old trees. The trees can be propagated by cuttings or grafted on a rootstock as specified by the testing authority.

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

5 trees.

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 independent growing cycles.

3.1.2 The growing cycle is considered to be the period ranging from the beginning of active vegetative growth or flowering, continuing through active vegetative growth or flowering and fruit development and concluding with the harvesting of fruit.

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

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 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 5 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 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.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

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 of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 5 plants, no off-types are 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 further examined by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the initial 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) Tree: growth habit (characteristic 1)
(b) Leaf blade: variegation on upper side (characteristic 13)
(c) Fruit: weight (characteristic 23)
(d) Fruit: shape (characteristic 27)
(e) Fruit: color of skin (characteristic 27)
(f) Fruit: rugosity of skin (characteristic 33)
(g) Time of harvest maturity (characteristic 41)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 "Examining Distinctness".

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

6.2.1 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.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

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
MG, MS, VG, VS		– see Chapter 4.1.5
(a)-(c)	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. **(*)** **(+)**	**VG**	**Tree: growth habit**	**Arbre : port**	**Baum: Wuchsform**	**Árbol: hábito de crecimiento**		
QN		upright	dressé	aufrecht	erguido	Apollo, Marion	1
		semi-upright	demi-dressé	halbaufrecht	semierguido	Kakapo, SCS411 Alcantara, Unique	2
		spreading	étalé	breitwüchsig	extendido	Pounamu, SCS412 Helena	3
2. **(+)**	**VG**	**Tree: vigor**	**Arbre : vigueur**	**Baum: Wuchsstärke**	**Árbol: vigor**		
QN		weak	faible	gering	débil	SCS412 Helena, Unique	3
		medium	moyen	mittel	medio	SCS411 Alcantara, Opal Star	5
		strong	fort	stark	fuerte	Apollo, Gemini	7
3. **(*)** **(+)**	**VG/ MG/ MS**	**Current season's shoot: length of internode**	**Rameau de l'année : longueur de l'entre-nœud**	**Jahrestrieb: Internodienlänge**	**Rama de la temporada en curso: longitud del entrenudo**		
QN		short	court	kurz	corto	Unique	3
		medium	moyen	mittel	medio	Marion	5
		long	long	lang	largo	Gemini	7
4. **(*)**	**VG/ MS**	**Leaf blade: length**	**Limbe : longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
QN	**(a)**	short	court	kurz	corto	Opal Star, Unique	3
		medium	moyen	mittel	medio	Apollo, Pounamu	5
		long	long	lang	largo	Kakariki	7
5. **(*)**	**VG/ MS**	**Leaf blade: width**	**Limbe : largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
QN	**(a)**	narrow	étroit	schmal	estrecho	Marion	3
		medium	moyen	mittel	medio	Unique	5
		broad	large	breit	ancho	Anatoki	7
6. **(*)** **(+)**	**VG/ MS**	**Leaf blade: ratio length/width**	**Limbe : rapport longueur/largeur**	**Blattspreite: Verhältnis Länge/Breite**	**Limbo: relación longitud/anchura**		
QN	**(a)**	very low	très bas	sehr klein	muy baja	Opal Star, SCS412 Helena	1
		low	bas	klein	baja	Apollo, Marion, SCS411 Alcantara	2
		medium	moyen	mittel	media	Pounamu	3
		high	élevé	groß	alta	Kawatiri	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. **(*)** **(+)**	**VG**	**Leaf blade: shape**	**Limbe : forme**	**Blattspreite: Form**	**Limbo: forma**		
PQ	**(a)**	ovate	ovale	eiförmig	oval		1
		elliptic	elliptique	elliptisch	elíptico	Apollo	2
		oblong	oblong	breitrund	oblongo		3
		obovate	obovale	verkehrt eiförmig	oboval	SCS411 Alcantara, SCS412 Helena	4
8. **(*)** **(+)**	**VG**	**Leaf blade: position of broadest part**	**Limbe : position de la partie la plus large**	**Blattspreite: Position des breitesten Teils**	**Limbo: posición de la parte más ancha**		
QN	**(a)**	below middle	au-dessous du milieu	unter der Mitte	por debajo de la mitad		1
		at middle	au milieu	in der Mitte	en la mitad	Marion, Unique	2
		above middle	au-dessus du milieu	über der Mitte	por encima de la mitad	SCS411 Alcantara, SCS412 Helena, Triumph	3
9. **(+)**	**VG**	**Leaf blade: shape of apex**	**Limbe : forme du sommet**	**Blattspreite: Form der Spitze**	**Limbo: forma del ápice**		
PQ	**(a)**	acute	aigu	spitz	agudo	Gemini	1
		obtuse	obtus	stumpf	obtuso	Apollo, SCS411 Alcantara	2
		rounded	arrondi	abgerundet	redondeado	Marion, SCS412 Helena	3
		truncate	tronqué	abgestumpft	truncado		4
		retuse	échancré	eingedrückt	retuso		5
10. **(+)**	**VG**	**Leaf blade: shape of base**	**Limbe : forme de la base**	**Blattspreite: Form der Basis**	**Limbo: forma de la base**		
PQ	**(a)**	acute	aigue	spitz	aguda	Gemini, Kakapo, SCS412 Helena	1
		obtuse	obtuse	stumpf	obtusa	SCS411 Alcantara, Unique	2
		rounded	arrondie	abgerundet	redondeada		3
11. **(+)**	**VG**	**Leaf blade: profile in cross section**	**Limbe : profil en section transversale**	**Blattspreite: Profil im Querschnitt**	**Limbo: perfil en sección transversal**		
QN	**(a)**	concave	concave	konkav	cóncavo	SCS412 Helena	1
		flat	plat	flach	plano	Opal Star, SCS411 Alcantara	2
		convex	convexe	konvex	convexo		3
12. **(*)** **(+)**	**VG**	**Leaf blade: main color of upper side**	**Limbe : couleur principale de la face supérieure**	**Blattspreite: Hauptfarbe der Oberseite**	**Limbo: color principal del haz**		
PQ	**(a)**	light green	vert clair	hellgrün	verde claro		1
		medium green	vert moyen	mittelgrün	verde medio	Opal Star	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Apollo	3
		grey green	gris-vert	graugrün	verde grisáceo	Marion	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13. (*)	**VG**	**Leaf blade: variegation on upper side**	**Limbe : panachure de la face supérieure**	**Blattspreite: Panaschierung der Oberseite**	**Limbo: variegación del haz**		
QL	**(a)**	absent	absente	fehlend	ausente		1
		present	présente	vorhanden	presente		9
14. (+)	**VG**	**Leaf blade: color of lower side**	**Limbe : couleur de la face inférieure**	**Blattspreite: Farbe der Unterseite**	**Limbo: color del envés**		
PQ	**(a)**	whitish	blanchâtre	weißlich	blanquecino	Apollo, SCS412 Helena	1
		light green	vert clair	hellgrün	verde claro	SCS411 Alcantara	2
		medium green	vert moyen	mittelgrün	verde medio	SCS414 Mattos	3
		greyish green	vert grisâtre	graugrün	verde grisáceo	SCS415 Nonante	4
15.	**VG**	**Inflorescence: arrangement**	**Inflorescence : disposition**	**Blütenstand: Anordnung**	**Inflorescencia: disposición**		
QL	**(b)**	terminal only	terminale seulement	nur terminal	solamente terminal		1
		terminal and lateral	terminale et latérale	terminal und lateral	terminal y lateral	SCS411 Alcantara, SCS412 Helena	2
16.	**VG/ MS**	**Petal: length**	**Pétale : longueur**	**Blütenblatt: Länge**	**Pétalo: longitud**		
QN	**(b)**	short	court	kurz	corto	Arhart, Tharfiona	1
		medium	moyen	mittel	medio	Kawatiri, SCS411 Alcantara, SCS412 Helena	2
		long	long	lang	largo		3
17. (*) (+)	**VG**	**Petal: color of upper side**	**Pétale : couleur de la face supérieure**	**Blütenblatt: Farbe der Oberseite**	**Pétalo: color de la cara superior**		
PQ	**(b)**	RHS Color Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	carta de colores RHS (indíquese el número de referencia)		
18. (*) (+)	**VG**	**Stamens: number**	**Étamines : nombre**	**Staubgefäße: Anzahl**	**Estambres: número**		
QN	**(b)**	few	petit	wenige	pocos	Anatoki	1
		medium	moyen	mittel	medio	Gemini	2
		many	grand	viele	muchos	Kaiteri	3
19.	**VG**	**Filaments: color**	**Filaments : couleur**	**Staubfäden: Farbe**	**Filamentos: color**		
PQ	**(b)**	pink	rose	rosa	rosa		1
		reddish pink	rose-rouge	rötlich rosa	rosa rojizo		2
		red	rouge	rot	rojo	SCS411 Alcantara, SCS412 Helena	3
20.	**VG**	**Anthers: color**	**Anthères : couleur**	**Antheren: Farbe**	**Anteras: color**		
PQ	**(b)**	yellowish white	blanc jaunâtre	gelblich weiß	blanco amarillento	Unique	1
		reddish white	blanc rougeâtre	rötlich weiß	blanco rojizo	Apollo, Gemini	2
		medium red	rouge moyen	mittelrot	rojo medio	SCS411 Alcantara	3
		dark red	rouge foncé	dunkelrot	rojo oscuro	SCS415 Nonante	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.	**VG**	**Style: color of upper half**	**Style : couleur de la moitié supérieure**	**Griffel: Farbe der oberen Hälfte**	**Estilo: color de la mitad superior**		
PQ	**(b)**	green	vert	grün	verde		1
		reddish green	vert rougeâtre	rötlich grün	verde rojizo	Alacantara	2
		red	rouge	rot	rojo	Apollo, SCS412 Helena	3
22.	**VG**	**Stigma: position in relation to anthers**	**Stigmate : position par rapport aux anthères**	**Narbe: Stellung im Vergleich zu den Antheren**	**Estigma: posición en relación con las anteras**		
QN	**(b)**	same level to slightly above	au même niveau à légèrement au-dessus	auf gleicher Höhe bis leicht oberhalb	al mismo nivel a ligeramente por encima	Arhart	1
		moderately above	modérément au-dessus	mäßig oberhalb	moderadamente por encima	SCS411 Alcantara, SCS412 Helena	2
		strongly above	nettement au-dessus	stark oberhalb	muy por encima	Apollo, Unique	3
23. **(*)** **(+)**	**MG**	**Fruit: weight**	**Fruit : poids**	**Frucht: Gewicht**	**Fruto: peso**		
QN	**(c)**	very low	très faible	sehr niedrig	muy bajo	Tharfiona	1
		low	faible	niedrig	bajo	Apollo, Opal Star	3
		medium	moyen	mittel	medio	Pounamu, SCS411 Alcantara	5
		high	élevé	hoch	alto	Anilvinkoru, SCS412 Helena	7
24. **(*)** **(+)**	**VG/ MS**	**Fruit: length**	**Fruit : longueur**	**Frucht: Länge**	**Fruto: longitud**		
QN	**(c)**	very short	très court	sehr kurz	muy corto		1
		short	court	kurz	corto	Unique	3
		medium	moyen	mittel	medio	Apollo, Opal Star	5
		long	long	lang	largo	Gemini, Pounamu	7
		very long	très long	sehr lang	muy largo	Marion	9
25. **(*)** **(+)**	**VG/ MS**	**Fruit: width**	**Fruit : largeur**	**Frucht: Breite**	**Fruto: anchura**		
QN	**(c)**	narrow	étroit	schmal	estrecho	Unique	3
		medium	moyen	mittel	medio	Kakapo, Opal Star	5
		broad	large	breit	ancho	Kawatiri	7
		very broad	très large	sehr breit	muy ancho	Anatoki	9
26. **(*)** **(+)**	**VG/ MG**	**Fruit: ratio length/width**	**Fruit : rapport longueur/largeur**	**Frucht: Verhältnis Länge/Breite**	**Fruto: relación longitud/anchura**		
QN	**(c)**	low	bas	leicht	baja	SCS411 Alcantara	3
		medium	moyen	mittel	media	Pounamu, SCS412 Helena	5
		high	élevé	hoch	alta	Triumph	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27. (*) (+)	**VG**	**Fruit: shape**	**Fruit : forme**	**Frucht: Form**	**Fruto: forma**		
PQ	**(c)**	ovate	ovale	eiförmig	oval	Pounamu	1
		circular	circulaire	kreisförmig	circular		2
		elliptic	elliptique	elliptisch	elíptico	Opal Star, SCS411 Alcantara	3
		oblong	oblong	breitrund	oblongo		4
		rhombic	losangique	rhombisch	rómbico		5
		obovate	obovale	verkehrt eiförmig	oboval	Gemini, Kakapo, SCS412 Helena	6
		oblanceolate	oblancéolé	verkehrt lanzettlich	oblanceolado		7
28. (+)	**VG**	**Fruit: longitudinal symmetry**	**Fruit : symétrie longitudinale**	**Frucht: Längssymmetrie**	**Fruto: simetría longitudinal**		
QN	**(c)**	symmetric or slightly asymmetric	symétrique ou légèrement asymétrique	symmetrisch oder leicht asymmetrisch	simétrico o ligeramente asimétrico	Opal Star, SCS411 Alcantara, Unique	1
		moderately asymmetric	modérément asymétrique	mäßig asymmetrisch	moderadamente asimétrico	Apollo	2
		strongly asymmetric	fortement asymétrique	stark asymmetrisch	muy asimétrico	Triumph	3
29. (*) (+)	**VG**	**Fruit: slope of shoulder at stalk end**	**Fruit : inclinaison de l'épaulement à l'extrémité pédonculaire**	**Frucht: Neigung der Schulter am Stielende**	**Fruto: inclinación del hombro en el extremo peduncular**		
QN	**(c)**	weak	faible	schwach	débil	Opal Star, SCS411 Alcantara	1
		medium	moyenne	mittel	media	Kakapo, Pounamu	2
		strong	forte	stark	fuerte	Anilvinkoru, Apollo	3
30. (+)	**VG**	**Fruit: point of attachment of stalk**	**Fruit : point d'attache du pédoncule**	**Frucht: Ansatzpunkt des Stengels**	**Fruto: punto de inserción del pedúnculo**		
QN	**(c)**	depressed	déprimé	eingesenkt	deprimido	Gemini, SCS412 Helena, Unique	1
		flat	plat	flach	plano	Opal Star	2
		raised	protubérant	vorgewölbt	prominente	Apollo	3
31. (*)	**VG**	**Fruit: attitude of sepals**	**Fruit : position des sépales**	**Frucht: Haltung der Kelchblätter**	**Fruto: porte de los sépalos**		
QN	**(c)**	erect	dressés	aufrecht	erectos	Kakapo, Opal Star, SCS412 Helena	1
		semi-erect	demi-dressés	halbaufrecht	semierectos	Marion, Unique	2
		horizontal	horizontaux	horizontal	horizontales	Apollo, Pounamu	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32. (*)	**VG**	**Fruit: color of skin**	**Fruit : couleur de l'épiderme**	**Frucht: Farbe der Schale**	**Fruto: color de la piel**		
PQ	**(c)**	light green	vert clair	hellgrün	verde claro	Unique	1
		medium green	vert moyen	mittelgrün	verde medio	Apollo, Opal Star, SCS411 Alcantara	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Anilvinkoru, Kakapo	3
		grey green	gris-vert	graugrün	verde grisáceo	Marion	4
33. (*) (+)	**VG**	**Fruit: rugosity of skin**	**Fruit : rugosité de l'épiderme**	**Frucht: Rauhheit der Schale**	**Fruto: rugosidad de la piel**		
	(c)	smooth or very slightly rugose	lisse ou très peu rugueuse	glatt oder sehr schwach blasig	lisa o muy poco rugosa	Opal Star, SCS412 Helena	1
QN		slightly rugose	peu rugueuse	schwach blasig	poco rugosa	Kakapo, Marion	3
		moderately rugose	modérément rugueuse	mäßig blasig	moderadamente rugosa	Apollo, SCS411 Alcantara, Triumph	5
		strongly rugose	fortement rugueuse	stark blasig	fuertemente rugose	Unique	7
34. (+)	**VG**	**Fruit: longitudinal grooving**	**Fruit : cannelures longitudinales**	**Frucht: Längsriefung**	**Fruto: acanalado longitudinal**		
QN	**(c)**	absent or weak	absentes ou faibles	fehlend oder schwach	nulo o débil	Pounamu, SCS412 Helena	1
		medium	moyennes	mittel	medio	Kakapo	2
		strong	fortes	stark	fuerte	Anilvinkoru	3
35. (+)	**VG**	**Fruit: thickness of skin**	**Fruit : épaisseur de l'épiderme**	**Frucht: Dicke der Schale**	**Fruto: grosor de la piel**		
QN	**(c)**	thin	mince	dünn	delgada	Arhart	1
		medium	moyenne	mittel	media		2
		thick	épaisse	dick	gruesa		3
36. (+)	**VG**	**Fruit: thickness of pericarp**	**Fruit : épaisseur du péricarpe**	**Frucht: Dicke des Perikarps**	**Fruto: grosor del pericarpio**		
QN	**(c)**	thin	mince	dünn	delgado	Arhart	1
		medium	moyen	mittel	medio		2
		thick	épais	dick	grueso		3
37.	**VG**	**Fruit: color of outer pericarp**	**Fruit : couleur du péricarpe externe**	**Frucht: Farbe des äußeren Perikarps**	**Fruto: color del pericarpio externo**		
PQ	**(c)**	white	blanc	weiß	blanco	Kakapo	1
		yellowish white	blanc jaunâtre	gelblich weiß	blanco amarillento	Gemini, Unique	2
		yellow	jaune	gelb	amarillo	Opal Star	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38. **(*)** **(+)**	**VG**	**Fruit: width of locules relative to fruit**	**Fruit : largeur des loges par rapport au fruit**	**Frucht: Breite der Kernkammern im Verhältnis zur Frucht**	**Fruto: anchura de los lóculos con relación al fruto**		
QN	**(c)**	very small	très étroites	sehr schmal	muy pequeños	Triumph	1
		small	étroites	schmal	pequeños	Kakapo, Pounamu	3
		medium	moyennes	mittel	medianos	SCS412 Helena, Unique	5
		large	larges	breit	grandes	SCS411 Alcantara	7
39. **(*)**	**VG**	**Fruit: color of locules**	**Fruit : couleur des loges**	**Frucht: Farbe der Kernkammern**	**Fruto: color de los lóculos**		
PQ	**(c)**	transparent	transparentes	transparent	transparentes	Apollo, Waitui	1
		whitish	blanchâtres	weißlich	blanquecinos	SCS415 Nonante	2
		reddish	rougeâtres	rötlich	rojizos		3
40. **(+)**	**VG**	**Seed: size**	**Pépin : taille**	**Samen: Größe**	**Semilla: tamaño**		
QN	**(c)**	small	petit	klein	pequeña	Unique	1
		medium	moyen	mittel	mediana	SCS411 Alcantara, SCS412 Helena	2
		large	grand	groß	grande		3
41. **(*)** **(+)**	**VG/ MG**	**Time of harvest maturity**	**Époque de maturité de récolte**	**Zeitpunkt der Erntereife**	**Época de madurez para la cosecha**		
QN		very early	très précoce	sehr früh	muy temprana	Waitui	1
		early	précoce	früh	temprana	Unique	3
		medium	moyenne	mittel	media	Apollo, Gemini	5
		late	tardive	spät	tardía	Kakapo, Opal Star	7
		very late	très tardive	sehr spät	muy tardía	Triumph	9

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) Observations on the leaf should be made on the middle third of a one year old shoot.

(b) Observations on the flower should be made when approximately 50% of flowers on a tree are open.

(c) Observations on the fruit should be made when harvested.

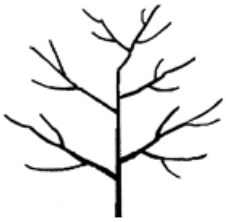
8.2 Explanations for individual characteristics

Ad. 1: Tree: growth habit

The growth habit is observed at the end of the growing season after fruit harvest.

1
upright

2
semi-upright



3
spreading

Ad. 2: Tree: vigor

Observations should be made during active vegetative growth. The vigor of the tree should be considered as the overall abundance of vegetative growth.

Ad. 3: Current season's shoot: length of internode

The length of the internode is observed on the middle third on a current season's shoot.

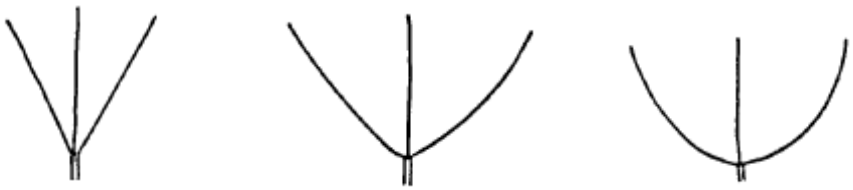
Ad. 6: Leaf blade: ratio length/width
Ad. 7: Leaf blade: shape
Ad. 8: Leaf blade: position of broadest part

	← broadest part →		
	below middle	at middle	above middle
width (ratio length/width) high →		 3 oblong	
width (ratio length/width) ← low	 1 ovate	 2 elliptic	 4 obovate

Ad. 9: Leaf blade: shape of apex

1 acute | 2 obtuse | 3 rounded | 4 truncate | 5 retuse

Ad. 10: Leaf blade: shape of base



1 acute | 2 obtuse | 3 rounded

Ad. 11: Leaf blade: profile in cross section

1
concave

2
flat

3
convex

Ad. 12: Leaf blade: main color of upper side

The main color is the color with the largest surface area present on the inner side of a leaf. In cases where the areas of the main and secondary colors are too similar to reliably decide which color has the largest area of the blade, the darkest color is considered to be the main color.

Ad.14: Leaf blade: color of lower side

The color of the lower side includes any pubescence that may be present.

Ad. 17: Petal: color of upper side

The observation is made on the color covering the largest surface area of the petal.

Ad. 18: Stamens: number

1
few

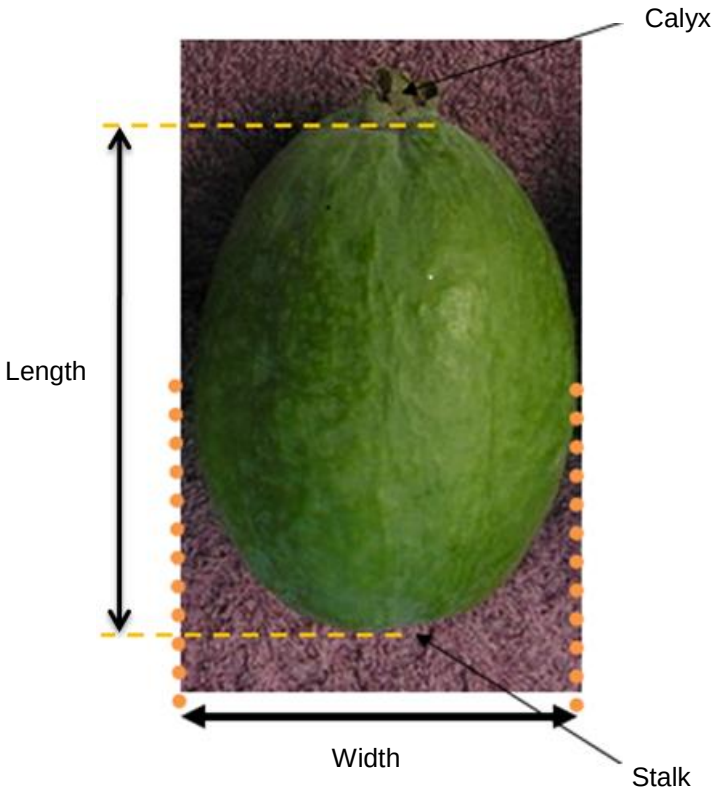
2
medium

3
many

Ad. 23: Fruit: weight

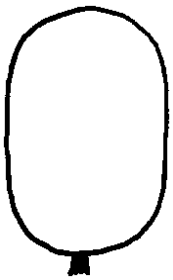
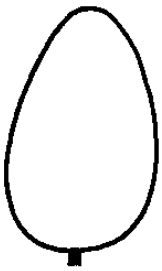
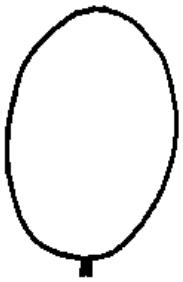
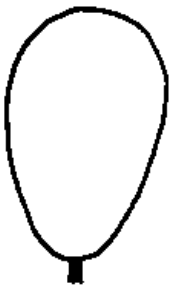
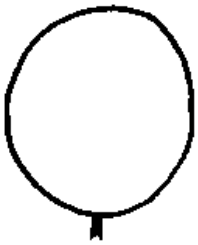
Fruit weight should be determined by a sample size of 25 harvested fruits, 5 fruits from each of the 5 trees.

Ad. 24: Fruit: length
Ad. 25: Fruit: width



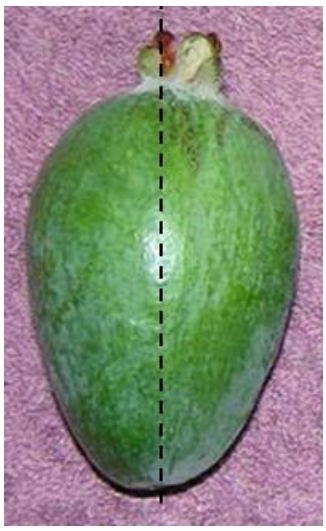
Ad. 26: Fruit: ratio length/width
Ad. 27: Fruit: shape

width (ratio length/width) ↓ broad (*low*) ↑ narrow (*high*)

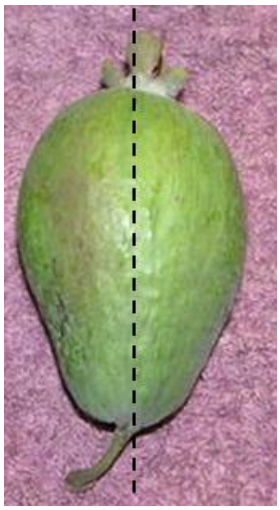
← below middle	broadest part at middle	→ above middle
	 5 rhombic	 7 oblanceolate
	 4 oblong	
 1 ovate	 3 elliptic	 6 obovate
	 2 circular	

Ad. 28: Fruit: longitudinal symmetry

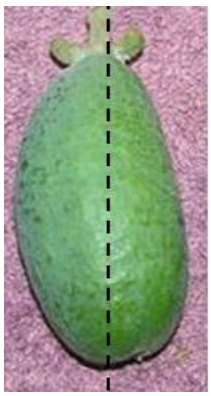
The longitudinal symmetry is assessed in relation to the median line through the fruit.



1
symmetric or slightly asymmetric



2
moderately asymmetric

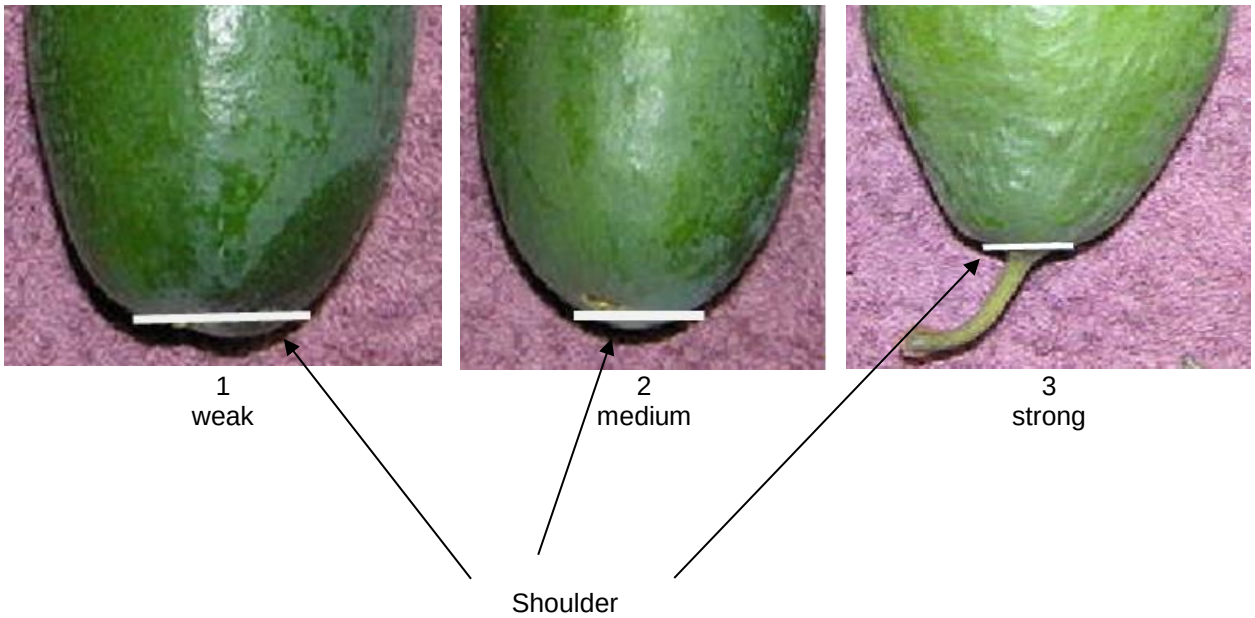


3
strongly asymmetric

Ad. 29: Fruit: slope of shoulder at stalk end

The slope of shoulder at stalk end is assessed by the width of the fruit just below the stalk attachment.

weak shoulder = broad width
medium shoulder = medium width
strong shoulder = narrow width



Ad. 30: Fruit: point of attachment of stalk

1
depressed

2
flat

3
raised

Ad. 33: Fruit: rugosity of skin

Rugosity of the fruit is defined as the number and intensity of wrinkles.

Ad. 34: Fruit: longitudinal grooving

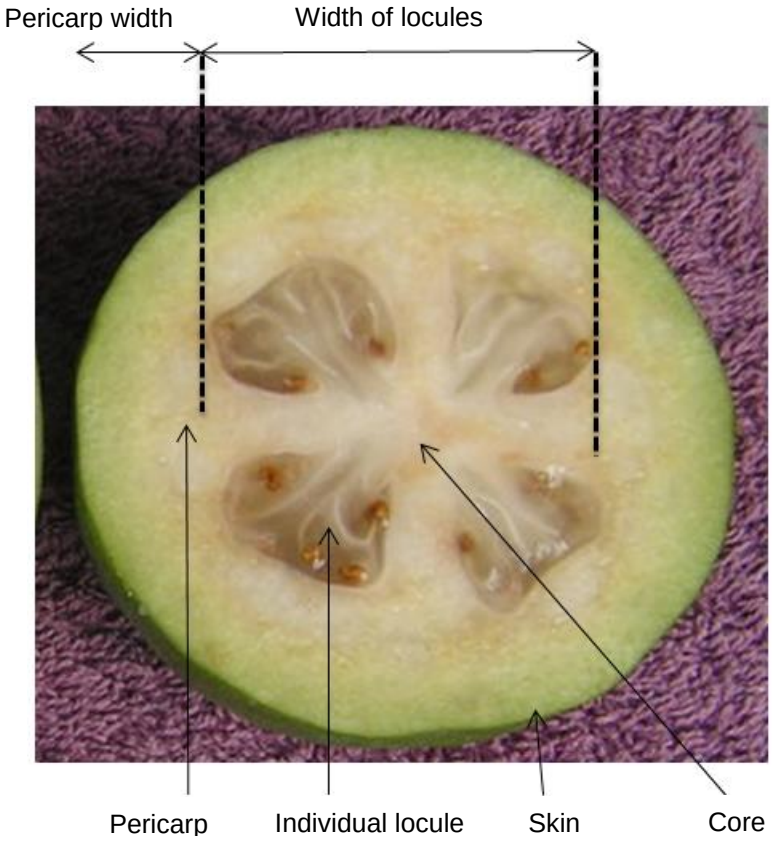
1
absent or weak

2
medium

3
strong

Ad. 35: Fruit: thickness of skin
Ad. 36: Fruit: thickness of pericarp
Ad. 38: Fruit: width of locules relative to fruit

The thickness of the pericarp is the broadest width of flesh from the edge of the locule to the skin.



Ad. 40: Seed: size

Size is determined by the seed length/width ratio.

Ad. 41: Time of harvest maturity

Harvest maturity is reached when fruit naturally drops from the tree or is picked when readily detached from the tree with minimal effort. The harvest period begins when the first few fruit have naturally dropped. Maturity of the fruit cannot be determined by observation of external fruit characteristics only.

9. Literature

Thorp, G., Bieleski, R. 2002: Feijoas: Origins, Cultivation and Uses. Horticulture and Food Research Institute of New Zealand and David Bateman Ltd, Auckland, NZ

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	*Acca sellowiana* (Berg) Burret
1.2 Common name	Acca

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:

[#]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)

(……..……) x (……..……..……...…)
female parent male parent

(b) partially known cross [ ]
(please state known parent variety(ies))

(……..……...…) x (……..……..……...…)
female parent male parent

(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)

[#] 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:

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings [ ]

(b) grafting [ ]

(c) *in vitro* propagation [ ]

(d) other (state method) [ ]

4.2.2 Other [ ]
(please provide details)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

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 (1)	**Tree: growth habit**		
	upright	Apollo, Marion	1[ ]
	semi-upright	Kakapo, SCS411 Alcantara, Unique	2[ ]
	spreading	Pounamu, SCS412 Helena	3[ ]
5.2 (13)	**Leaf blade: variegation on upper side**		
	absent		1[ ]
	present		9[ ]
5.3 (23)	**Fruit: weight**		
	very low	Tharfiona	1[ ]
	very low to low		2[ ]
	low	Apollo, Opal Star	3[ ]
	low to medium		4[ ]
	medium	Pounamu, SCS411 Alcantara	5[ ]
	medium to high		6[ ]
	high	Anilvinkoru, SCS412 Helena	7[ ]
	high to very high		8[ ]
	very high		9[ ]
5.4 (27)	**Fruit: shape**		
	ovate	Pounamu	1[ ]
	circular		2[ ]
	elliptic	Opal Star, SCS411 Alcantara	3[ ]
	oblong		4[ ]
	rhombic		5[ ]
	obovate	Gemini, Kakapo, SCS412 Helena	6[ ]
	oblanceolate		7[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

	Characteristics	Example Varieties	Note
5.5 (32)	**Fruit: color of skin**		
	light green	Unique	1[ ]
	medium green	Apollo, Opal Star, SCS411 Alcantara	2[ ]
	dark green	Anilvinkoru, Kakapo	3[ ]
	grey green	Marion	4[ ]
5.6 (33)	**Fruit: rugosity of skin**		
	smooth or very slightly rugose	Opal Star, SCS412 Helena	1[ ]
	very slightly rugose to slightly rugose		2[ ]
	slightly rugose	Kakapo, Marion	3[ ]
	slightly rugose to moderately rugose		4[ ]
	moderately rugose	Apollo, SCS411 Alcantara, Triumph	5[ ]
	moderately rugose to strongly rugose		6[ ]
	strongly rugose	Unique	7[ ]
	strongly rugose to very strongly rugose		8[ ]
	very strongly rugose		9[ ]
5.7 (41)	**Time of harvest maturity**		
	very early	Waitui	1[ ]
	very early to early		2[ ]
	early	Unique	3[ ]
	early to medium		4[ ]
	medium	Apollo, Gemini	5[ ]
	medium to late		6[ ]
	late	Kakapo, Opal Star	7[ ]
	late to very late		8[ ]
	very late	Triumph	9[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

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
Example	*Fruit: weight*	*low*	*medium*

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

[#]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 image 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:

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]