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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

PEACH

UPOV Code: PRUNU_PER

Prunus persica (L.) Batsch [*]

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:[*]

Botanical name	*English*	*French*	*German*	*Spanish*
Prunus persica (L.) Batsch, *Persica vulgaris* Mill., *Prunus* L. subg. *Persica*	Peach	Pêcher	Pfirsich	Duraznero, Melocotonero

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, its associated TGP documents and the Test Guidelines for Prunus Rootstocks, document TG/187.

[*] 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 all varieties of peach (including nectarine) of the species *Prunus persica* (L.) Batsch. For the examination of hybrids involving *Prunus persica* (L.) Batsch, guidance is provided in document TGP/13 "Guidance for New Types and Species".

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 grafted trees, on a peach rootstock to be selected by the competent authorities.

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

3 grafted 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

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

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 3 trees.

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 3 plants or parts taken from each of 3 plants. In the case of parts of plants, the number to be taken from each of the plants should be at least 5.

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.

4.1.4 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, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 3 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 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) Tree: size (characteristic 1)
(b) Flower: type (characteristic 9)
(c) Leaf blade: red mid-vein on the lower side (characteristic 28)
(d) Petiole: nectaries (characteristic 30)
(e) Petiole: shape of nectaries (characteristic 31)
(f) Fruit: shape (in ventral view) (characteristic 33)
(g) Fruit: pubescence of skin (characteristic 44)
(h) Fruit: carotenoid coloration of flesh (characteristic 51)
(i) Fruit: acidity (characteristic 60) with the following groups:
- low
- medium
- high
(j) Fruit: flesh type (TQ characteristic), with the following groups:
- melting
- non-melting
- stony hard
(k) Time of beginning of flowering (characteristic 69)
(l) Time of maturity (characteristic 70)

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

MG, MS, VG, VS – see Chapter 4.1.4

(a)-(g) 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 ejemplos	Note/ Nota
1. (*)	**VG**	**Tree: size**	**Arbre : taille**	**Baum: Größe**	**Árbol: tamaño**		
QN	**(a)**	very small	très petit	sehr klein	muy pequeño	Bonanza, Bonfire, Pix Zee, Zaino	1
		small	petit	klein	pequeño	Richaven	3
		medium	moyen	mittel	mediano	Robin	5
		large	grand	groß	grande	Redhaven	7
		very large	très grand	sehr groß	muy grande	Champion	9
2.	**VG**	**Tree: vigor**	**Arbre : vigueur**	**Baum: Wuchsstärke**	**Árbol: vigor**		
(+)							
QN		weak	faible	gering	débil	J. H. Hale	3
		medium	moyenne	mittel	medio	Robin	5
		strong	forte	stark	fuerte	Springtime	7
3. (*) (+)	**VG**	**Tree: habit**	**Arbre : port**	**Baum: Wuchsform**	**Árbol: porte**		
QN	**(a)**	fastigiate	fastigié	sehr aufrecht	fastigiado	Nectarose, Pillar	1
		upright	dressé	aufrecht	erecto	Fairhaven, Redwing	2
		upright to spreading	dressé à étalé	aufrecht bis breitwüchsig	erecto a extendido	Albertina, Elegant Lady, Mercil	3
		spreading	étalé	breitwüchsig	extendido	Charles Roux	4
		drooping	retombant	überhängend	colgante	Biancopendulo	5
4.	**VG**	**Flowering shoot: thickness**	**Rameau mixte : grosseur**	**Blütentrieb: Dicke**	**Rama floral: grosor**		
QN	**(a)**	thin	fin	dünn	delgada	Mayred	3
		medium	moyen	mittel	media	Redhaven	5
		thick	gros	dick	gruesa	Flavorcrest, Lizzie	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
5.	**VG**	**Flowering shoot: length of internodes**	**Rameau mixte : longueur des entrenœuds**	**Blütentrieb: Länge der Internodien**	**Rama floral: longitud de los intranudos**		
QN	**(a)**	very short	très courts	sehr kurz	muy cortos	Bonanza, Bonfire, Pix Zee, Zaino	1
	(d)	short	courts	kurz	cortos	June Gold, Merrill Sundance	3
		medium	moyens	mittel	medianos	Redhaven	5
		long	longs	lang	largos	Fairhaven	7
		very long	très longs	sehr lang	muy largos	Flacara	9
6. (*)	**VG**	**Flowering shoot: presence of anthocyanin coloration**	**Rameau mixte : présence de la pigmentation anthocyanique**	**Blütentrieb: Vorhandensein von Anthocyanfärbung**	**Rama floral: presencia de pigmentación antociánica**		
QL	**(d)**	absent	absente	fehlend	ausente	De flor doble blanca	1
		present	présente	vorhanden	presente	Robin	9
7. (+)	**VG**	**Flowering shoot: intensity of anthocyanin coloration**	**Rameau mixte : intensité de la pigmentation anthocyanique**	**Blütentrieb: Intensität der Anthocyanfärbung**	**Rama floral: intensidad de la pigmentación antociánica**		
QN	**(d)**	very weak	très faible	sehr gering	muy débil	Biancopendulo, De flor doble blanca	1
		weak	faible	gering	débil	Springtime	3
		medium	moyenne	mittel	media	Fuzalode	5
		strong	forte	stark	fuerte	Robin, Sanguine Chanas	7
8. (+)	**VG**	**Flowering shoot: density of flower buds**	**Rameau mixte : densité des boutons floraux**	**Blütentrieb: Dichte der Blütenknospen**	**Rama floral: densidad de los botones florales**		
QN	**(a)**	very sparse	très peu dense	sehr locker	muy laxa	Monline	1
	(d)	sparse	peu dense	locker	laxa	Mercil, Zaitabo	3
		medium	moyenne	mittel	media	Craucail, Flacara, Michelini, Rich Lady	5
		dense	dense	dicht	densa	Momée	7
		very dense	très dense	sehr dicht	muy densa	Armking, Harco	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
9. (*) (+)	**VG**	**Flower: type**	**Fleur : type**	**Blüte: Typ**	**Flor: tipo**		
QL	**(d)**	campanulate	campanulée	glockenförmig	acampanada	Dida, Springtime	1
	(e)	rosette	rosacée	rosettenförmig	roseta	Robin, Vesuvio	2
10. (*) (+)	**VG**	**Corolla: main color (inner side)**	**Corolle : couleur principale (face interne)**	**Blütenkrone: vorwiegende Farbe (Innenseite)**	**Corola: color principal (cara interna)**		
PQ	**(d)**	white	blanc	weiß	blanco	Biancopendulo, De flor doble blanca	1
	(e)	very light pink	rose très pale	sehr hellrosa	rosa muy claro	Cardinal	2
		light pink	rose pale	hellrosa	rosa claro	Michelini	3
		medium pink	rose moyen	mittelrosa	rosa medio	Alexia, Fuzalode	4
		dark pink	rose foncé	dunkelrosa	rosa oscuro	Flacara, Vivian	5
		violet pink	rose violacé	violettrosa	rosa violáceo	Candor	6
		red	rouge	rot	rojo	Red Flower Peach	7
11. (*) (+)	**VG**	**Petal: shape**	**Pétale : forme**	**Blütenblatt: Form**	**Pétalo: forma**		
PQ	**(d)**	narrow ovate	ovale étroit	schmal eiförmig	oval estrecho		1
	(e)	medium ovate	ovale moyen	mittel eiförmig	oval medio		2
		narrow elliptic	elliptique étroit	schmal elliptisch	elíptico estrecho		3
		medium elliptic	elliptique moyen	mittel elliptisch	elíptico medio		4
		circular	rond	rund	circular		5
12. (+)	**VG/ MS**	**Only varieties with flower type: campanulate: Petal: width**	**Seulement pour les variétés à fleurs campanulées : Pétale : largeur**	**Nur Sorten mit glockenförmigem Blütentyp: Blütenblatt: Breite**	**Sólo variedades con tipo de flor: acampanada: Pétalo: anchura**		
QN	**(d)**	very narrow	très étroit	sehr schmal	muy estrecho		1
	(e)	narrow	étroit	schmal	estrecho	Meydicte	2
		medium	moyen	mittel	medio	Bradgust	3
		broad	large	breit	ancho	Monnail	4
		very broad	très large	sehr breit	muy ancho		5

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
13. (*) (+)	**VG/ MS**	**Only varieties with flower type: rosette: Petal: width**	**Seulement pour les variétés à fleurs en rosette : Pétale : largeur**	**Nur Sorten mit rosettenförmigem Blütentyp: Blütenblatt: Breite**	**Sólo variedades con tipo de flor: roseta: Pétalo: anchura**		
QN	**(d)**	very narrow	très étroit	sehr schmal	muy estrecho	Triumph	1
	(e)	narrow	étroit	schmal	estrecho	Shasta	2
		medium	moyen	mittel	medio	Robin	3
		broad	large	breit	ancho	Michelini	4
		very broad	très large	sehr breit	muy ancho	Veteran	5
14. (*) (+)	**VG**	**Flower: number of petals**	**Fleur : nombre de pétales**	**Blütenblätter: Anzahl**	**Flor: número de pétalos**		
QL	**(d)**	five	cinq	fünf	cinco	Redhaven	1
	(e)	more than five	plus de cinq	mehr als fünf	más de cinco	Red Flower Peach, Royal Glo	2
15. (+)	**VG**	**Stamen: position compared to petals**	**Étamines : position par rapport aux pétales**	**Staubgefäße: Stellung im Verhältnis zu den Blütenblättern**	**Estambre: posición relativa a los pétalos**		
QN	**(d)**	below	au-dessous	unterhalb	por debajo	Loring	1
	(e)	same level	même niveau	gleiche Höhe	mismo nivel	Robin, Springtime	2
		above	au-dessus	oberhalb	por encima	Redhaven	3
16. (*) (+)	**VG**	**Stigma: position compared to anthers**	**Stigmate : position par rapport aux anthères**	**Narbe: Stellung im Verhältnis zu den Antheren**	**Estigma: posición relativa a las anteras**		
QN	**(d)**	below	au-dessous	unterhalb	por debajo	Vivian	1
	(e)	same level	au même niveau	auf gleicher Höhe	en el mismo nivel	Crimson Gold	2
		above	au-dessus	oberhalb	por encima	Fuzalode	3
17. (*)	**VG**	**Anthers: pollen**	**Anthères : pollen**	**Antheren: Pollen**	**Anteras: polen**		
QL	**(d)**	absent	absent	fehlend	ausente	J. H. Hale	1
	(e)	present	présent	vorhanden	presente	Redhaven	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
18. (*)	**VG**	**Ovary: pubescence**	**Ovaire : pubescence**	**Fruchtknoten: Behaarung**	**Ovario: pubescencia**		
QL		absent	absente	fehlend	ausente	Fuzalode	1
		present	présente	vorhanden	presente	Redhaven	9
19. (+)	**VG**	**Stipule: length**	**Stipule : longueur**	**Nebenblatt: Länge**	**Estípula: longitud**		
QN	**(d)**	short	court	kurz	corta	Redhaven	3
	(e)	medium	moyen	mittel	media	Robin	5
		long	long	lang	larga	Dixired	7
20. (*) (+)	**VG/ MS**	**Leaf blade: length**	**Limbe : longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
QN	**(b)**	short	court	kurz	corto	Jeronimo	3
		medium	moyen	mittel	medio	Fairhaven	5
		long	long	lang	largo	Southland	7
21. (*) (+)	**VG/ MS**	**Leaf blade: width**	**Limbe : largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
QN	**(b)**	narrow	étroit	schmal	estrecho	Redhaven	3
		medium	moyen	mittel	medio	Robin	5
		broad	large	breit	ancho	Dixired	7
22. (*) (+)	**VG/ MS**	**Leaf blade: ratio length/width**	**Limbe : rapport longueur/largeur**	**Blattspreite: Verhältnis Länge/Breite**	**Limbo: relación longitud/anchura**		
QN	**(b)**	low	petit	klein	pequeña	Mountaingold	3
		medium	moyen	mittel	media	Early Sungrand	5
		high	grand	groß	grande	Springtime, Vivian	7
23. (+)	**VG**	**Leaf blade: shape in cross section**	**Limbe : forme en section transversale**	**Blattspreite : Form im Querschnitt**	**Limbo: forma en sección transversal**		
QL	**(b)**	concave	concave	konkav	cóncavo	Merrill Gemfree	1
		flat	droite	eben	plano	Mayred	2

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
24. **(+)**	**VG**	**Leaf blade: margin**	**Limbe : bord**	**Blattspreite: Rand**	**Limbo: borde**		
PQ	**(b)**	crenate	crénelé	gekerbt	crenado	Crimson Glo	1
		shallow serrate	denté peu profond	flach gesägt	poco serrado	Fiesta Red	2
		deep serrate	profondément denté	tief gesägt	muy serrado	Bailey	3
25. **(+)**	**VG**	**Leaf blade: angle at base**	**Limbe : angle à la base**	**Blattspreite: Winkel an der Basis**	**Limbo: ángulo en la base**		
QN	**(b)**	acute	aigu	spitz	agudo	Springtime	1
		right angle	à angle droit	rechtwinklig	ángulo recto	Redhaven	2
		obtuse	obtus	stumpf	obtuso	Merrill Franciscan	3
26.	**VG**	**Leaf blade: angle at apex**	**Limbe : angle au sommet**	**Blattspreite: Winkel an der Spitze**	**Limbo: ángulo en el ápice**		
QN	**(b)**	small	petit	klein	pequeño	Red June	3
		medium	moyen	mittel	medio	Earlired	5
		large	grand	groß	grande	Merrill Franciscan	7
27.	**VG**	**Leaf blade: color**	**Limbe : couleur**	**Blattspreite: Farbe**	**Limbo: color**		
PQ	**(b)**	greenish yellow	jaune verdâtre	grünlichgelb	amarillo verdoso	Redhaven	1
		light green	vert clair	hellgrün	verde claro	Silver Fire	2
		medium green	vert moyen	mittelgrün	verde medio	Robin	3
		dark green	vert foncé	dunkelgrün	verde oscuro	Fiesta Red	4
		purplish red	rouge pourpre	purpurrot	rojo purpúreo	Garnem, Goldcrest, Rubira	5
28. **(*)** **(+)**	**VG**	**Leaf blade: red mid-vein on the lower side**	**Limbe : Nervure principale rouge face inférieure**	**Blattspreite: rote Hauptader auf der Unterseite**	**Limbo: nervio central rojo en el envés**		
QL	**(b)**	absent	absente	fehlend	ausente	Redhaven	1
		present	présente	vorhanden	presente	Sanguine Chanas	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
29. (+)	**VG/ MS**	**Petiole: length**	**Pétiole : longueur**	**Blattstiel: Länge**	**Peciolo: longitud**		
QN		short	court	kurz	corto	Redhaven	3
		medium	moyen	mittel	medio	Genadix 7	5
		long	long	lang	largo	Andross	7
30. (*) (+)	**VG**	**Petiole: nectaries**	**Pétiole : nectaires**	**Blattstiel: Nektarien**	**Peciolo: nectarios**		
QL	**(c)**	absent	absente	fehlend	ausente	Crimson Glo, Tejon	1
		present	présente	vorhanden	presente	Redhaven	9
31. (*) (+)	**VG**	**Petiole: shape of nectaries**	**Pétiole : forme des nectaires**	**Blattstiel: Form der Nektarien**	**Peciolo: forma de los nectarios**		
QL	**(c)**	round	circulaires	rund	circulares	Springtime	1
		reniform	réniformes	nierenförmig	reniformes	Redhaven	2
32. (*)	**VG**	**Fruit: size**	**Fruit : taille**	**Frucht: Größe**	**Fruto: tamaño**		
QN	**(f)**	very small	très petit	sehr klein	muy pequeño	Nectarine-Cerise	1
		small	petit	klein	pequeño	Minastar, Springtime	3
		medium	moyen	mittel	mediano	Momée, Springlady, Sunhaven	5
		large	grand	groß	grande	Loring, Zaifer, Zaitabo	7
		very large	très grand	sehr groß	muy grande	Comanche, Maillarbig	9
33. (*) (+)	**VG**	**Fruit: shape (in ventral view)**	**Fruit : forme (vue ventrale)**	**Frucht: Form (in Bauchansicht)**	**Fruto: forma (en vista ventral)**		
PQ	**(f)**	broad oblate	aplati large	breit abgeflacht	achatado ancho	Alex, Bailou, UFO3	1
		medium oblate	moyennement aplati	mittel abgeflacht	achatado medio	Herastrau, Robin	2
		circular	rond	rund	circular	Redwing	3
		broad elliptic	elliptique large	breit elliptisch	elíptico ancho	Cavalier	4
		medium elliptic	moyennement elliptique	mittel elliptisch	elíptico medio	Elberta	5

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
34. **(+)**	**VG**	**Fruit: mucron tip at pistil end**	**Fruit : mucron à l'extrémité du pistil**	**Frucht: aufgesetzte Spitze am Kelchende**	**Fruto: punta del mucrón en el extremo del pistilo**		
QL	**(f)**	absent	absent	fehlend	ausente	Robin	1
		present	présent	vorhanden	presente	Jerseyland, Springtime	9
35. **(+)**	**VG**	**Fruit: shape of pistil end (excluding mucron tip)**	**Fruit : forme de l'extrémité pistillaire (mucron exclu)**	**Frucht: Form des Kelchendes (außer aufgesetzte Spitze)**	**Fruto: forma del extremo del pistilo (la punta del mucrón excluida)**		
QN		prominently pointed	nettement pointue	deutlich zugespitzt	destacadamente puntiagudo	Jerseyland	1
		weakly pointed	faiblement pointue	schwach zugespitzt	débilmente puntiagudo	Springtime	2
		flat	plate	flach	plano	Redhaven	3
		weakly depressed	faiblement déprimée	schwach eingesenkt	débilmente hundido	Robin	4
		strongly depressed	fortement déprimée	stark eingesenkt	muy hundido	Bailou, UFO3	5
36. **(+)**	**VG**	**Fruit: symmetry (viewed from pistil end)**	**Fruit : symétrie (vue de l'extrémité pistillaire)**	**Frucht: Symmetrie (vom Kelchende aus gesehen)**	**Fruto: simetría (vista desde el extremo del pistilo)**		
QN	**(f)**	symmetric	symétrique	symmetrisch	simétrico	Redhaven	1
		moderately asymmetric	modérément asymétrique	etwas asymmetrisch	moderadamente asimétrico	Brittney Lane, Jim Dandy	2
		strongly asymmetric	fortement asymétrique	stark asymmetrisch	muy asimétrico	Precocissima Morettini	3
37.	**VG**	**Fruit: prominence of suture**	**Fruit : proéminence de la suture**	**Frucht: Ausprägung der Naht**	**Fruto: prominencia de la sutura**		
QN	**(f)**	weak	faible	gering	débil	Redhaven	3
		medium	moyenne	mittel	media	Amsden, May Flower, Précoce de Hale	5
		strong	forte	stark	fuerte	Precocissima Morettini	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
38.	**VG/ MS**	**Fruit: depth of stalk cavity**	**Fruit : profondeur de la cavité pédicellaire**	**Frucht: Tiefe der Stielhöhe**	**Fruto: profundidad de la cavidad peduncular**		
QN	**(f)**	shallow	peu profonde	flach	poco profunda	Robin	3
		medium	moyenne	mittel	media	Triumph	5
		deep	profonde	tief	profunda	Southland	7
39.	**VG/ MS**	**Fruit: width of stalk cavity**	**Fruit : largeur de la cavité pédicellaire**	**Frucht: Breite der Stielhöhe**	**Fruto: anchura de la cavidad peduncular**		
QN	**(f)**	narrow	étroite	schmal	estrecha	Redhaven	3
		medium	moyenne	mittel	media	Maygrand	5
		broad	large	breit	ancha	Robin	7
40. (*) (+)	**VG**	**Fruit: ground color of skin**	**Fruit : couleur de fond de l'épiderme**	**Frucht: Grundfarbe der Haut**	**Fruto: color de fondo de la piel**		
PQ	**(f)**	not visible	non visible	nicht sichtbar	no visible	Fiesta Red	1
		green	verte	grün	verde	Ruberrina	2
		cream green	vert crème	cremegrün	verde crema	Carman	3
		greenish white	blanc verdâtre	grünlichweiß	blanco verdoso	Morton	4
		cream white	blanc crème	cremeweiß	blanco crema	Antonia, Michelini	5
		cream	crème	cremefarben	crema	Amsden	6
		pink white	blanc rosé	rosaweiß	blanco rosado	Précoce de Hale	7
		greenish yellow	jaune verdâtre	grünlichgelb	amarillo verdoso	Veteran	8
		cream yellow	jaune crème	cremegelb	amarillo crema	Fuzalode	9
		yellow	jaune	gelb	amarillo	Sudanell	10
		orange yellow	jaune orange	orangegelb	amarillo anaranjado	Redtop, Victoria	11

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
41. (*) (+)	**VG**	**Fruit: relative area of over color of skin**	**Fruit : extension relative de la couleur du lavis**	**Frucht: Anteil der Deckfarbe der Haut**	**Fruto: extensión relativa del color de superficie de la piel**		
QN	**(f)**	absent or very small	absent ou très petit	fehlend oder sehr klein	ausente o muy pequeña	Ghiaccio 1, Veteran, Zholty	1
		small	petit	klein	pequeña	Amsden	3
		medium	moyen	mittel	mediana	Redhaven	5
		large	grand	groß	grande	Redtop	7
		very large	très grand	sehr groß	muy grande	Rich Lady, Zaitabo	9
42.	**VG**	**Fruit: hue of over color of skin**	**Fruit : teinte de la couleur du lavis de l'épiderme**	**Frucht: Ton der Deckfarbe der Haut**	**Fruto: tono del color de superficie de la piel**		
PQ	**(f)**	orange red	rouge orangé	orangerot	rojo anaranjado	Velvet	1
		pink	rosé	rosa	rosa	Genard	2
		pink red	rouge rosé	rosarot	rojo rosado	Fuzalode	3
		light red	rouge clair	hellrot	rojo claro	Redtop	4
		medium red	rouge moyen	mittelrot	rojo medio	Red Diamond	5
		dark red	rouge foncé	dunkelrot	rojo oscuro	Redwing	6
		blackish red	rouge vineux	schwärzlichrot	rojo negruzco	Monec, Monid	7
43. (+)	**VG**	**Fruit: pattern of over color of skin**	**Fruit : répartition de la couleur du lavis de l'épiderme**	**Frucht: Muster der Deckfarbe der Haut**	**Fruto: distribución del color de superficie de la piel**		
PQ	**(f)**	solid flush	en plages continues	ganzflächig	de manera puramente uniforme	Zaitabo	1
		mottled	moucheté	punktiert	jaspeado	Merrill Sundance	2
		striped	en stries	gestreift	estriado	Velvet	3
		marbled	marbré	marmoriert	marmóreo	Genadix 7	4

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
44. (*)	**VG**	**Fruit: pubescence of skin**	**Fruit : pubescence de l'épiderme**	**Frucht: Behaarung der Haut**	**Fruto: pubescencia de la piel**		
QL	**(f)**	absent	absente	fehlend	ausente	Daisy, Fantasia, Monco, Zaitabo	1
		present	présente	vorhanden	presente	Merspri, Moncav, Rich May	9
45. (*)	**VG**	**Fruit: density of pubescence of skin**	**Fruit : densité de la pilosité de l'épiderme**	**Frucht: Dichte der Behaarung der Haut**	**Fruto: densidad de la pubescencia de la piel**		
QN	**(f)**	very sparse	très faible	sehr gering	muy baja	Merrill Gemfree	1
		sparse	faible	gering	baja	Suncrest	3
		medium	moyenne	mittel	media	Dixired	5
		dense	forte	stark	densa	Erlyvee, Veteran	7
		very dense	très forte	sehr stark	muy densa	Arp Beauty, Triumph	9
46.	**VG**	**Only varieties with fruit pubescence: absent: Fruit: glossiness**	**Seulement les variétés sans pilosité : Fruit : brillance**	**Nur Sorten mit Fruchtbehaarung : fehlend: Frucht: Glanz**	**Sólo variedades con pubescencia en el fruto: ausente: Fruto: brillo**		
QN	**(f)**	absent or weak	absente ou faible	fehlend oder schwach	ausente o débil		1
		medium	moyenne	mittel	medio		2
		strong	forte	stark	fuerte		3
47. (+)	**VG**	**Only varieties with fruit pubescence: absent: Fruit: conspicuousness of lenticels**	**Seulement les variétés sans pilosité : Fruit : netteté des lenticelles**	**Nur Sorten mit Fruchtbehaarung : fehlend: Frucht: Ausprägung der Lentizellen**	**Sólo variedades con pubescencia en el fruto: ausente: Fruto: visibilidad de las lenticelas**		
QN	**(f)**	weak	faible	schwach	débil	Flavortop	1
		medium	moyenne	mittel	media	Ruby Diamond	2
		strong	forte	stark	fuerte	Zairegem	3
48.	**VG**	**Fruit: thickness of skin**	**Fruit : épaisseur de l'épiderme**	**Frucht: Dicke der Haut**	**Fruto: grosor de la piel**		
QN	**(f)**	thin	faible	dünn	fina	Fuzalode	1
		medium	moyenne	mittel	media	Mme Girerd	2
		thick	forte	dick	gruesa	Carman	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
49.	**VG**	**Fruit: adherence of skin to flesh**	**Fruit : adhérence de l'épiderme à la chair**	**Frucht: Haften der Haut am Fleisch**	**Fruto: adherencia de la piel a la pulpa**		
QN	**(f)**	very weak	très faible	sehr gering	muy débil	Mme Girerd	1
		weak	faible	gering	débil	Redhaven	3
		medium	moyenne	mittel	media	Early Sungrand	5
		strong	forte	stark	fuerte	Babygold 5	7
		very strong	très forte	sehr stark	muy fuerte	Vivian	9
50. (*)	**MS**	**Fruit: firmness of flesh**	**Fruit : fermeté de la chair**	**Frucht: Festigkeit des Fleisches**	**Fruto: firmeza de la pulpa**		
QN	**(f)**	very soft	très molle	sehr weich	muy blanda	Amsden, Morettini n°1, Springtime	1
		soft	molle	weich	blanda	Fairhaven	3
		medium	moyenne	mittel	media	Flavorcrest, Redtop	5
		firm	ferme	fest	firme	Honey Blaze, Zaitabo	7
		very firm	très ferme	sehr fest	muy firme	Babygold 6, Ghiaccio 2	9
51. (*)	**VG**	**Fruit: carotenoid coloration of flesh**	**Fruit : couleur des caroténoïdes de la chair**	**Frucht: Karotenoidfärbung des Fleisches**	**Fruto: pigmentación de los carotenoides de la pulpa**		
PQ	**(f)**	greenish white	blanc verdâtre	grünlichweiß	blanco verdoso	Charles Roux	1
		white	blanche	weiß	blanco	Caldesi 2000, Springtime	2
		cream white	blanc crème	cremeweiß	blanco crema	Michelini	3
		light yellow	jaune clair	hellgelb	amarillo claro	Armking, Spring Gold	4
		yellow	jaune	gelb	amarillo	Early Sungrand	5
		orange yellow	jaune orange	orangegelb	amarillo anaranjado	Lovell, Merrill Franciscan	6
		orange	orange	orange	naranja	Sungold	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
52. (*)	**VG**	**Fruit: anthocyanin coloration of flesh next to skin**	**Fruit : pigmentation anthocyanique sous-épidermique**	**Frucht: Anthocyanfärbung direkt unter der Haut**	**Fruto: pigmentación antociánica de la pulpa pegada a la piel**		
QL	**(f)**	absent	absente	fehlend	ausente	Springfire	1
		present	présente	vorhanden	presente	Sanguine Vineuse	9
53. (*) (+)	**VG**	**Fruit: intensity of anthocyanin coloration of flesh next to skin**	**Fruit : intensité de la pigmentation anthocyanique sous-épidermique**	**Frucht: Intensität der Anthocyanfärbung direkt unter der Haut**	**Fruto: intensidad de la pigmentación antociánica de la pulpa pegada a la piel**		
QN	**(f)**	weak	faible	schwach	débil	Daisy, Dolores, Monco	1
		medium	moyenne	mittel	media	Rich May, Zairegem, Merrill Franciscan	2
		strong	forte	stark	fuerte	Monalu, Monof, Sanguine Chanas, Sanguine Vineuse	3
54. (*)	**VG**	**Fruit: anthocyanin coloration of flesh in central part of flesh**	**Fruit : pigmentation anthocyanique de la partie centrale de la chair**	**Frucht: Anthocyanfärbung des Fleisches im mittleren Teil des Fruchtfleisches**	**Fruto: pigmentación antociánica de la parte central de la pulpa**		
QL	**(f)**	absent	absente	fehlend	ausente	Springfire	1
		present	présente	vorhanden	presente	Monof	9
55. (*) (+)	**VG**	**Fruit: intensity of anthocyanin coloration of flesh in central part of flesh**	**Fruit : intensité de la pigmentation anthocyanique de la partie centrale de la chair**	**Frucht: Intensität der Anthocyanfärbung des Fleisches im mittleren Teil des Fruchtfleisches**	**Fruto: intensidad de la pigmentación antociánica de la parte central de la pulpa**		
QN	**(f)**	weak	faible	schwach	débil	Robin	1
		medium	moyenne	mittel	media	Dolores, Monco, Suncrest	2
		strong	forte	stark	fuerte	Monof, Zairegem	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
56. (*)	**VG**	**Fruit: anthocyanin coloration of flesh around stone**	**Fruit : pigmentation anthocyanique de la chair autour du noyau**	**Frucht: Anthocyanfärbung im Bereich des Steines**	**Fruto: pigmentación antociánica de la pulpa alrededor del hueso**		
QL	**(f)**	absent	absente	fehlend	ausente	Springfire	1
		present	présente	vorhanden	presente	Summer Lady	9
57. (*) (+)	**VG**	**Fruit: intensity of anthocyanin coloration of flesh around stone**	**Fruit : intensity de la pigmentation anthocyanique de la chair autour du noyau**	**Frucht: Intensität der Anthocyanfärbung im Bereich des Steines**	**Fruto: intensidad de la pigmentación antociánica de la pulpa alrededor del hueso**		
QN	**(f)**	weak	faible	schwach	débil	Andross, Ghiaccio 1	1
		medium	moyenne	mittel	media	Ryans Sun	2
		strong	forte	stark	fuerte	Summer Lady, Zaipeo	3
58. (+)	**VG**	**Fruit: flesh fiber**	**Fruit : chair fibreuse**	**Frucht: Fleischfasern**	**Fruto: pulpa fibrosa**		
QN	**(f)**	absent or weak	absente ou faible	fehlend oder schwach	ausente o débil	Redhaven	1
		medium	moyenne	mittel	media		2
		strong	forte	stark	fuerte	Sunhigh	3
59. (+)	**MG**	**Fruit: sweetness**	**Fruit : goût sucré**	**Frucht: Süße**	**Fruto: dulzor**		
QN	**(f)**	low	faible	gering	bajo	Alexandra, Armking, Merrill Gemfree	1
		medium	moyen	mittel	medio	Dixired, Redhaven	2
		high	fort	stark	alto	Maillardoux, Philp	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
60. (*) (+)	**MG**	**Fruit: acidity**	**Fruit : acidité**	**Frucht: Säure**	**Fruto: acidez**		
QN	**(f)**	very low	très faible	sehr gering	muy baja	Monam, Moncav, Monna, Redwing, Zaibomi, Zaidaso	1
		low	faible	gering	baja	Maillarboom, Monnude, Zaifave, Zaifuro, Zairesu, Zaitabo	2
		medium	moyenne	mittel	media	Mercil, Monprime, Ryans Sun	3
		high	forte	stark	alta	Craucail, Kraprim, Nectaross, Orion, Rich May, Zailice, Zainara	4
		very high	très forte	sehr stark	muy alta	Armking, Bracid, Maycrest, Red Robin, Savana Red, Star Bright, Zaibri, Zaitop	5
61. (*) (+)	**MG**	**Stone: size in relation to fruit**	**Noyau : taille par rapport à celle du fruit**	**Stein: Größe im Verhältnis zur Frucht**	**Hueso: tamaño con respecto al fruto**		
QN	**(g)**	small	petit	klein	pequeño	Alex, Robin	3
		medium	moyen	mittel	mediano	Redhaven	5
		large	gros	groß	grande	Somervee	7
62. (*) (+)	**VG**	**Stone: shape (in lateral view)**	**Noyau : forme (vue latérale)**	**Stein: Form (in Seitenansicht)**	**Hueso: forma (en vista lateral)**		
PQ	**(g)**	oblate	aplati	abgeflacht	plano	Alex, Bailou, UFO 3	1
		circular	rond	rund	circular	Robin	2
		elliptic	elliptique	elliptisch	elíptico	Loring	3
		obovate	obovoide	verkehrt eiförmig	oboval	Rubidoux	4

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
63.	**VG**	**Stone: anthocyanin coloration**	**Noyau : pigmentation anthocyanique**	**Stein: Anthocyanfärbung**	**Hueso: pigmentación antociánica**		
QN	**(g)**	absent or very weak	absente ou très faible	fehlend oder sehr schwach	ausente o muy débil	Oom Sarel	1
		weak	faible	schwach	débil	Alpine	3
		medium	moyenne	mittel	media	Jim Dandy	5
		strong	forte	stark	fuerte	Margaret's Pride	7
		very strong	très forte	sehr stark	muy fuerte	Arctic Red	9
64. **(+)**	**VG**	**Stone: intensity of brown color**	**Noyau : intensité de la couleur brune**	**Stein: Intensität der Braunfärbung**	**Hueso: intensidad del color marrón**		
QN	**(g)**	light	claire	hell	claro	Robin	3
		medium	moyenne	mittel	medio	Alexia, Amalia, Victoria	5
		dark	foncée	dunkel	oscuro	Vivian	7
65. **(+)**	**VG**	**Stone: relief of surface**	**Noyau : relief de la surface**	**Stein: Aussehen der Oberfläche**	**Hueso: relieve de la superficie**		
PQ	**(g)**	only pits	uniquement cavités	nur Gruben	únicamente hoyos		1
		predominantly pits	le plus souvent cavités	vorherrschend Gruben	predominio de hoyos		2
		equally pits and grooves	à la fois cavités et sillons	gleichmäßig Gruben und Furchen	igualdad de hoyos y surcos		3
		predominantly grooves	le plus souvent sillons	vorherrschend Furchen	predominio de surcos		4
		only grooves	uniquement sillons	nur Furchen	únicamente surcos		5
66. **(*)**	**VG**	**Stone: adherence to flesh**	**Noyau : adhérence a la chair**	**Stein: Anhaften am Fleisch**	**Hueso: adherencia a la pulpa**		
QL	**(g)**	absent	absente	fehlend	ausente	Fairhaven, Fuzalode	1
		present	présente	vorhanden	presente	Sweet Gold, Vivian	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
67.	**VG**	**Stone: degree of adherence to flesh**	**Noyau : degré d'adhérence a la chair**	**Stein: Stärke des Anhaftens am Fleisch**	**Hueso: grado de adherencia a la pulpa**		
QN	**(g)**	weak	faible	gering	débil	Dixired	3
		medium	moyenne	mittel	media	Springcrest	5
		strong	forte	stark	fuerte	Vivian	7
68. **(+)**	**MG**	**Time of beginning of leaf bud burst**	**Époque de début de débourrement foliaire**	**Zeitpunkt des Aufbrechens der vegetativen Knospe**	**Época de comienzo de la brotación de la yema foliar**		
QN		very early	très précoce	sehr früh	muy temprana	Sunred	1
		early	précoce	früh	temprana	Springtime	3
		medium	moyenne	mittel	media	Redhaven	5
		late	tardive	spät	tardía	Genadix 7	7
		very late	très tardive	sehr spät	muy tardía	Reine des Vergers	9
69. **(*)** **(+)**	**MG**	**Time of beginning of flowering**	**Époque de début de floraison**	**Zeitpunkt des Blüh-beginns**	**Época de comienzo de la floración**		
QN		very early	très précoce	sehr früh	muy temprana	Zaibop, Zaitolio	1
		early	précoce	früh	temprana	Rich Lady, Springtime	3
		medium	moyenne	mittel	media	Monnude, Zaitabo	5
		late	tardive	spät	tardía	Maillarflat, Maillarlau	7
		very late	très tardive	sehr spät	muy tardía	Summerqueen	9

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
70. (*) (+)	**MG**	**Time of maturity**	**Époque de maturité**	**Zeitpunkt der Reife**	**Época de madurez**		
QN		very early	très précoce	sehr früh	muy temprana	Rich May, Springtime, Zaibaro	1
		very early to early	très précoce à précoce	sehr früh bis früh	de muy temprana a temprana	Zainoar, Zaitani	2
		early	précoce	früh	temprana	Antonia, Redwing, Rich Lady, Robin	3
		early to medium	précoce à moyenne	früh bis mittel	de temprana a media	Craucail, Diamond Princess	4
		medium	moyenne	mittel	media	Fairhaven, Fantasia, Summer Bright, Zee Lady	5
		medium to late	moyenne à tardive	mittel bis spät	de media a tardía	Maillarbig, Savana Red, Zaimor	6
		late	tardive	spät	tardía	Fairlane, Flacara, Veteran, Western Red, Zailati, Zairova	7
		late to very late	tardive à très tardive	spät bis sehr spät	de tardía a muy tardía	Andgold, Tardibelle	8
		very late	très tardive	sehr spät	muy tardía	Rubidoux	9
		extremely late	extrêmement tardive	extrem spät	extremadamente tardía	Calante, Jesca	10

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 should be made during winter dormancy.

(b) Observations on the leaf should be made on fully developed leaves in the central third of a current season shoot.

(c) Observations on the nectaries (glands) should be made on leaves as soon as they are fully developed.

(d) Observations on the flowering shoot and the flower should be made in the central third of the shoot.

(e) Observations on the flower should be made on fully opened flowers at the beginning of anther dehiscence.

(f) Observations on the fruit should be made on fruit that are mature for consumption (see Ad. 70).

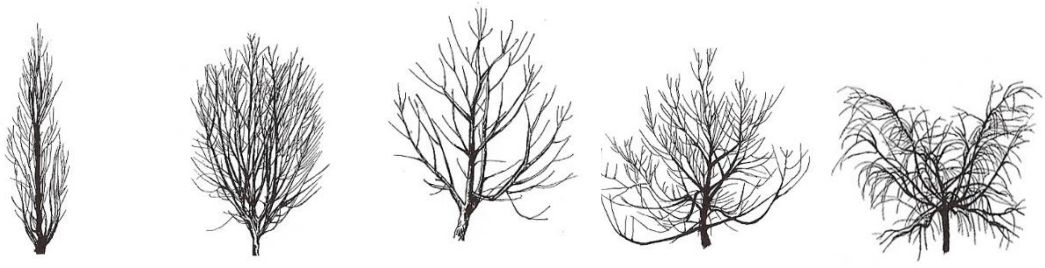
(g) Observations on the stone should be made on the dry stone after removal of the flesh.

8.2 Explanations for individual characteristics

Ad. 2: Tree: vigor

The vigor of the tree should be considered as the overall abundance of vegetative growth, during the growing period.

Ad. 3: Tree habit



1	2	3	4	5
fastigiate	upright	upright to spreading	spreading	drooping

Ad. 7: Flowering shoot : intensity of anthocyanin coloration

The intensity of anthocyanin coloration should be observed on the shaded side of the shoot.

Ad. 8: Flowering shoot: density of flower buds

The density of flower buds is determined along the length of the current year's shoot.

3
sparse

7
dense

Ad. 9: Flower: type

'Campanulate' (bell-shaped) is also referred to as 'non showy' : these types have small petals and stamens often higher than the petals.

'Rosette' (rose-shaped) is also referred to as 'showy' : these types have large petals.

1
campanulate
(non showy)

2
rosette
(showy)

Ad. 10: Corolla: main color (inner side)

The main color is the color with the largest surface area.

Ad. 11: Petal: shape

1
narrow ovate

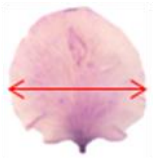
2
medium ovate

3
narrow elliptic

4
medium elliptic

5
circular

Ad. 12: Only varieties with flower type: campanulate: Petal: width
Ad. 13: Only varieties with flower type: rosette: Petal: width



Ad. 14: Flower: number of petals

1
five

2
more than five

Varieties with note 1 may have occasional flowers with more than 5 petals and varieties with note 2 may have occasional flowers with five petals.

Ad. 15: Stamen: position compared to petals

1
below

2
same level

3
above

Ad. 16: Stigma: position compared to anthers

To be observed on 5 flowers per tree.

1
below

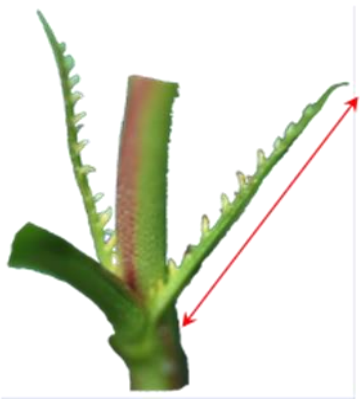
2
same level

3
above

Ad. 19: Stipule: length

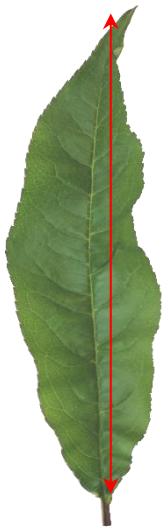
The length of stipule should be observed on a fully expanded leaf on a young shoot. The characteristic should be observed on 5 stipules per tree.

5
medium

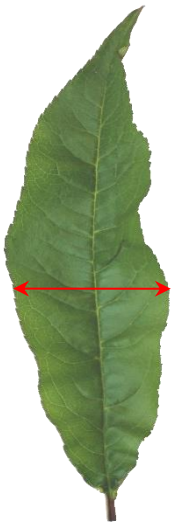


7
long

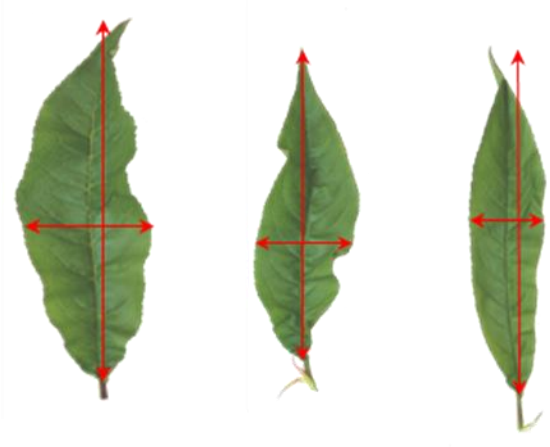
Ad. 20: Leaf blade: length



Ad. 21: Leaf blade: width

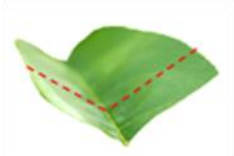


Ad. 22: Leaf blade: ratio length/width

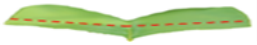


3 low | 5 medium | 7 high

Ad. 23: Leaf blade: shape in cross section



concave

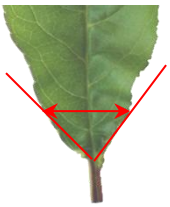


flat

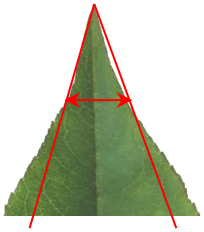
Ad. 24: Leaf blade: margin

1 crenate | 2 shallow serrate | 3 deep serrate

Ad. 25: Leaf blade: angle at base



Ad. 26: Leaf blade: angle at apex

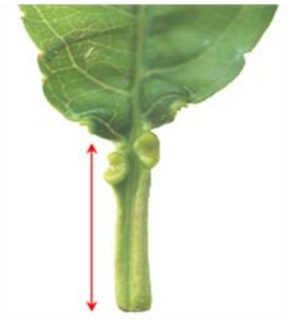


Ad. 28: Leaf blade: red mid-vein on the lower side

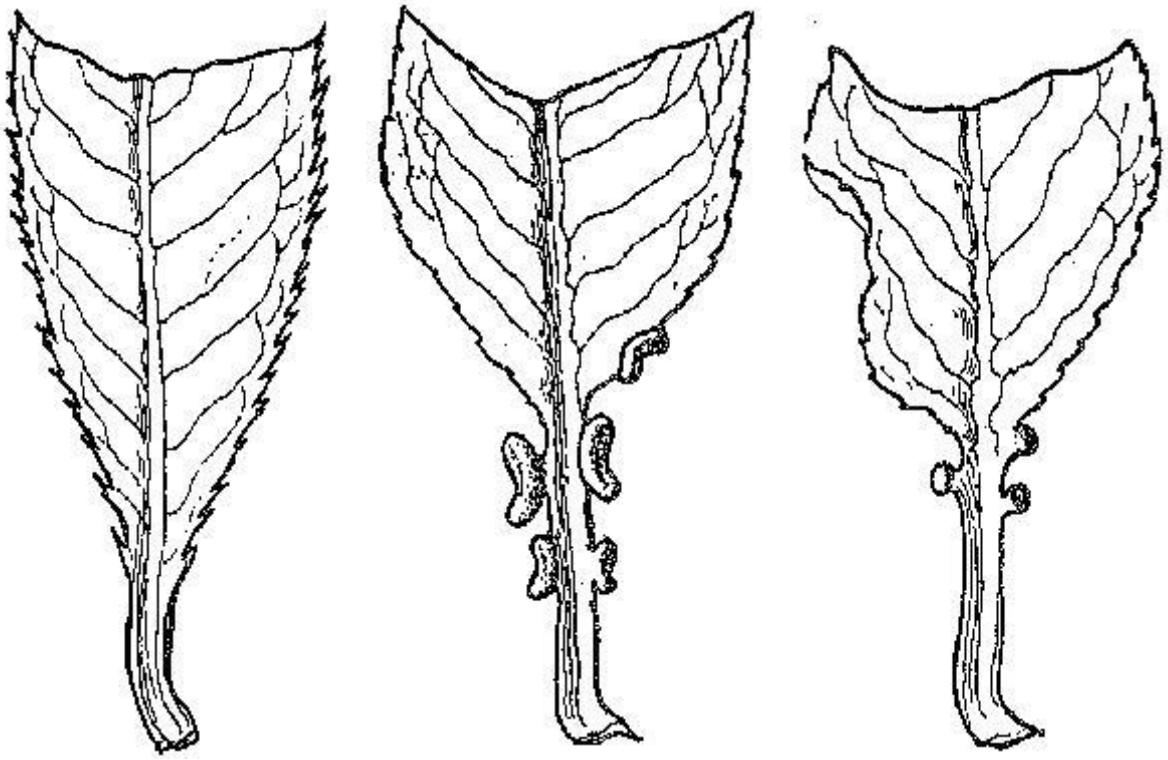
To be observed during the period of new leaf growth.

Ad. 29: Petiole: length

To be evaluated on 5 leaves per tree.



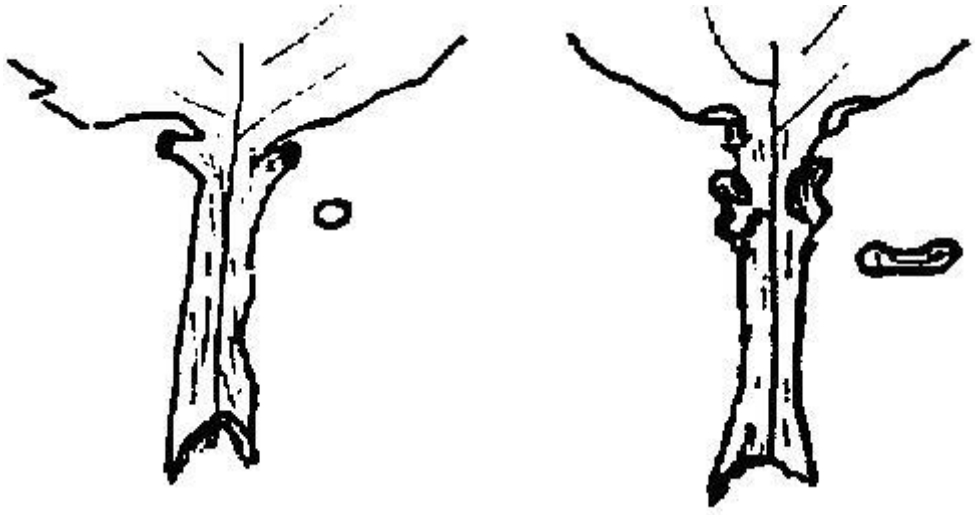
Ad. 30: Petiole: nectaries



1
absent

9
present

Ad. 31: Petiole: shape of nectaries



1
round

2
reniform

Ad. 33: Fruit: shape (in ventral view)

1	2	3	4	5
broad oblate	medium oblate	circular	broad elliptic	medium elliptic

Ad. 34: Fruit: mucron tip at pistil end

1	9
absent	present

Ad. 35: Fruit: shape of pistil end (excluding mucron tip)

1	2	3	4	5
prominently pointed	weakly pointed	flat	weakly depressed	strongly depressed

Ad. 36: Fruit: symmetry (viewed from pistil end)

1	3
symmetric	strongly asymmetric

Ad. 40: Fruit: ground color of skin

The ground color is the first color to appear chronologically during the development of the skin and upon which the over color will develop in time. It is not always necessarily the largest area of the skin.

Ad. 41: Fruit: relative area of over color of skin

1
absent or very small

3
small

5
medium

7
large

Ad. 43: Fruit: pattern of over color of skin

1
solid flush

2
mottled

3
striped

4
marbled

Ad. 47: Only varieties with fruit pubescence: absent: Fruit: conspicuousness of lenticels

1
weak

2
medium

3
strong

The conspicuousness of lenticels is determined by the size and the color contrast.

Ad. 53: Fruit: intensity of anthocyanin coloration of flesh next to skin

1
weak

2
medium

3
strong

Ad. 55: Fruit: intensity of anthocyanin coloration of flesh in central part of flesh

1
weak

2
medium

3
strong

Ad. 57: Fruit: intensity of anthocyanin coloration of flesh around stone

1
weak

2
medium

3
strong

Ad. 58: Fruit: flesh fiber

The flesh fiber is evaluated by biting into the flesh to determine the amount of fiber.

Ad. 59: Fruit: sweetness

The sweetness of the fruit should be observed in degrees Brix.

Ad. 60: Fruit: acidity

The acidity of the fruit should be observed as the titrable acidity in meq 100/ml.

Ad. 61: Stone: size in relation to fruit

3
small

5
medium

7
large

Ad. 62: Stone: shape (in lateral view)

1
oblate

2
circular

3
elliptic

4
obovate

Ad. 64: Stone: intensity of brown color

To be observed on fresh stones.

3
light

5
medium

7
dark

Ad. 65: Stone: relief of surface

pits

grooves

pits and grooves

Ad. 68: Time of beginning of leaf bud burst

The time of the beginning of leaf bud burst should be observed as the appearance of first leaves on all trees.

Ad. 69: Time of beginning of flowering

The time of beginning of flowering is when all trees have 10% open flowers.

Ad. 70: Time of maturity

The time of maturity is when the overall appearance, firmness and taste indicate that the fruit is ready for consumption.

9. Literature

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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

1.1.1 Botanical name	*Prunus persica* (L.) Batsch var. *persica*	
1.1.2 Common name	Peach	[…]
1.2.1 Botanical name	*Prunus persica* (L.) Batsch var. *nucipersica* (Suckow) C. K. Schneid.	
1.2.2 Common name	Nectarine	[…]

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)
(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) budding or grafting [ ]

(b) *in vitro* 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:

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: size**		
	very small	Bonanza, Bonfire, Pix Zee, Zaino	1[ ]
	very small to small		2[ ]
	small	Richaven	3[ ]
	small to medium		4[ ]
	medium	Robin	5[ ]
	medium to large		6[ ]
	large	Redhaven	7[ ]
	large to very large		8[ ]
	very large	Champion	9[ ]
5.2 (2)	**Tree: vigor**		
	very weak		1[ ]
	very weak to weak		2[ ]
	weak	J. H. Hale	3[ ]
	weak to medium		4[ ]
	medium	Robin	5[ ]
	medium to strong		6[ ]
	strong	Springtime	7[ ]
	strong to very strong		8[ ]
	very strong		9[ ]

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

	Characteristics	Example Varieties	Note
5.3 (3)	**Tree: habit**		
	fastigiate	Nectarose, Pillar	1[ ]
	upright	Fairhaven, Redwing	2[ ]
	upright to spreading	Albertina, Elegant Lady, Mercil	3[ ]
	spreading	Charles Roux	4[ ]
	drooping	Biancopendulo	5[ ]
5.4 (9)	**Flower: type**		
	campanulate	Dida, Springtime	1[ ]
	rosette	Robin, Vesuvio	2[ ]
5.5 (12)	**<u>Only varieties with flower type: campanulate</u>: Petal: width**		
	very narrow		1[ ]
	narrow	Meydicte	2[ ]
	medium	Bradgust	3[ ]
	broad	Monnail	4[ ]
	very broad		5[ ]
5.6 (13)	**<u>Only varieties with flower type: rosette</u>: Petal: width**		
	very narrow	Triumph	1[ ]
	narrow	Shasta	2[ ]
	medium	Robin	3[ ]
	broad	Michelini	4[ ]
	very broad	Veteran	5[ ]
5.7 (17)	**Anthers: pollen**		
	absent	J. H. Hale	1[ ]
	present	Redhaven	9[ ]

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

	Characteristics	Example Varieties	Note
5.8 (20)	**Leaf blade: length**		
	very short		1[ ]
	very short to short		2[ ]
	short	Jeronimo	3[ ]
	short to medium		4[ ]
	medium	Fairhaven	5[ ]
	medium to long		6[ ]
	long	Southland	7[ ]
	long to very long		8[ ]
	very long		9[ ]
5.9 (28)	**Leaf blade: red mid-vein on the lower side**		
	absent	Redhaven	1[ ]
	present	Sanguine Chanas	9[ ]
5.10 (30)	**Petiole: nectaries**		
	absent	Crimson Glo, Tejon	1[ ]
	present	Redhaven	9[ ]
5.11 (31)	**Petiole: shape of nectaries**		
	round	Springtime	1[ ]
	reniform	Redhaven	2[ ]

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

	Characteristics	Example Varieties	Note
5.12 (32)	**Fruit: size**		
	very small	Nectarine-Cerise	1[ ]
	very small to small		2[ ]
	small	Minastar, Springtime	3[ ]
	small to medium		4[ ]
	medium	Momée, Springlady, Sunhaven	5[ ]
	medium to large		6[ ]
	large	Loring, Zaifer, Zaitabo	7[ ]
	large to very large		8[ ]
	very large	Comanche, Maillarbig	9[ ]
5.13 (33)	**Fruit: shape (in ventral view)**		
	broad oblate	Alex, Bailou, UFO3	1[ ]
	medium oblate	Herastrau, Robin	2[ ]
	circular	Redwing	3[ ]
	broad elliptic	Cavalier	4[ ]
	medium elliptic	Elberta	5[ ]

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

	Characteristics	Example Varieties	Note
5.14 (40)	**Fruit: ground color of skin**		
	not visible	Fiesta Red	1[ ]
	green	Ruberrina	2[ ]
	cream green	Carman	3[ ]
	greenish white	Morton	4[ ]
	cream white	Antonia, Michelini	5[ ]
	cream	Amsden	6[ ]
	pink white	Précoce de Hale	7[ ]
	greenish yellow	Veteran	8[ ]
	cream yellow	Fuzalode	9[ ]
	yellow	Sudanell	10[ ]
	orange yellow	Redtop, Victoria	11[ ]
5.15 (44)	**Fruit: pubescence of skin**		
	absent	Daisy, Fantasia, Monco, Zaitabo	1[ ]
	present	Merspri, Moncav, Rich May	9[ ]
5.16 (49)	**Fruit: adherence of skin to flesh**		
	very weak	Mme Girerd	1[ ]
	very weak to weak		2[ ]
	weak	Redhaven	3[ ]
	weak to medium		4[ ]
	medium	Early Sungrand	5[ ]
	medium to strong		6[ ]
	strong	Babygold 5	7[ ]
	strong to very strong		8[ ]
	very strong	Vivian	9[ ]

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

	Characteristics	Example Varieties	Note
5.17 (50)	**Fruit: firmness of flesh**		
	very soft	Amsden, Morettini n°1, Springtime	1[ ]
	very soft to soft		2[ ]
	soft	Fairhaven	3[ ]
	soft to medium		4[ ]
	medium	Flavorcrest, Redtop	5[ ]
	medium to firm		6[ ]
	firm	Honey Blaze, Zaitabo	7[ ]
	firm to very firm		8[ ]
	very firm	Babygold 6, Ghiaccio 2	9[ ]
5.18 (51)	**Fruit: carotenoid coloration of flesh**		
	greenish white	Charles Roux	1[ ]
	white	Caldesi 2000, Springtime	2[ ]
	cream white	Michelini	3[ ]
	light yellow	Armking, Spring Gold	4[ ]
	yellow	Early Sungrand	5[ ]
	orange yellow	Lovell, Merrill Franciscan	6[ ]
	orange	Sungold	7[ ]
5.19 (58)	**Fruit: flesh fiber**		
	absent or weak	Redhaven	1[ ]
	medium		2[ ]
	strong	Sunhigh	3[ ]

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

	Characteristics	Example Varieties	Note
5.20 (60)	**Fruit: acidity**		
	very low	Monam, Moncav, Monna, Redwing, Zaibomi, Zaidaso	1[ ]
	low	Maillarboom, Monnude, Zaifave, Zaifuro, Zairesu, Zaitabo	2[ ]
	medium	Mercil, Monprime, Ryans Sun	3[ ]
	high	Craucail, Kraprim, Nectaross, Orion, Rich May, Zailice, Zainara	4[ ]
	very high	Armking, Bracid, Maycrest, Red Robin, Savana Red, Star Bright, Zaibri, Zaitop	5[ ]
5.21 (61)	**Stone: size in relation to fruit**		
	very small		1[ ]
	very small to small		2[ ]
	small	Alex, Robin	3[ ]
	small to medium		4[ ]
	medium	Redhaven	5[ ]
	medium to large		6[ ]
	large	Somervee	7[ ]
	large to very large		8[ ]
	very large		9[ ]
5.22 (66)	**Stone: adherence to flesh**		
	absent	Fairhaven, Fuzalode	1[ ]
	present	Sweet Gold, Vivian	9[ ]

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

	Characteristics	Example Varieties	Note
5.23 (68)	**Time of beginning of leaf bud burst**		
	very early	Sunred	1[ ]
	very early to early		2[ ]
	early	Springtime	3[ ]
	early to medium		4[ ]
	medium	Redhaven	5[ ]
	medium to late		6[ ]
	late	Genadix 7	7[ ]
	late to very late		8[ ]
	very late	Reine des Vergers	9[ ]
5.24 (69)	**Time of beginning of flowering**		
	very early	Zaibop, Zaitolio	1[ ]
	very early to early		2[ ]
	early	Rich Lady, Springtime	3[ ]
	early to medium		4[ ]
	medium	Monnude, Zaitabo	5[ ]
	medium to late		6[ ]
	late	Maillarflat, Maillarlau	7[ ]
	late to very late		8[ ]
	very late	Summerqueen	9[ ]

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

	Characteristics	Example Varieties	Note
5.25 (70)	**Time of maturity**		
	very early	Rich May, Springtime, Zaibaro	1[ ]
	very early to early	Zainoar, Zaitani	2[ ]
	early	Antonia, Redwing, Rich Lady, Robin	3[ ]
	early to medium	Craucail, Diamond Princess	4[ ]
	medium	Fairhaven, Fantasia, Summer Bright, Zee Lady	5[ ]
	medium to late	Maillarbig, Savana red, Zaimor	6[ ]
	late	Fairlane, Flacara, Veteran, Western Red, Zailati, Zairova	7[ ]
	late to very late	Andgold, Tardibelle	8[ ]
	very late	Rubidoux	9[ ]
	extremely late	Calante, Jesca	10[ ]

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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
Example	*Corolla: main color (inner side)*	*white*	*very light pink*

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

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

7.3.2 Pollinator

Good pollinators are the following varieties

.....

7.3.3 Explanations for the characteristic “Fruit: flesh type”

Fruits with melting flesh correspond to fruits used for fresh consumption.
Fruits with non-melting flesh correspond to fruits used for canning. The flesh is harder and elastic (clingstones/pavies).

The table below illustrates the principle in greater detail

type \ activity	ethylene	polygalacturonase		explanation	candiate variety (please indicate)
		endo-type	exo-type		
melting	present	present	present	Activity both ethylene and polygalacturonase exists in the flesh. Therefore flesh begins melting quickly after harvest.	[ ]
non-melting	present	present	absent	Activity of exo-type polygalacturonase is absent in the flesh. Therefore melting speed of flesh is very slow.	[ ]
stony hard	absent	absent	absent	Activity both ethylene and polygalacturonase are absent in the flesh. Therefore flesh does not begin to melt. Ex. varieties: Odoroki, Yumyeong	[ ]

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

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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.

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".

……

9.3 Virus status

The variety is

(i) virus free [ ]
(indicate viruses)

.....

(ii) virus tested [ ]
(indicate against which virus)

.....

(iii) The virus status is unknown [ ]

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]