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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

ALMOND

UPOV Code: PRUNU_DUL

*Prunus dulcis (*Mill.) D.A.Webb

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from South Africa

to be considered by

the Enlarged Editorial Committee at its meeting
to be held in Geneva, Switzerland, on January 6, 2011

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
*Prunus dulcis (*Mill.) D.A.Webb *Prunus amygdalus* (L.)	Almond	Amandier	Mandel	Almendro

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

ASSOCIATED DOCUMENTS

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

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

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Prunus dulcis* (Mill.) D.A. Webb.

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 budsticks.

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

- 5 budsticks with sufficient buds to propagate 5 trees (to be sent at budding time) or
- 5 dormant shoots for grafting, sufficient to propagate 5 trees (to be sent at grafting time); or
- 5 one-year-old trees grafted on a rootstock selected by the testing authority.

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

3.1.2 The growing cycle is considered to be the duration of a single growing season, beginning with bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period ends with the swelling of new seasons buds.

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

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.

3.4 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, all observations for the purposes of distinctness should be made on 5 plants or parts taken from each of 5 plants, disregarding any off-type plants. In the case of observations of parts of 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 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 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: distribution of flower buds (characteristic 8)
(b) Fruit: size (characteristic 27)
(c) Stone: resistance to cracking (characteristic 37)
(d) Time of beginning of flowering (characteristic 43)
(d) Time of harvest (characteristic 44)

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

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)-{d} See Explanations on the Table of Characteristics in Chapter 8.1
(+) See Explanations on the Table of Characteristics in Chapter 8.

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: vigor**	**Arbre : vigueur**	**Baum: Wuchsform**	**Árbol: vigor**		
QN		weak	faible	gering	débil	Marcona.Tuono, Uhm L Fahem	3
		medium	moyenne	mittel	mediano	Nonpareil	5
		strong	forte	stark	fuerte	Barte, Flour en bas, Peerless	7
2. **(*)** **(+)**	**VG**	**Tree: habit**	**Arbre : port**	**Baum: Wuchsform**	**Árbol: porte**		
PQ		upright	dressé	aufrecht	erguido	Fournat de Brezenaud	1
		upright to spreading	dressé à divergent	aufrecht bis breitwüchsig	erguido a extendido	Ferragnes	2
		spreading	divergent	breitwüchsig	extendido	Nec Plus Ultra	3
		drooping	retombant	überhängend	colgante	Primorskii, Uhm L Fahem	4
3. **(*)**	**VG**	**Tree: texture of bark**	**Arbre : texture de l'écorce**	**Baum: Beschaffenheit der Rinde**	**Árbol: textura de la corteza**		
QN		smooth	lisse	glatt	lisa	Barte, Volcani 5	1
		moderately cracked	peu craquelée	mäßig rissig	moderadamente agrietada		2
		strongly cracked	très craquelée	stark rissig	fuertemente agrietada	Ferragnes	3
4.	**VG**	**One-year-old shoot: thickness**	**Rameau d'un an : épaisseur**	**Einjähriger Trieb: Dicke**	**Rama de un año: grosor**		
QN		thin	fin	dünn	delgada	Ai	3
		medium	moyen	mittel	mediana	Nonpareil	5
		thick	épais	dick	gruesa	Texas, Primorski	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5. (*) (+)	**VG**	**One-year-old shoot: anthocyanin coloration**	**Rameau d'un an : pigmentation anthocyanique**	**Einjähriger Trieb: Anthocyanfärbung**	**Rama de un año: pigmentación antociánica**		
QN	**(a)**	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil		1
		weak	faible	gering	débil	Desmayo Largueta	3
		medium	moyenne	mittel	mediana	Barte, Nonpareil	5
		strong	forte	stark	fuerte	Marcona, Ferragnes, Texas	7
6. (*) (+)	**VG**	**Shoot: feathering**	**Rameau : anticipés**	**Trieb: Seitentriebbildung**	**Rama: brotes laterales**		
QN		absent or very weak	absents ou très peu nombreux	fehlend oder sehr gering	ausentes o muy débiles	Barte	1
		weak	peu nombreux	gering	débiles	Texas	2
		medium	moyennement nombreux	mittel	medianos	Desmayo Larguerta	3
		strong	nombreux	stark	fuertes	Marcona	4
		very strong	très nombreux	sehr stark	muy fuertes	Ai	5
7.	**VG**	**Tree: density of foliage**	**Arbre : densité du feuillage**	**Baum: Dichte des Laubs**	**Árbol: densidad del follaje**		
QN		sparse	faible	locker	ralo	Fournat de Brezenaud	3
		medium	moyenne	mittel	mediano	Nonpareil	5
		dense	forte	dicht	denso	Peerless	7
8. (*)	**VG**	**Tree: distribution of flower buds**	**Arbre : répartition des boutons floraux**	**Baum: Verteilung der Blütenknospen**	**Árbol: distribución de los botones florales**		
QN		predominantly on spurs	le plus souvent sur bouquets de mai	vorwiegend an Kurztrieben	predominantemente en ramilletes de mayo	Cristomorto	1
		equally on spurs and one year old shoots	autant sur bouquets de mai que sur rameaux d'un an	gleichermaßen an Kurztrieben und an einjährigen Trieben	en ramilletes de mayo y en ramas de un año por igual	Ferragnes	2
		predominantly on one year old shoots	le plus souvent sur rameaux d'un an	vorwiegend an einjährigen Trieben	principalmente en ramas de un año	Nonpareil	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. (*)	**MS/ MG**	**Leaf blade: length**	**Limbe : longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
QN	**(a)**	short	court	kurz	corto	Ai	3
		medium	moyen	mittel	mediano	Primorskii	5
		long	long	lang	largo	Barte	7
10. (*)	**MS/ MG**	**Leaf blade: width**	**Limbe : largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
QN	**(a)**	narrow	étroit	schmal	estrecho	Ai	3
		medium	moyen	mittel	mediano	Nec Plus Ultra	5
		broad	large	breit	ancho	Barte	7
11. (*)	**MS**	**Leaf : ratio length/width**	**Feuille : rapport longueur/largeur**	**Blatt: Verhältnis Länge/Breite**	**Hoja: relación longitud/anchura**		
QN	**(a)**	slightly elongated	légèrement allongé	leicht langgezogen	ligeramente alargado	Volcani 5	3
		moderately elongated	modérément allongé	mäßig langgezogen	moderadamente alargado	Nec Plus Ultra, Texas	5
		very elongated	très allongé	stark langgezogen	muy alargado	Nonpareil	7
12. (*)	**VG**	**Leaf blade: intensity of green color**	**Limbe : intensité de la couleur verte**	**Blattspreite: Intensität der Grünfärbung**	**Limbo: intensidad del color verde**		
QN	**(a)**	light	claire	hell	claro	Barte	3
		medium	moyenne	mittel	mediano	Nonpareil	5
		dark	foncée	dunkel	oscuro	Texas	7
13. (*) (+)	**VG**	**Leaf blade: incisions of margin**	**Limbe : incisions du bord**	**Blattspreite: Randeinschnitte**	**Limbo: incisiones del borde**		
QL	**(a)**	serrate	dentelé	gesägt	serrado		1
		crenate	crénelé	gekerbt	crenado	Texas	2
14. (*)	**MS/ VG**	**Petiole: length**	**Pétiole : longueur**	**Stiel: Länge**	**Peciolo: longitud**		
QN	**(a)**	short	court	kurz	corto	Ferragnes	3
		medium	moyen	mittel	mediano	Primorskii	5
		long	long	lang	largo	Peerless	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15. (*) (+)	**VG**	**Flower bud: shape**	**Bouton floral : forme**	**Blütenknospe: Form**	**Botón floral: forma**		
PQ	**(a)**	triangular	triangulaire	dreieckig	triangular	Ai	1
		ovate	ovale	eiförmig	oval	Desmayo Largueta	2
		circular	circulaire	kreisförmig	circular	Cristomorto	3
16. (*) (+)	**VG**	**Flower bud: color of tip of petals**	**Bouton floral : couleurs de l'extrémité des pétales**	**Blütenknospe: Farbe der Spitze der Kronblätter**	**Botón floral: color de la punta de los pétalos**		
PQ	**(a)**	white	blanche	weiß	blanco	Ardechoise	1
		pink	rose	rosa	rosa	Barte, Marcona	2
		red	rouge	rot	rojo	Ai, Trell	3
17. (*)	**VG**	**Flower bud: color of sepals**	**Bouton floral : couleur des sépales**	**Blütenknospe: Farbe der Kelchblätter**	**Botón floral: color de los sépalos**		
PQ	**(a)**	green	vert	grün	verde	Cristomorto	1
		brown	brun	braun	marrón	Tuono	2
		red	rouge	rot	rojo	Desmayo Largueta	3
18.	**VG**	**Flower bud: pubescence of sepals**	**Bouton floral : pilosité des sépales**	**Blütenknospe: Behaarung der Kelchblätter**	**Botón floral: pubescencia de los sépalos**		
QN	**(a)**	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Marcona	1
		weak	faible	gering	débil	Ardechoise	2
		medium	moyenne	mittel	mediana	Barte	3
		strong	forte	stark	fuerte		4
		very strong	très forte	sehr stark	muy fuerte		5
19. (*).	**MS/ VG**	**Flower: diameter**	**Fleur : diamètre**	**Blüte: Durchmesser**	**Flor: diámetro**		
QN	**(b)**	small	petit	klein	pequeña	Uhm L Fahem	3
		medium	moyen	mittel	mediana	Peerless	5
		large	grand	groß	grande	Nec Plus Ultra	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
20. **(*)** **(+)**	**VG**	**Petal: shape**	**Pétale : forme**	**Blütenblatt: Form**	**Pétalo: forma**		
PQ	**(b)**	narrow elliptic	elliptique étroite	schmal elliptisch	elíptica estrecha	Volcani 5	1
		medium elliptic	elliptique moyenne	mittel elliptisch	elíptica mediana	Butte	2
		circular	circulaire	kreisförmig	circular	Texas Mission	3
		rhombic	rhombique	rautenförmig	rómbica	Uhm L Fahem	4
21. **(*)**	**VG**	**Petal: color of inner side**	**Pétale : couleur de la face interne**	**Blütenblatt: Farbe der Innenseite**	**Pétalo: color de la cara interna**		
PQ	**(b)**	white	blanc	weiß	blanco	Barte	1
		light pink	rose clair	hellrosa	rosa claro	Ai	2
		medium pink	rose moyen	mittelrosa	rosa mediano	Marcona	3
		dark pink	rose foncé	dunkelrosa	rosa oscuro	Trell	4
22. **(+)**	**VG**	**Petal: undulation of margin**	**Pétale : ondulation du bord**	**Blütenblatt: Randwellung**	**Pétalo: ondulación del borde**		
QN	**(b)**	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Carmel	1
		weak	faible	gering	débil	Butte	2
		medium	moyenne	mittel	mediana	Nec Plus Ultra	3
		strong	forte	stark	fuerte	Texas Mission	4
		very strong	très forte	sehr stark	muy fuerte		5
23.	**VG**	**Flower: number of stamens**	**Fleur : nombre d'étamines**	**Blüte: Anzahl derStaubgefäße**	**Flor: número de estambres**		
QN		few	faible	gering	bajo	Cristomorto	1
		medium	moyen	mittel	mediano	Ai	2
		many	élevé	hoch	alto	Barte	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. (*)	**VG**	**Stamen: anthocyanin coloration of filament**	**Étamine : pigmentation anthocyanique du filament**	**Staubgefäß: Anthcyanfärbung der Fäden**	**Estambre: pigmentación antociánica del filamento**		
QN	**(b)**	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Price	1
		moderate	moyenne	mäßig	moderada	Nonpareil	2
		strong	forte	stark	fuerte	Texan Mission	3
25. (*)	**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)**	below	en dessous	unterhalb	por debajo	Drake	1
		same level	au même niveau	auf gleicher Höhe	al mismo nivel	Nec Plus Ultra	2
		above	au-dessus	oberhalb	por encima	Desmayo Largueta	3
26.	**VG**	**Stigma: size**	**Stigmate : taille**	**Narbe: Größe**	**Estigma: tamaño**		
QN	**(b)**	small	petit	klein	pequeño	Desmayo Largueta	1
		medium	moyen	mittel	mediano		2
		large	grand	groß	grande	Ai	3
27. (*)	**VG**	**Fruit: size**	**Fruit : taille**	**Frucht: Größe**	**Fruto: tamaño**		
QN	**(c)**	very small	très petit	sehr klein	muy pequeño		1
		small	petit	klein	pequeño	Texas	3
		medium	moyen	mittel	mediano	Nonpareil	5
		large	grand	groß	grande	Ardechoise	7
		very large	très grand	sehr groß	muy grande	Barte	9
28. (*) (+)	**VG**	**Fruit: shape (in lateral view)**	**Fruit : forme (en vue latérale)**	**Frucht: Form (in Seitenansicht)**	**Fruto: forma (en vista lateral)**		
PQ	**(c)**	ovate	ovale	eiförmig	oval	Marcona	1
		elliptic	elliptique	elliptisch	elíptico	Ai	2
		circular	circulaire	kreisförmig	circular	Nec Plus Ultra	3
		obovate	obovale	verkehrt eiförmig	oboval	Ardechoise	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29. (*) (+)	**VG**	**Fruit: shape of apex**	**Fruit : forme du sommet**	**Frucht: Form der Spitze**	**Fruto: forma del ápice**		
PQ	**(c)**	acute	aiguë	spitz	agudo	Carmel	1
		obtuse	obtuse	stumpf	obtuso	Price	2
		rounded	arrondie	abgerunded	redondeado	Texas Mission	3
30. (*)	**VG**	**Fruit: pubescence**	**Fruit : pilosité**	**Frucht: Behaarung**	**Fruto: pubescencia**		
QN	**(c)**	sparse	faible	locker	escasa		1
		medium	moyenne	mittel	mediana	Desmayo Largueta	2
		dense	forte	dicht	densa	Ferraduel	3
31. (*)	**MS/ VG**	**Stone: length**	**Noyau : longueur**	**Kern: Länge**	**Hueso: longitud**		
QN	**(d)**	short	courte	kurz	corto	Texas Mission	3
		medium	moyenne	mittel	mediano	Nec Plus Ultra	5
		long	longue	lang	largo	Peerless	7
32. (*)	**MS/ VG**	**Stone: width (in lateral view)**	**Noyau : largeur (en vue latérale)**	**Stein: Breite (in Seitenansicht)**	**Hueso: anchura (en vista lateral)**		
QN	**(d)**	narrow	étroite	schmal	estrecho	Price	3
		medium	moyenne	mittel	mediano	Nec Plus Ultra	5
		broad	large	breit	ancho	Peerless	7
33. (*)	**MG**	**Stone: length/width in lateral view ratio**	**Noyau : rapport longueur/largeur en vue latérale**	**Stein: Verhältnis Länge/Breite in Seitenansicht**	**Hueso: relación longitud/anchura en vista lateral**		
QN	**(d)**	compressed	comprimé	zusammengedrückt	comprimido		1
		medium	moyen	mittel	mediano		2
		elongated	allongé	langgezogen	alargado		3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
34. (*) (+)	**VG**	**Stone: shape (in lateral view)**	**Noyau : forme (en vue latérale)**	**Stein: Form (in Seitenansicht)**	**Hueso: forma (en vista lateral)**		
PQ	**(d)**	ovate	ovale	eiförmig	oval	Montrone, Marcona	1
		elliptic	elliptique	elliptisch	elíptica	Catuccia	2
		circular	circulaire	kreisförmig	circular	Nonpareil	3
		obovate	obovale	verkehrt eiförmig	oboval	Nec Plus Ultra	4
35. (+)	**VG**	**Stone: shape of apex**	**Noyau : forme du sommet**	**Stein: Form der Spitze**	**Hueso: forma del ápice**		
PQ	**(d)**	acute	aiguë	spitz	agudo		1
		obtuse	obtuse	stumpf	obtuso		2
		rounded	arrondie	abgerunded	redondeado		3
36. (*)	**VG**	**Stone: thickness of endocarp**	**Noyau : épaisseur de l'endocarpe**	**Stein: Dicke des Endokarps**	**Hueso: grosor del endocarpio**		
QN	**(d)**	thin	fin	dünn	delgado	Nonpareil	1
		medium	moyen	mittel	mediano	Ferragnes	2
		thick	épais	dick	grueso	Barte	3
37. (*) (+)	**VG**	**Stone: resistance to cracking**	**Noyau : résistance à la fissuration**	**Stein: Härte beim Knacken**	**Hueso: resistencia a la quebradura**		
QN	**(d)**	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Nonpareil	1
		weak	faible	gering	débil	Princess	3
		medium	moyenne	mittel	mediana	Texas	5
		strong	forte	stark	fuerte	Desmayo Largueta	7
		very strong	très forte	sehr stark	muy fuerte	Barte	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38. (*) (+)	**VG**	**Stone: keel development**	**Noyau : développement de la carène**	**Stein: Ausprägung des Kiels**	**Hueso: desarrollo de la quilla**		
QN	**(d)**	weak	faible	gering	débil	Marcona, Peerless	3
		medium	moyen	mittel	mediano	Nec Plus Ultra	5
		strong	fort	stark	fuerte	Nonpareil	7
39. (*)	**VG**	**Kernel: size**	**Amande : taille**	**Kern: Größe**	**Almendra: tamaño**		
QN		very small	très petite	sehr klein	muy pequeña	Kapareil	1
		small	petite	klein	pequeña	Texas	3
		medium	moyenne	mittel	mediana	Nonpareil	5
		large	grande	groß	grande	Ferragnes	7
		very large	très grande	sehr groß	muy grande	Barte	9
40. (*) (+)	**VG**	**Kernel: intensity of brown color**	**Amande : intensité de la couleur brune**	**Kern: Intensität der Braunfärbung**	**Almendra: intensidad del color marrón**		
QN		light	claire	hell	claro	Nonpareil	1
		medium	moyenne	mittel	mediano		2
		dark	foncée	dunkel	oscuro		3
41. (*)		**Kernel: rugosity of surface**	**Amande : rugosité de la surface**	**Kern: Rauheit der Oberfläche**	**Almendra: rugosidad de la superficie**		
QN		weak	faible	gering	débil	Texas Mission	1
		medium	moyenne	mittel	mediana	Uhm L Fahem	3
		strong	forte	stark	fuerte	Carmel	5
42. (*)	**VG**	**Time of leaf bud burst in relation to beginning of flowering**	**Époque du débourrement foliaire par rapport à l'époque du début de floraison**	**Zeitpunkt des Blattkonspen-aufbruchs im Vergleich zum Blühbeginn**	**Época de comienzo de la aparición de la yema foliar en relación con el comienzo de la floración**		
QN		earlier	plus précoce	früher	más temprana	Cavaliera	1
		same	identique	gleichzeitig	la misma	Ferragnes	2
		later	plus tardive	später	más tardía	Texas	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
43. (*) (+)	**MG**	**Time of beginning of flowering**	**Époque du début de floraison**	**Zeitpunkt des Blühbeginns**	**Epoca de comienzo de la floración**		
QN		very early	très précoce	sehr früh	muy temprana	Uhm L Fahem	1
		early	précoce	früh	temprana		3
		medium	moyenne	mittel	mediana	Nec Plus Ultra	5
		late	tardive	spät	tardía		7
		very late	très tardive	sehr spät	muy tardía	Peerless	9
44. (*) (+)	**VG**	**Time of harvest**	**Époque de maturité**	**Zeitpunkt der Ernte**	**Época de la cosecha**		
QN		very early	très précoce	sehr früh	muy temprana	Cavaliera, Uhm L Fahem	1
		early	précoce	früh	temprana	Nec Plus Ultra	3
		medium	moyenne	mittel	mediana	Ferragnes	5
		late	tardive	spät	tardía	Marcona	7
		very late	très tardive	sehr spät	muy tardía	Texas	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 should be made at the central third of the shoot. The observations on the leaves should be made on mature leaves from current season's shoots.

(b) Observations should be made at the time of full flowering.

(c) Observations should be made approximately 3 months after full flowering.

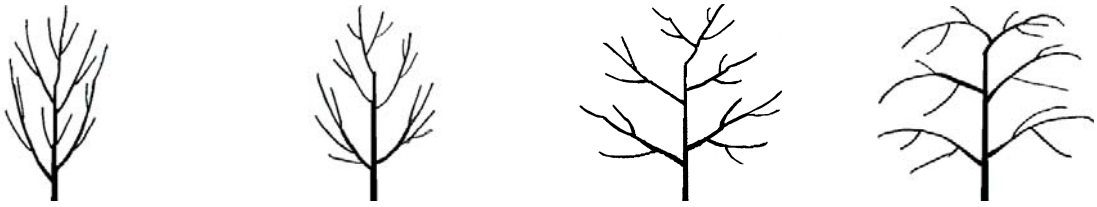
(d) Observations should be made after splitting or cracking of the flesh of the fruit.

8.2 Explanations for individual characteristics

Ad. 1: Tree: vigor

The tree vigor should be considered as the overall abundance of vegetative growth.

Ad. 2: Tree: habit



1	2	3	4
upright	upright to spreading	spreading	drooping

Ad. 5: One –year-old shoot: anthocyanin coloration

The anthocyanin coloration should be observed on the sunny side of the one-year-old shoot.

Ad. 6: Shoot: feathering

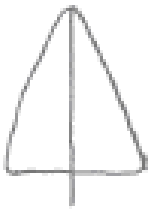
"Feathering" is the presence of secondary shoots on current year's shoots.

Ad. 13: Leaf blade: incisions of margin

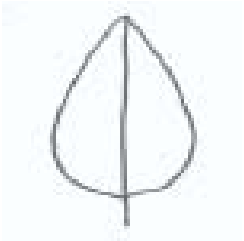
1
serrate

2
crenate

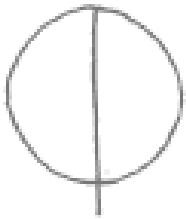
Ad. 15: Flower bud: shape



1
triangular



2
ovate



3
circular

Ad. 16: Flower bud: shape

The color of the tip of the petals should be observed just before opening.

Ad. 20: Petal: shape

1
narrow elliptic

2
medium elliptic

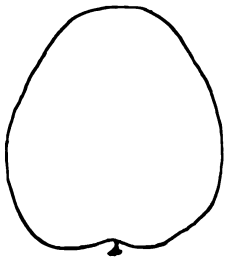
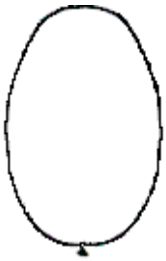
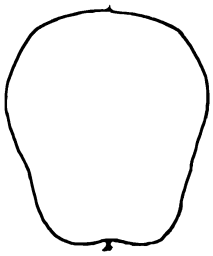
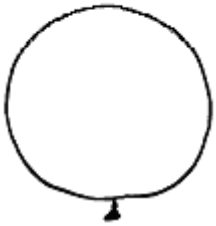
3
circular

4
rhombic

Ad. 22: Petal: Undulation of margin

1	3	5	7
absent or very weak	weak	medium	strong

Ad. 28: Fruit: shape (in lateral view)
Ad. 34: Stone: shape (in lateral view)

← length/width ratio →	← position of broadest part →		
	below middle	at middle	above middle
broad (compressed)	 1 ovate	 2 elliptic	 4 obovate
narrow elongated		 3 circular	

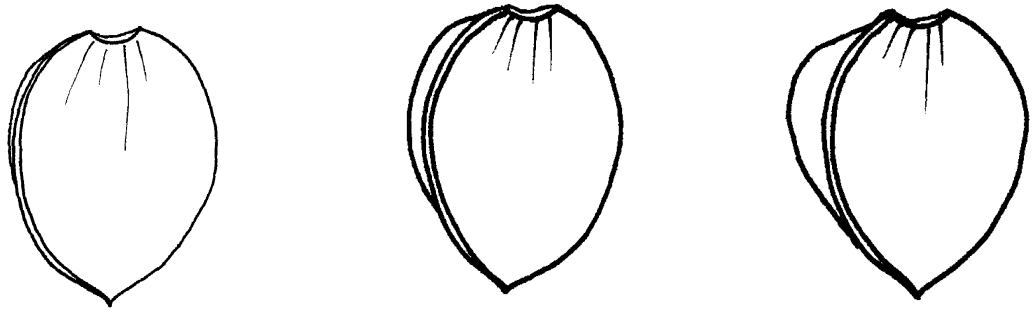
Ad. 29: Fruit: shape of apex

1	2	3
acute	obtuse	rounded

Ad. 37: Stone: resistance to cracking

The characteristic is observed as the ease with which the stone can be broken by hand.

Ad. 38: Stone: keel development



3	5	7
weak	medium	strong

Ad. 35: Stone: shape of apex

1	2	3
acute	obtuse	rounded

Ad. 40: Kernel: intensity of brown color

The color of the kernel should be observed on freshly opened stones.

Ad. 43: Time of beginning of flowering

Beginning of flowering is when 10% of flowers have fully opened.

Ad. 44: Time of harvest

When 50% of the fruits on the tree split.

9. Literature

No specific literature.

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	*Prunus dulcis* (Mill) D.A. Webb (synonym: *Prunus amygdalus* (L.))
1.2 Common name	

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)

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

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

(…….……..…)		(…..……..…)
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) *in vitro* propagation [ ]

(c) other (state method) [ ]

4.2.2 Other [ ]
(please provide details)

(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 (2)	**Tree habit**		
	upright	Fournat de Brezenaud	1[ ]
	upright to spreading	Ferragnes	2[ ]
	spreading	Nec Plus Ultra	3[ ]
	drooping	Primorskii, Uhm L Fahem	4[ ]
5.2 (37)	**Stone: resistance to cracking**		
	absent or very weak	Nonpareil	1[ ]
	very weak to weak		2[ ]
	weak	Princess	3[ ]
	weak to medium		4[ ]
	medium	Texas	5[ ]
	medium to strong		6[ ]
	strong	Desmayo Largueta	7[ ]
	strong to very strong		8[ ]
	very strong	Barte	9[ ]

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

	Characteristics	Example Varieties	Note
5.3 (43)	**Time of beginning of flowering**		
	very early	Uhm L Fahem	1[ ]
	very early to early		2[ ]
	early		3[ ]
	early to medium		4[ ]
	medium	Nec Plus Ultra	5[ ]
	medium to late		6[ ]
	late		7[ ]
	late to very late		8[ ]
	very late	Peerless	9[ ]
5.2 (44)	**Time of harvest**		
	very early	Cavaliera, Uhm L Fahem	1[ ]
	very early to early		2[ ]
	early	Nec Plus Ultra	3[ ]
	early to medium		4[ ]
	medium	Ferragnes	5[ ]
	medium to late		6[ ]
	late	Marcona	7[ ]
	late to very late		8[ ]
	very late	Texas	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 color*	*orange red*	*orange*

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”.

……

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes [ ]

(please provide details as specified by the Authority)

No [ ]

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]