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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

PETUNIA

UPOV Code(s): PETUN; PETCH

Petunia Juss.;
xPetchoa J. M. H. Shaw

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Petunia</i> Juss.	Petunia	Pétunia	Petunie	Petunia
<i>xPetchoa</i> J. M. H. Shaw, <i>Petunia</i> <i>x</i> <i>Calibrachoa</i>				

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.

Other associated UPOV documents: TG/207 - Calibrachoa

* 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 *Petunia* Juss and *×Petchoa* J. M. H. Shaw (*Petunia* x *Calibrachoa*).

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 plants or seeds.

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

vegetatively propagated varieties: 15 plants
seed-propagated varieties: a sufficient quantity of seed to produce 30 plants.

In the case of seed, the seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent 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*

The minimum duration of tests should normally be a single growing cycle.

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

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

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

3.4 *Test Design*

3.4.1 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.

3.4.2 Vegetatively propagated varieties: each test should be designed to result in a total of at least 15 plants.

3.4.3 Seed-propagated varieties: each test should be designed to result in a total of at least 30 plants.

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 or parts of plants to be Examined

In the case of vegetatively propagated varieties, unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observation made on all plants in the test, disregarding any off-type plants.

In the case of seed-propagated varieties, unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observation made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the 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 These Test Guidelines have been developed for the examination of vegetatively propagated and self-pollinated seed propagated varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species", Section 4.5 "Testing Uniformity" should be followed.

4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 15 plants, 1 off-type is allowed.

4.2.4 For the assessment of uniformity of self-pollinated seed propagated varieties, a population standard of 2% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 30 plants, 2 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 seed or 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) Plant: growth habit (characteristic 1)
- (b) Leaf: variegation (characteristic 8)
- (c) Flower: type (characteristic 14)
- (d) Flower: width (characteristic 16)
- (e) Flower: conspicuousness of veins (characteristic 19)
- (f) Flower: main color (characteristic 21) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: orange red
 - Gr. 4: red
 - Gr. 5: blue pink
 - Gr. 6: purple
 - Gr. 7: violet
 - Gr. 8: black
- (g) Flower: secondary color (characteristic 22) with the following groups:
 - Gr. 1: white
 - Gr. 2: green
 - Gr. 3: yellow
 - Gr. 4: red
 - Gr. 5: blue pink
 - Gr. 6: purple
 - Gr. 7: violet
 - Gr. 8: brown
 - Gr. 9: black

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

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 *States of Expression and Corresponding Notes*

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

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

State	Note
small	3
medium	5
large	7

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

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

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

6.3 *Types of Expression*

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

6.4 *Example Varieties*

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

6.5 Legend

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1	2	3	4	5	6	7
	Name of characteristics in English	Nom du caractère en français	Name des Merkmals auf Deutsch	Nombre del carácter en español		
	states of expression	types d'expression	Ausprägungsstufen	tipos de expresión		

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression

QL Qualitative characteristic – see Chapter 6.3

QN Quantitative characteristic – see Chapter 6.3

PQ Pseudo-qualitative characteristic – see Chapter 6.3

4 Method of observation (and type of plot, if applicable)

MG, MS, VG, VS – see Chapter 4.1.5

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

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

7 Not applicable

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

	English		français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
1. (*)	QN	VG	(+)				
	Plant: growth habit		Plante : port	Pflanze: Wuchsform	Planta: hábito de crecimiento		
	upright		dressé	aufrecht	erguido	Dueplubana	1
	upright to spreading		dressé à étalé	aufrecht bis breitwüchsig	erguido a extendido	Sunsurf Grihuti	2
	spreading		étalé	breitwüchsig	extendido	DCAS 303	3
2. (*)	QN	MG/MS/VG	(+)				
	Plant: height		Plante : hauteur	Pflanze: Höhe	Planta: altura		
	short		courte	niedrig	baja	Kerpurflash	3
	medium		moyenne	mittel	media	KUMIYAMA 1 GOU	5
	tall		haute	hoch	alta	PEHY 0011	7
3.	QN	MS/VG	(+)				
	Shoot: length		Tige : longueur	Trieb: Länge	Rama: longitud		
	short		courte	kurz	corta	PEHY 0010	3
	medium		moyenne	mittel	media	Kerpurflash	5
	long		longue	lang	larga	Sunsurfiomi	7
4. (*)	QN	MS/VG	(+)	(a)			
	Leaf: length		Feuille : longueur	Blatt: Länge	Hoja: longitud		
	short		courte	kurz	corta	KUMIYAMA 1 GOU	3
	medium		moyenne	mittel	media	Keroyal	5
	long		longue	lang	larga	Duefuque	7
5. (*)	QN	MS/VG		(a)			
	Leaf: width		Feuille : largeur	Blatt: Breite	Hoja: anchura		
	narrow		étroite	schmal	estrecha	KAKEGAWA S 91	3
	medium		moyenne	mittel	media	Kerpurflash	5
	broad		large	breit	ancha	PEHY 0016	7
6.	PQ	VG	(+)	(a)			
	Leaf: shape		Feuille : forme	Blatt: Form	Hoja: forma		
	ovate		ovale	eiförmig	oval		1
	elliptic		elliptique	elliptisch	elíptica		2
	circular		circulaire	rund	circular		3
	obovate		obovale	verkehrt eiförmig	oboval		4
	rhombic		rhombique	rhombisch	rómbica		5

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7.	PQ	VG	(+)	(a)				
	Leaf: shape of apex		Feuille : forme du sommet		Blatt: Form der Spitze	Hoja: forma del ápice		
	acuminate		acuminé		zugespitzt	acuminado		1
	acute		aigu		spitz	agudo		2
	obtuse		obtus		stumpf	obtuso		3
	rounded		arrondi		abgerundet	redondeado		4
8. (*)	QL	VG	(+)	(a)				
	Leaf: variegation		Feuille : panachure		Blatt: Panaschierung	Hoja: variegación		
	absent		absente		fehlend	ausente		1
	present		présente		vorhanden	presente		9
9.	PQ	VG		(a), (b)				
	Leaf: main color		Feuille : couleur principale		Blatt: Hauptfarbe	Hoja: color principal		
	light yellow		jaune clair		hellgelb	amarillo claro		1
	light green		vert clair		hellgrün	verde claro		2
	medium green		vert moyen		mittelgrün	verde medio		3
	dark green		vert foncé		dunkelgrün	verde oscuro		4
10.	QN	MG/MS/VG	(+)					
	Pedicele: length		Pédicelle : longueur		Blütenstiel: Länge	Pedicele: longitud		
	very short		très court		sehr kurz	muy corto	PEHY 0016	1
	short		court		kurz	corto	Duefuque	2
	medium		moyen		mittel	medio	Sunsurf Grihuti	3
	long		long		lang	largo	Kerpurflash	4
	very long		très long		sehr lang	muy largo	SUNPE 2271	5
11.	QN	VG	(+)					
	Pedicele: anthocyanin coloration		Pédicelle : pigmentation anthocyanique		Blütenstiel: Anthocyanfärbung	Pedicele: pigmentación antocianica		
	absent or very weak		absente ou très faible		fehlend oder sehr gering	ausente o muy débil	Kerverflush	1
	weak		faible		gering	débil	Florpemibblue	2
	medium		moyenne		mittel	media	KLEPH 13235	3
	strong		forte		stark	fuerte	KLEPH 14250	4
	very strong		très forte		sehr stark	muy fuerte	SAKPXC 016	5

	English		français		deutsch		español		Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12. (*)	QN	VG	(+)							
	Calyx lobe: length		Lobe du calice : longueur		Kelchlappen: Länge		Lóbulo del cáliz: longitud			
	very short		très court		sehr kurz		muy corto			1
	short		court		kurz		corto		Duepepre	2
	medium		moyen		mittel		medio		PEHY 0010	3
	long		long		lang		largo		BHTUN 31501	4
	very long		très long		sehr lang		muy largo		PEHY 0011	5
13. (*)	QN	VG	(+)							
	Calyx lobe: width		Lobe du calice : largeur		Kelchlappen: Breite		Lóbulo del cáliz: anchura			
	very narrow		très étroit		sehr schmal		muy estrecho		Sunsurfiomi	1
	narrow		étroit		schmal		estrecho		KAKEGAWA S 91	2
	medium		moyen		mittel		medio		PEHY 0010	3
	broad		large		breit		ancho		Keroyal	4
	very broad		très large		sehr breit		muy ancho		SUNPE 2271	5
14. (*)	QL	VG	(+)							
	Flower: type		Fleur : type		Blüte: Typ		Flor: tipo			
	single		simple		einfach		simple			1
	double		double		gefüllt		doble			2
15.	QN	VG	(+)							
	<u>Only varieties with Flower: type: double:</u> Flower: density		<u>Seulement les variétés avec fleur : type : double :</u> Fleur : densité		<u>Nur Sorten mit Blüte: Typ: gefüllt:</u> Blüte: Dichte		<u>Únicamente variedades con Flor: tipo: doble:</u> Flor: densidad			
	sparse		faible		locker		escasa			1
	medium		moyenne		mittel		media			2
	dense		forte		dicht		densa			3
16. (*)	QN	MS/VG	(+)		(c)					
	Flower: width		Fleur : largeur		Blüte: Breite		Flor: anchura			
	narrow		étroite		schmal		estrecha		SAKPXC 011	3
	medium		moyenne		mittel		media		PEHY 0011	5
	broad		large		breit		ancha		Sunsurf Grihuti	7

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. (*)	QN	VG	(+)	(c)				
	Flower: lobing	Fleur : découpure	Blüte: Lappung	Flor: lobulado				
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil				1
	weak	faible	gering	débil				2
	medium	moyenne	mittel	medio				3
	strong	forte	stark	fuerte				4
	very strong	très forte	sehr stark	muy fuerte				5
18.	QN	VG	(+)	(c)				
	Flower: undulation	Fleur : ondulation	Blüte: Wellung	Flor: ondulación				
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil				1
	weak	faible	gering	débil				2
	medium	moyenne	mittel	media				3
	strong	forte	stark	fuerte				4
	very strong	très forte	sehr stark	muy fuerte				5
19. (*)	QN	VG	(+)	(c)				
	Flower: conspicuousness of veins	Fleurs : netteté des nervures	Blüte: Ausprägung der Aderung	Flor: evidencia de los nervios				
	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil				1
	weak	faible	gering	débil				3
	medium	moyenne	mittel	media				5
	strong	forte	stark	fuerte				7
	very strong	très forte	sehr stark	muy fuerte				9
20.	PQ	VG	(+)	(c)				
	Flower: color of veins	Fleur : couleur des nervures	Blüte: Farbe der Aderung	Flor: color de los nervios				
	white	blanches	weiß	blanco				1
	greenish	verdâtres	grünlich	verdoso				2
	yellow	jaunes	gelb	amarillo				3
	pink	roses	rosa	rosa				4
	red	rouges	rot	rojo				5
	purple	pourpres	purpurn	púrpura				6
	violet	violettes	violett	violeta				7
	black	noires	schwarz	negro				8

	English		français		deutsch		español		Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21. (*)	PQ	VG	(b), (c)							
	Flower: main color		Fleur : couleur principale		Blüte: Hauptfarbe		Flor: color principal			
	RHS Colour Chart (indicate reference number)		Code RHS des couleurs (indiquer le numéro de référence)		RHS-Farbkarte (Nummer angeben)		Carta de colores RHS (indíquese el número de referencia)			
22. (*)	PQ	VG	(+)	(b), (c)						
	Flower: secondary color		Fleur : couleur secondaire		Blüte: Sekundärfarbe		Flor: color secundario			
	RHS Colour Chart (indicate reference number)		Code RHS des couleurs (indiquer le numéro de référence)		RHS-Farbkarte (Nummer angeben)		Carta de colores RHS (indíquese el número de referencia)			
23. (*)	PQ	VG	(+)	(b), (c)						
	Flower: distribution of secondary color		Fleur : répartition de la couleur secondaire		Blüte: Verteilung der Sekundärfarbe		Flor: distribución del color secundario			
	at transition to corolla tube		autour du tube de la corolle		am Übergang zur Kronröhre		en la transición al tubo de la corola			1
	along mid-veins of corolla lobes		le long des nervures principales des lobes de la corolle		entlang der Mitteladern der Kronlappen		a lo largo del nervio central de los lóbulos de la corola			2
	along the fused parts of the corolla lobes		le long des parties soudées des lobes de la corolle		entlang der zusammengewachsenen Teile der Kronlappen		a lo largo de las partes soldadas de los lóbulos de la corola			3
	at margin of corolla		au bord de la corolle		am Rand der Krone		en el borde de la corola			4
	irregular		irrégulière		unregelmäßig		irregular			5
24.	QN	VG	(+)	(b), (c)						
	Flower: area of secondary color		Fleur : surface de la couleur secondaire		Blüte: Fläche der Sekundärfarbe		Flor: superficie del color secundario			
	small		petite		klein		pequeña			1
	medium		moyenne		mittel		media			2
	large		grande		groß		grande			3
25.	QN	VG	(+)							
	Plant: number of flowers with different size of area of secondary color		Plante : nombre de fleurs présentant des surfaces différentes pour la couleur secondaire		Pflanze: Anzahl Blüten mit unterschiedlich großer Fläche der Sekundärfarbe		Planta: número de flores con superficie del color secundario de distinto tamaño			
	absent or few		nul ou petit		fehlend oder gering		nulo o bajo			1
	medium		moyen		mittel		medio			2
	many		élevé		viele		alto			3
26.	PQ	VG	(+)	(c)						
	Flower: tertiary color		Fleur : couleur tertiaire		Blüte: Tertiärfarbe		Flor: color terciario			
	RHS Color Chart (indicate reference number)		Code RHS des couleurs (indiquer le numéro de référence)		RHS-Farbkarte (Nummer angeben)		Carta de colores RHS (indíquese el número de referencia)			

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27. (*)	PQ	VG	(+)	(b)				
	Young flower: main color		Jeune fleur : couleur principale		Junge Blüte: Hauptfarbe	Flor joven: color principal		
	RHS Color Chart (indicate reference number)		Code RHS des couleurs (indiquer le numéro de référence)		RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
28.	PQ	VG	(+)	(b)				
	Aged flower: main color		Fleur âgée : couleur principale		Ältere Blüte: Hauptfarbe	Flor más antigua: color principal		
	RHS Color Chart (indicate reference number)		Code RHS des couleurs (indiquer le numéro de référence)		RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
29.	PQ	VG	(+)	(c)				
	Corolla lobe: shape of apex		Lobe de la corolle : forme du sommet		Kronlappen: Form der Spitze	Lóbulo de la corola: forma del ápice		
	acute		aigu		spitz	agudo		1
	cuspidate		cuspidé		mit aufgesetzter Spitze	cuspidado		2
	rounded		arrondi		abgerundet	redondeado		3
	truncate		tronqué		stumpf	truncado		4
	emarginate		émarginé		eingekerbt	emarginado		5
30.	QN	MG/MS/VG	(+)					
	Only varieties with Flower: type: single: Corolla tube: width		Seulement les variétés avec Fleur : type : simple : Tube de la corolle : largeur		Nur Sorten mit Blüte: Typ: einfach: Kronröhre: Breite	Únicamente variedades con Flor: tipo: sencilla: Tubo de la corola: anchura		
	very narrow		très étroit		sehr schmal	muy estrecho		1
	narrow		étroit		schmal	estrecho		2
	medium		moyen		mittel	medio		3
	broad		large		breit	ancho		4
	very broad		très large		sehr breit	muy ancho		5
31.	PQ	VG	(+)	(b)				
	Corolla tube: main color of inner side		Tube de la corolle : couleur principale de la face interne		Kronröhre: Hauptfarbe der Innenseite	Tubo de la corola: color principal de la cara interna		
	RHS Color Chart (indicate reference number)		Code RHS des couleurs (indiquer le numéro de référence)		RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32.	QN	VG	(+)				
	Corolla tube: conspicuousness of veins on inner side	Tube de la corolle : netteté des nervures de la face interne	Kronröhre: Ausprägung der Aderung an der Innenseite	Tubo de la corola: evidencia de los nervios en la cara interna			
	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil			1
	weak	faible	gering	débil			3
	medium	moyenne	mittel	media			5
	strong	forte	stark	fuerte			7
	very strong	très forte	sehr stark	muy fuerte			9
33. (*)	PQ	VG	(+)	(b)			
	Corolla tube: main color of outer side	Tube de la corolle : couleur principale de la face externe	Kronröhre: Hauptfarbe der Außenseite	Tubo de la corola: color principal de la cara externa			
	RHS Color Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)			
34. (*)	PQ	VG					
	<u>Only varieties with Flower: type: single: Anther: color of pollen</u>	<u>Seulement les variétés avec fleur : type : simple : Anthère : couleur du pollen</u>	<u>Nur Sorten mit Blüte: Typ: einfach: Anthere: Pollenfarbe</u>	<u>Únicamente variedades con Flor: tipo: sencilla: Antera: color del polen</u>			
	whitish	blanchâtre	weißlich	blanquecino			1
	yellow	jaune	gelb	amarillo			2
	pink	rose	rosa	rosa			3
	light blue	bleu clair	hellblau	azul claro			4
	blueish violet	violet bleuâtre	bläulich violett	violeta azulado			5

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Unless otherwise indicated, observations should be made at the time of full flowering.

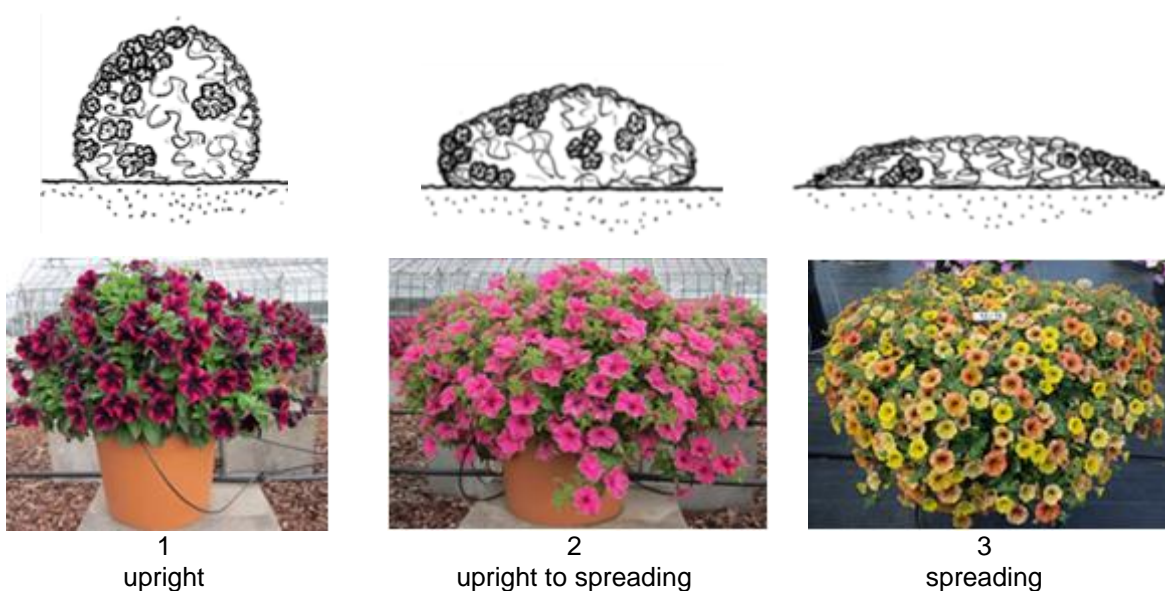
Characteristics containing the following key should be examined as indicated below:

- (a) Observations on the leaf should be made on the upper side of fully developed leaves from the middle part of a shoot.
- (b) The main color is the color with the largest surface area excluding veins. In cases where the areas of the main and the secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color.
- (c) Observations on the flower should be made on the inner side of the corolla lobes of a fully developed flower before fading. Observations on varieties with double flowers should be made on the outer corolla lobes.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: growth habit

Petunias can be grown in the ground or in pots. When grown in pots the growth habit of state 3 can be more drooping than spreading.



Ad. 2: Plant: height

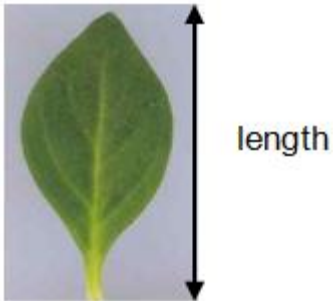
The plant height should be observed from the soil level to the highest point of the plant. The observation should be done towards the end of the trial.

Ad. 3: Shoot: length

The shoot length should be observed on the longest shoot from the soil level to the end of the shoot.
The observation should be done towards the end of the trial.

Ad. 4: Leaf: length

The leaf length is observed including petiole.



Ad. 6: Leaf: shape



1
ovate



2
elliptic



3
circular



4
obovate



5
rhombic

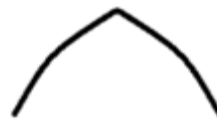
Ad. 7: Leaf: shape of apex



1
acuminate



2
acute



3
obtuse



4
rounded

Ad. 8: Leaf: variegation

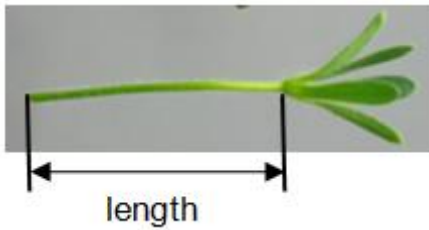


1
absent



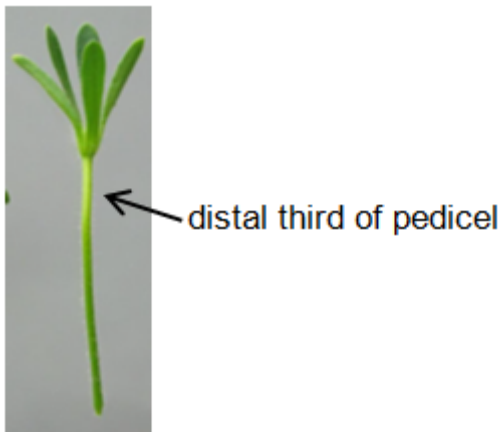
9
present

Ad. 10: Pedicel: length



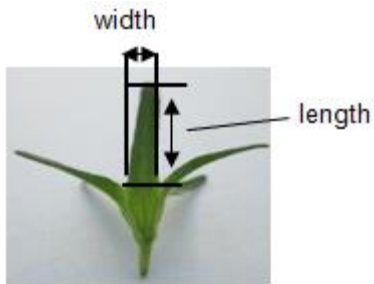
Ad. 11: Pedicel: anthocyanin coloration

The anthocyanin coloration should be observed on the distal third of the pedicel.



Ad. 12: Calyx lobe: length

Observations on the calyx lobe should be made on the broadest calyx lobe.



Ad. 13: Calyx lobe: width

See Ad. 12

Ad. 14: Flower: type

A double flower has more than one whorl of corolla lobes.



1
single



2
double

Ad. 15: Only varieties with Flower: type: double: Flower: density



1
sparse



2
medium



3
dense

Ad. 16: Flower: width

The width is observed at the broadest part of the flower.



Ad. 17: Flower: lobing



1
absent or very weak



2
weak



3
medium



4
strong

Ad. 18: Flower: undulation



1
absent or very weak



2
weak



3
medium



4
strong

Ad. 19: Flower: conspicuousness of veins

The conspicuousness is determined by the color contrast and the number of contrasting veins.



1
absent or very weak



3
weak



5
medium



7
strong



9
very strong

Ad. 20: Flower: color of veins

To be observed only when the conspicuousness of the veins (Char. 19) is at least weak (3).

Ad. 22: Flower: secondary color

The secondary color is the color with the second largest surface area excluding veins. In cases where the areas of the main and the secondary color are too similar to reliably decide which color has the largest area, the lighter color is considered to be the secondary color. In cases where the areas of the secondary and the tertiary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the secondary color.

Ad. 23: Flower: distribution of secondary color

Petunia varieties with bi- or multi-colored flowers may have a strong reaction to the environmental conditions. Due to the conditions during a specific period of their bud development the area of the secondary color on some flowers can be different from the area on other flowers on the same plant. Therefore the distribution of the secondary color should be observed on those flowers which have the predominant distribution.



1
at transition
to corolla tube



2
along mid-veins
of corolla lobes



3
along the fused
parts of the
corolla lobes

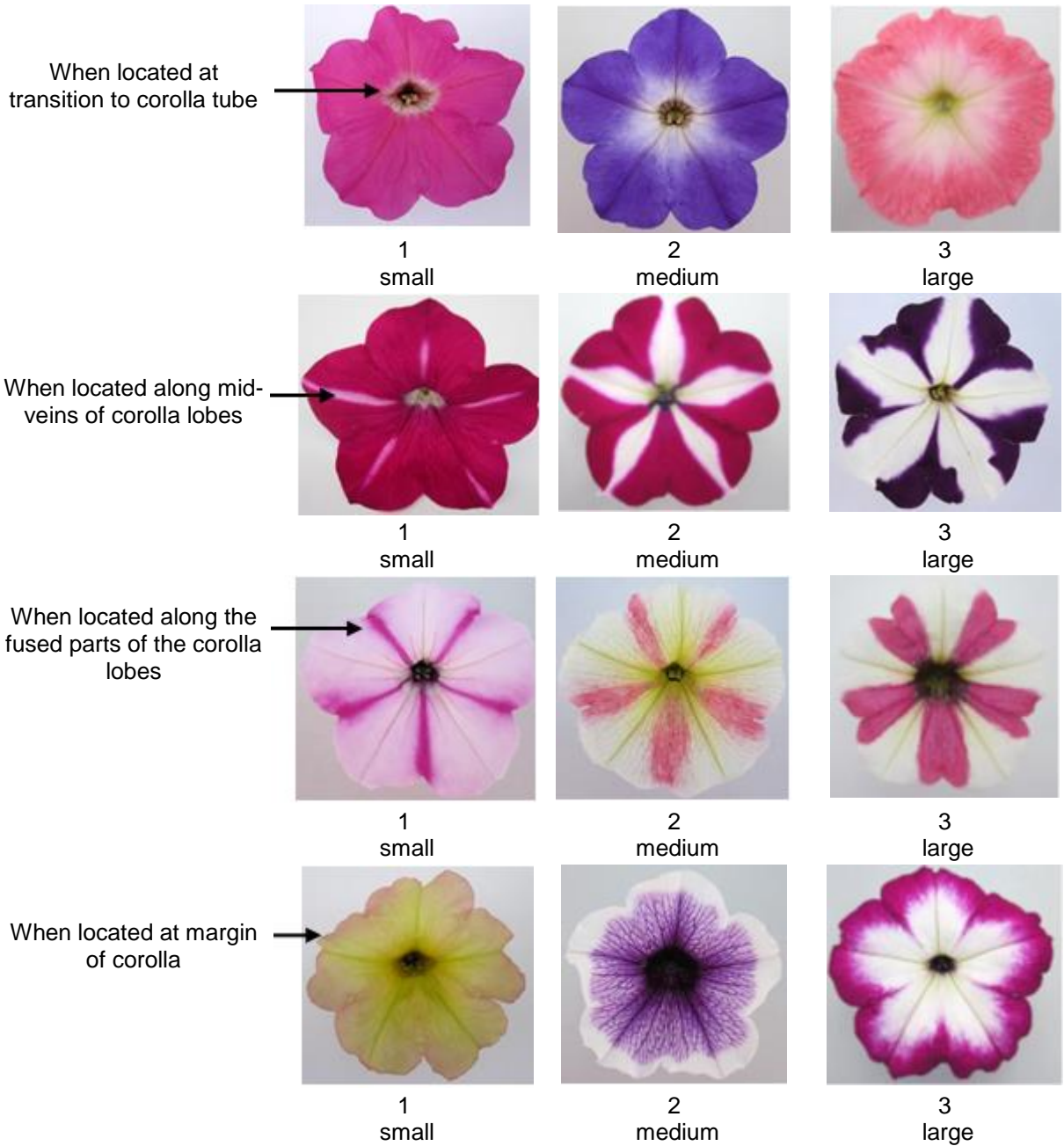


4
at margin
of corolla



5
irregular

Ad. 24: Flower: area of secondary color



Ad. 25: Plant: number of flowers with different size of area of secondary color

Observations should be made on fully developed flowers.



1
absent or few



3
many

Ad. 26: Flower: tertiary color

The tertiary color is the color with the third largest area excluding veins. In cases where the areas of the secondary and the tertiary color are too similar to reliably decide which color has the largest area, the lighter color is considered to be the tertiary color.

Ad. 27: Young flower: main color

Observations on the young flower should be made on the inner side of corolla lobes of flowers which have just fully opened. Observations on varieties with double flowers should be made on the outer corolla lobes.

Ad. 28: Aged flower: main color

Observations on the aged flower should be made on the inner side of corolla lobes of flowers which have just started to fade. Observations on varieties with double flowers should be made on the outer corolla lobes.

Ad. 29: Corolla lobe: shape of apex



1
acute



2
cuspidate



3
rounded



4
truncate



5
emarginate

Ad. 30: Only varieties with Flower: type: single: Corolla tube: width



1
very narrow



3
medium



5
very broad

Ad. 31: Corolla tube: main color of inner side

The main color should be observed in the middle part of the corolla tube.

Ad. 32: Corolla tube: conspicuousness of veins on inner side

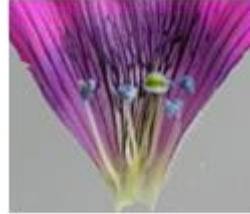
The conspicuousness is determined by the color contrast and the number of contrasting veins.



1
absent or very weak



3
weak



5
medium



7
strong

Ad. 33: Corolla tube: main color of outer side



corolla tube: main color of outer side

9. Literature

Rünger, W., 1976: Licht und Temperatur im Zierpflanzenbau. Verlag Paul Parey, DE, pp.62-64.

Wijsman, H.J.W., 1982: On the Interrelationships of Certain Species of Petunia I. Taxonomic Notes on the Parental Species of Petunia Hybrida. Acta Bot. Neerl. 31 (5/6), NL, pp. 477-490.

Wijsman, H.J.W. and de Jong, J.H., 1985: On the Interrelationships of Certain Species of Petunia IV. Hybridization Between P. linearis and P. calycina and Nomenclatorial Consequences in the Petunia Group. Acta Bot. Neerl. 34 (3), NL, pp. 337-349.

Wijsman, H.J.W., 1990: On the Interrelationships of Certain Species of Petunia VI. New Names for the Species of Calibrachoa Formerly Included Into Petunia (Solanaceae). Acta Bot. Neerl. 39 (19), NL, pp. 101 and 102.

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	<input [=""]<="" td="" type="text" value="Petunia Juss."/>
1.1.2	Common name	<input type="text" value="Petunia"/>
1.2.1	Botanical name	<input checked="" type="checkbox"/> <input [=""]<="" td="" type="text" value="Petchoa J. M. H. Shaw"/>
1.2.2	Common name	<input type="text" value="Petchoa"/>
2.	Applicant	
	Name	<input type="text"/>
	Address	<input type="text"/>
	Telephone No.	<input type="text"/>
	Fax No.	<input type="text"/>
	E-mail address	<input type="text"/>
	Breeder (if different from applicant)	<input type="text"/>
3.	Proposed denomination and breeder's reference	
	Proposed denomination (if available)	<input type="text"/>
	Breeder's reference	<input type="text"/>

#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross

(please state parent varieties)

(.....) x (.....)

female parent male parent

(b) partially known cross

(please state known parent variety(ies))

(.....) x (.....)

female parent male parent

(c) unknown cross

4.1.2 Mutation

(please state parent variety)

4.1.3 Discovery and development

(please state where and when discovered and how developed)

4.1.4 Other

(please provide details)

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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4.2	Method of propagating the variety	
4.2.1	Seed-propagated varieties	
(a)	Self-pollination	[]
(b)	Other (please provide details)	[]
	<input type="text"/>	
4.2.2	Vegetative propagation	
(a)	Cuttings	[]
(b)	<i>In vitro</i> propagation	[]
(c)	Other (state method)	[]
	<input type="text"/>	
4.2.3	Other (Please provide details)	[]
	<input type="text"/>	

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

Characteristics	Example Varieties	Note
5.1 Plant: growth habit (1)		
upright	Dueplubana	1 []
upright to spreading	Sunsurf Grihuti	2 []
spreading	DCAS 303	3 []
5.2 Shoot: length (3)		
very short		1 []
very short to short		2 []
short	PEHY 0010	3 []
short to medium		4 []
medium	Kerpurflash	5 []
medium to long		6 []
long	Sunsurfviomi	7 []
long to very long		8 []
very long		9 []
5.3 Leaf: variegation (8)		
absent		1 []
present		9 []
5.4 Flower: type (14)		
single		1 []
double		2 []
5.5 Flower: width (16)		
very narrow		1 []
very narrow to narrow		2 []
narrow	SAKPXC 011	3 []
narrow to medium		4 []
medium	PEHY 0011	5 []
medium to broad		6 []
broad	Sunsurf Grihuti	7 []
broad to very broad		8 []
very broad		9 []

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.6 Flower: conspicuousness of veins (19)		
absent or very weak		1 []
very weak to weak		2 []
weak		3 []
weak to medium		4 []
medium		5 []
medium to strong		6 []
strong		7 []
strong to very strong		8 []
very strong		9 []
5.7 (i) Flower: main color (21)		
RHS Colour Chart (indicate reference number)		
5.7 (ii) Flower: main color (21)		
white		1 []
yellow		2 []
orange red		3 []
red		4 []
blue pink		5 []
purple		6 []
violet		7 []
black		8 []
other color (indicate)		9 []
5.8 (i) Flower: secondary color (22)		
RHS Colour Chart (indicate reference number)		
5.8 (ii) Flower: secondary color (22)		
white		1 []
green		2 []
yellow		3 []
red		4 []
blue pink		5 []
purple		6 []
violet		7 []
brown		8 []
black		9 []
other color (indicate)		10 []

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

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Flower: width</i>	<i>narrow</i>	<i>medium</i>
Comments:			

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

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

Yes No

(If yes, please provide details)

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

Yes No

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (<http://www.upov.int/tgp/en/>).

[The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

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

9. Information on plant material to be examined or submitted for examination

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

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

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

Please provide details for where you have indicated "yes".

.....

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

Applicant's name

Signature Date

[End of document]