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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

AMARYLLIS

UPOV Code(s): HIPPE

Hippeastrum Herb.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative names:*

Botanical name	English	French	German	Spanish
<i>Hippeastrum</i> Herb., <i>Moldenkea</i> Traub	Amaryllis	Amaryllis	Amaryllis, Ritterstern	Amarilis

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 *Hippeastrum* Herb.

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 bulbs.

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

20 bulbs

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 a single growing cycle.

3.1.2 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

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*

Each test should be designed to result in a total of at least 20 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

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts of plants taken from each of 10 plants and any other observations 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 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 20 plants, 1 off-type is allowed.

4.3 *Stability*

- 4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.
- 4.3.2 Where appropriate, or in cases of doubt, stability may be 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) Flower: type (characteristic 10)
 - (b) Flower: width (characteristic 17)
 - (c) Outer median tepal: main color of inner side (characteristic 22) with the following groups
 - Gr. 1: white
 - Gr. 2: yellow green
 - Gr. 3: orange
 - Gr. 4: light pink
 - Gr. 5: medium pink
 - Gr. 6: dark pink
 - Gr. 7: medium red
 - Gr. 8: dark red
- 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 All relevant states of expression are presented in the characteristic.

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)-(e) See Explanations on the Table of Characteristics in Chapter 8.1
- 7 Not applicable

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

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	QN	MS/VG	(+)	(a)				
	Leaf: width	Feuille : largeur	Blatt: Breite	Hoja: anchura				
	very narrow	très étroite	sehr schmal	muy estrecha				1
	narrow	étroite	schmal	estrecha	Balentino			2
	medium	moyenne	mittel	media	Coral Flame			3
	broad	large	breit	ancha	Peach Melba			4
	very broad	très large	sehr breit	muy ancha				5
2.	QN	VG	(+)	(a)				
	Leaf: anthocyanin coloration at basal part	Feuille : pigmentation anthocyanique de la partie basale	Blatt: Anthocyanfärbung des basalen Teils	Hoja: pigmentación antocianica en la parte basal				
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	White Garden			1
	weak	faible	gering	débil	Lovely Lady			2
	medium	moyenne	mittel	media	Florisk Hekker			3
	strong	forte	stark	fuerte	Ferrari			4
	very strong	très forte	sehr stark	muy fuerte				5
3. (*)	QN	MS/VG	(+)	(b)				
	Peduncle: length	Pédoncule : longueur	Blütenstandsstiel: Länge	Pedúnculo: longitud				
	very short	très courte	sehr kurz	muy corta				1
	very short to short	très courte à courte	sehr kurz bis kurz	muy corta a corta				2
	short	courte	kurz	corta	Double Dragon, Pink Rival			3
	short to medium	courte à moyenne	kurz bis mittel	corta a media				4
	medium	moyenne	mittel	media	Red Beauty, Red Garden			5
	medium to long	moyenne à longue	mittel bis lang	media a larga				6
	long	longue	lang	larga	Balentino, Scarlet Belle			7
	long to very long	longue à très longue	lang bis sehr lang	larga a muy larga				8
	very long	très longue	sehr lang	muy larga	Central Park			9
4. (*)	QN	MS/VG	(+)	(b)				
	Peduncle: thickness	Pédoncule : épaisseur	Blütenstandsstiel: Dicke	Pedúnculo: grosor				
	very thin	très mince	sehr dünn	muy delgado	Balentino			1
	thin	mince	dünn	delgado	Up Star			2
	medium	moyenne	mittel	medio	Coral Flame, KB111081			3
	thick	épaisse	dick	grueso	NWK 8288, Scarlet Belle			4
	very thick	très épaisse	sehr dick	muy grueso	Ferrari			5

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	QN	VG	(+)	(b)				
	Peduncle: anthocyanin coloration		Pédoncule : pigmentation anthocyanique		Blütenstandsstiel: Anthocyanfärbung	Pedúnculo: pigmentación antociánica		
	absent or very weak		absente ou très faible		fehlend oder sehr gering	ausente o muy débil	Antarctica	1
	weak		faible		gering	débil	Double Dragon	2
	medium		moyenne		mittel	media	NWK 8288	3
	strong		forte		stark	fuerte	Table Dance	4
	very strong		très forte		sehr stark	muy fuerte	Lovely Lady	5
6.	PQ	VG	(+)	(b)				
	Peduncle: distribution of anthocyanin coloration		Pédoncule : distribution de la pigmentation anthocyanique		Blütenstandsstiel: Verteilung der Anthocyanfärbung	Pedúnculo: distribución de la pigmentación antociánica		
	at basal part		dans la partie basale		im basalen Teil	en la parte basal	Hyde Park	1
	at distal part		dans la partie distale		im distalen Teil	en la parte distal		2
	throughout		partout		überall	en la totalidad	Lovely Lady	3
7.	QN	VG		(b)				
	Bracts: anthocyanin coloration		Bractées : pigmentation anthocyanique		Deckblätter: Anthocyanfärbung	Brácteas: pigmentación antociánica		
	absent or very weak		absente ou très faible		fehlend oder sehr gering	ausente o muy débil	Antarctica	1
	weak		faible		gering	débil	Cherry Bloss	2
	medium		moyenne		mittel	media	White Garden	3
	strong		forte		stark	fuerte	NWK 8288	4
	very strong		très forte		sehr stark	muy fuerte	Lovely Lady	5
8.	QN	VG		(b)				
	<u>Only varieties with Bracts: anthocyanin coloration: absent or very weak to medium: Bracts: intensity of green color</u>		<u>Seulement variétés avec Bractées : pigmentation anthocyanique : absente ou très faible à moyenne: Bractées : intensité de la couleur verte</u>		<u>Nur Sorten mit Deckblättern: Anthocyanfärbung: fehlend oder sehr gering bis mittel: Deckblätter: Intensität der Grünfärbung</u>	<u>Solo variedades con Brácteas: pigmentación antociánica: ausente o muy débil a media: Brácteas: intensidad del color verde</u>		
	very light		très claire		sehr hell	muy clara	White Amadeus	1
	light		claire		hell	clara		2
	medium		moyenne		mittel	media	Antarctica	3
	dark		foncée		dunkel	oscura		4
	very dark		très foncée		sehr dunkel	muy oscura	Lagoon	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. (*)	QN	MS/VG	(c)			
	Inflorescence: number of flowers	Inflorescence : nombre de fleurs	Blütenstand: Anzahl Blüten	Inflorescencia: número de flores		
	few	petit	gering	bajo	Pretnym	1
	medium	moyen	mittel	medio	Antarctica, Peach Melba	2
	many	élevé	hoch	alto	Red Garden	3
10. (*)	QL	VG	(+) (c), (d)			
	Flower: type	Fleur : type	Blüte: Typ	Flor: tipo		
	single	simple	einzel	sencillo	Antarctica, Peach Melba	1
	double	double	gefüllt	doble	Double Dragon, Scarlet Belle	2
11.	QL	VG	(+) (c), (d)			
	<u>Only varieties with flower type: double:</u> Flower: shape of petaloid staminodes	<u>Seulement variétés avec type de fleur : double :</u> Fleur : forme des staminodes pétaloïdes	<u>Nur Sorten mit Blütentyp: gefüllt:</u> Blüte: Form der Nebenkronenstaminodien	<u>Solo variedades con tipo de flor: doble:</u> Flor: forma de los estaminodios petaloïdes		
	regular	régulière	regelmäßig	regular	Double Dragon	1
	irregular	irrégulière	unregelmäßig	irregular	NWK 8288	2
12.	QN	VG	(+) (c), (d)			
	Flower: attitude	Fleur : port	Blüte: Haltung	Flor: porte		
	erect	dressé	aufrecht	erecto	Up Star	1
	erect to horizontal	dressé à horizontal	aufrecht bis waagrecht	erecto a horizontal	Double Dragon	2
	horizontal	horizontal	waagrecht	horizontal	Antarctica	3
	horizontal to drooping	horizontal à pendant	waagrecht bis überhängend	horizontal a colgante	Balentino	4
	drooping	retombant	überhängend	colgante	Red Garden	5
13. (*)	QN	MS/VG	(+) (c), (d)			
	Pedicel: length	Pédicelle : longueur	Blütenstiel: Länge	Pedicelo: longitud		
	very short	très courte	sehr kurz	muy corta	Up Star	1
	short	courte	kurz	corta	Peach Melba, Table Dance	2
	medium	moyenne	mittel	media	Arnym, Valentino	3
	long	longue	lang	larga	Double Dragon, Scarlet Belle	4
	very long	très longue	sehr lang	muy larga	NWK 8288	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14.	QN VG	(c), (d)				
	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	Antarctica	1
	weak	faible	gering	débil	NWK 8288	2
	medium	moyenne	mittel	media	Floriss Hekker	3
	strong	forte	stark	fuerte	Lovely Lady	4
	very strong	très forte	sehr stark	muy fuerte	KB111081	5
15. (*)	PQ VG	(+) (c), (d)				
	Flower: shape in front view	Fleur : forme en vue de face	Blüte: Form in Vorderansicht	Flor: forma en vista frontal		
	round	ronde	rund	redonda	Dancing Queen, Scarlet Belle	1
	triangular	triangulaire	dreieckig	triangular	Antarctica, Peach Melba	2
	star-shaped	stelliforme	sternförmig	en forma de estrella	Balentino	3
16. (*)	QN MS/VG	(+) (c), (d)				
	Flower: length	Fleur : longueur	Blüte: Länge	Flor: longitud		
	very short	très courte	sehr kurz	muy corta	Orange Queen	1
	short	courte	kurz	corta	NWK 8288, White Garden	2
	medium	moyenne	mittel	media	Cherry Bloss, Peach Melba	3
	long	longue	lang	larga	Lagoon, Tosca	4
	very long	très longue	sehr lang	muy larga		5
17. (*)	QN MS/VG	(+) (c), (d)				
	Flower: width	Fleur : largeur	Blüte: Breite	Flor: anchura		
	very narrow	très étroite	sehr schmal	muy estrecha	Red Beauty	1
	very narrow to narrow	très étroite à étroite	sehr schmal bis schmal	muy estrecha a estrecha	White Garden	2
	narrow	étroite	schmal	estrecha	Table Dance	3
	narrow to medium	étroite à moyenne	schmal bis mittel	estrecha a media	Pink Rival	4
	medium	moyenne	mittel	media	Cherry Bloss, Coral Flame	5
	medium to broad	moyenne à large	mittel bis breit	media a ancha	Antarctica	6
	broad	large	breit	ancha	NWK 8288, Tosca	7
	broad to very broad	large à très large	breit bis sehr breit	ancha muy ancha	Arnym	8
	very broad	très large	sehr breit	muy ancha		9

	English		français		deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
18. (*)	PQ	VG	(+)	(c), (d)				
	Outer median tepal: shape	Tépale externe médián : forme	Äußeres mittleres Perigonblatt: Form	Tépalo medio externo: forma				
	broad ovate	ovale large	breit eiförmig	oval ancha	Peach Melba		1	
	medium ovate	ovale moyenne	mittel eiförmig	oval media	Tosca		2	
	narrow ovate	ovale étroite	schmal eiförmig	oval estrecha	Red Beauty		3	
	broad elliptic	elliptique large	breit elliptisch	elíptica ancha	Antarctica, Coral Flame		4	
	medium elliptic	elliptique moyenne	mittel elliptisch	elíptica media	Estella		5	
	narrow elliptic	elliptique étroite	schmal elliptisch	elíptica estrecha	Balentino, Night Star		6	
	broad obovate	obovale large	breit verkehrt eiförmig	oboval ancha	Mama Mia		7	
	medium obovate	obovale moyenne	mittel verkehrt eiförmig	media oboval	Monaco		8	
	narrow obovate	obovale étroite	schmal verkehrt eiförmig	oboval estrecha			9	
19.	PQ	VG	(+)	(c), (d)				
	Outer median tepal: shape of apex	Tépale externe médián : forme de l'apex	Äußeres mittleres Perigonblatt: Form des Apex	Tépalo medio externo: forma del ápice				
	acute	aiguë	spitz	aguda			1	
	acuminate	acuminée	zugespitzt	acuminada			2	
	rounded	arrondie	abgerundet	redondeada			3	
20.	QN	VG		(c), (d)				
	Outer median tepal: undulation of margin	Tépale externe médián : ondulation du bord	Äußeres mittleres Perigonblatt: Randwellung	Tépalo medio externo: ondulación del margen				
	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Balentino		1	
	weak	faible	gering	débil	Red Garden		2	
	medium	moyenne	mittel	media	White Garden		3	
	strong	forte	stark	fuerte	NWK 8288		4	
	very strong	très forte	sehr stark	muy fuerte	Central Park		5	
21.	QN	VG		(c), (d)				
	Outer median tepal: attitude	Tépale externe médián : port	Äußeres mittleres Perigonblatt: Haltung	Tépalo medio externo: porte				
	horizontal	horizontal	waagrecht	horizontal	Double Dragon		1	
	slightly reflexed	légèrement réfléchi	leicht gebogen	ligeramente reflexo	White Garden		2	
	moderately reflexed	modérément réfléchi	mäßig gebogen	moderadamente reflexo	Red Garden		3	
	strongly reflexed	fortement réfléchi	stark gebogen	fuerte reflexo	Balentino		4	

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
22. (*)	PQ	VG	(c), (d), (e)			
	Outer median tepal: main color of inner side	Tépale externe médian : couleur principale de la face interne	Äußeres mittleres Perigonblatt: Hauptfarbe der Innenseite	Tépalo medio externo: color principal de la cara interna		
	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	(c), (d), (e)			
	Outer median tepal: secondary color of inner side	Tépale externe médian : couleur secondaire de la face interne	Äußeres mittleres Perigonblatt: Sekundärfarbe der Innenseite	Tépalo medio externo: color secundario de la cara interna		
	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)		
24. (*)	PQ	VG	(+)	(c), (d)		
	Outer median tepal: pattern of secondary color on inner side	Tépale externe médian : répartition de la couleur secondaire sur la face interne	Äußeres mittleres Perigonblatt: Muster der Sekundärfarbe der Innenseite	Tépalo medio externo: disposición del color secundario en la cara interna		
	none	aucune	keines	ninguna	Antarctica, Peach Melba	1
	veined	veinée	geadert	nervadura	Estella, Pretnym	2
	central stripe	bande centrale	Mittelstreifen	raya central	Balentino	3
	narrow marginate	au bord étroite	schmaler Rand	marginal estrecha	Picotée	4
	striped and speckled	striée et piquetée	gestreift und gesprenkelt	rayada y graneada	Mama Mia	5
25.	QN	VG	(+)	(c), (d)		
	<u>Only varieties with outer median tepal: pattern of secondary color on inner side:</u> none: Outer median tepal: conspicuousness of veins	<u>Seulement variétés avec tépale externe médian : répartition de la couleur secondaire sur la face interne :</u> aucune : Tépale externe médian : netteté des nervures	<u>Nur Sorten mit äußerem mittleren Perigonblatt: Muster der Sekundärfarbe der Innenseite: keines:</u> Äußeres mittleres Perigonblatt: Ausprägung der Adern	<u>Solo variedades con tépalo medio externo: disposición del color secundario en la cara interna: ninguna:</u> Tépalo medio externo: visibilidad de las nervaduras		
	very weak	très faible	sehr gering	muy débil	Antarctica	1
	weak	faible	gering	débil	Arnym	2
	medium	moyenne	mittel	media	Red Garden	3
	strong	forte	stark	fuerte	Lovely Lady	4
	very strong	très forte	sehr stark	muy fuerte	Up Star	5
26.	PQ	VG	(c), (d), (e)			
	Outer median tepal: main color of outer side	Tépale externe médian : couleur principale de la face externe	Äußeres mittleres Perigonblatt: Hauptfarbe der Außenseite	Tépalo medio externo: color principal de la cara externa		
	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)		

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27.	PQ	VG	(c), (d), (e)			
	Outer median tepal: secondary color of outer side	Tépale externe médian : couleur secondaire de la face externe	Äußeres mittleres Perigonblatt: Sekundärfarbe der Außenseite	Tépalo medio externo: color secundario de la cara externa		
	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)		
28.	PQ	VG	(+), (c), (d)			
	Inner median tepal: shape	Tépale interne médian : forme	Inneres mittleres Perigonblatt: Form	Tépalo medio interno: forma		
	broad ovate	ovale large	breit eiförmig	oval ancha		1
	medium ovate	ovale moyenne	mittel eiförmig	oval media		2
	narrow ovate	ovale étroite	schmal eiförmig	oval estrecha		3
	broad elliptic	elliptique large	breit elliptisch	elíptica ancha		4
	medium elliptic	elliptique moyenne	mittel elliptisch	elíptica media	Estella	5
	narrow elliptic	elliptique étroite	schmal elliptisch	elíptica estrecha	Night Star	6
	broad obovate	obovale large	breit verkehrt eiförmig	oboval ancha		7
	medium obovate	obovale moyenne	mittel verkehrt eiförmig	media oboval		8
	narrow obovate	obovale étroite	schmal verkehrt eiförmig	oboval estrecha		9
29.	PQ	VG	(c), (d), (e)			
	Inner median tepal: main color of inner side	Tépale interne médian : couleur principale de la face interne	Inneres mittleres Perigonblatt: Hauptfarbe der Innenseite	Tépalo medio interno: color principal de la cara interna		
	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)		
30.	PQ	VG	(c), (d), (e)			
	Inner median tepal: secondary color of inner side	Tépale interne médian : couleur secondaire de la face interne	Inneres mittleres Perigonblatt: Sekundärfarbe der Innenseite	Tépalo medio interno: color secundario de la cara interna		
	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)		

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31.	PQ	VG	(+)	(c), (d)				
	Inner median tepal: pattern of secondary color on inner side		Tépale interne médian : répartition de la couleur secondaire sur la face interne		Inneres mittleres Perigonblatt: Muster der Sekundärfarbe der Innenseite	Tépalo medio interno: disposición del color secundario en la cara interna		
	none		aucune		keines	ninguna	Antarctica, Peach Melba	1
	veined		veinée		geadert	nervadura	Estella, Pretnym	2
	central stripe		bande centrale		Mittelstreifen	raya central	Balentino	3
	narrow marginate		au bord étroite		schmaler Rand	marginal estrecha	Picotée	4
	striped and speckled		striée et piquetée		gestreift und gesprenkelt	rayada y graneada	Lieve, Table Dance	5
32.	PQ	VG	(c), (d), (e)					
	Inner median tepal: main color of outer side		Tépale interne médian : couleur principale de la face externe		Inneres mittleres Perigonblatt: Hauptfarbe der Außenseite	Tépalo medio interno: color principal de la cara interna		
	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)		
33.	PQ	VG	(c), (d), (e)					
	Inner median tepal: secondary color of outer side		Tépale interne médian : couleur secondaire de la face externe		Inneres mittleres Perigonblatt: Sekundärfarbe der Außenseite	Tépalo medio interno: color secundario de la cara interna		
	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)		
34.	PQ	VG	(+)	(c), (d)				
	Inner lateral tepal: shape		Tépale interne laterale : forme		Inneres laterales Perigonblatt: Form	Tépalo lateral interno: forma		
	broad ovate		ovale large		breit eiförmig	oval ancha	Monaco	1
	medium ovate		ovale moyenne		mittel eiförmig	oval media	Red Beauty	2
	narrow ovate		ovale étroite		schmal eiförmig	oval estrecha		3
	broad elliptic		elliptique large		breit elliptisch	elíptica ancha		4
	medium elliptic		elliptique moyenne		mittel elliptisch	elíptica media	Estella	5
	narrow elliptic		elliptique étroite		schmal elliptisch	elíptica estrecha	Night Star	6
	broad obovate		obovale large		breit verkehrt eiförmig	oboval ancha		7
	medium obovate		obovale moyenne		mittel verkehrt eiförmig	media oboval		8
	narrow obovate		obovale étroite		schmal verkehrt eiförmig	oboval estrecha		9

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35.	QN	VG	(+)	(c), (d)				
	Inner lateral tepal: depth of incisions	Tépale interne lateral : profondeur des incisions	Inneres laterales Perigonblatt: Tiefe der Einschnitte	Tépalo lateral interno: profundidad de las incisiones				
	absent or shallow	absente ou peu profonde	fehlend oder flach	ausente o poco profunda	Balentino		1	
	medium	moyenne	mittel	media	Central Park		2	
	deep	profonde	tief	profunda	Lagoon		3	
36.	PQ	VG		(c), (d)				
	Filament: color	Filament : couleur	Staubfaden: Farbe	Filamento: color				
	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)				
37.	PQ	VG	(+)	(c)				
	Anther: color	Anthère : couleur	Staubbeutel: Farbe	Antera: color				
	yellowish	jaunâtre	gelblich	amarillento	Antarctica		1	
	pinkish	rosâtre	blassrosa	rosáceo	Lovely Lady		2	
	reddish	rougeâtre	rötlich	rojizo	Red Garden		3	
	purplish	violacé	purpurn	purpúreo	Pink Rival		4	
38.	PQ	VG		(c), (d)				
	Style: color	Style : couleur	Griffel: Farbe	Estilo: color				
	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)				
39.	QN	VG	(+)	(c), (d)				
	Stigma: diameter	Stigmate : diamètre	Narbe: Durchmesser	Estigma: diámetro				
	very small	très petit	sehr klein	muy pequeño	Pink Panther		1	
	small	petit	klein	pequeño	Balentino, Estella		2	
	medium	moyen	mittel	medio	Antarctica, Peach Melba		3	
	large	grand	groß	grande	Monaco, Pink Rival		4	
	very large	très grand	sehr groß	muy grande	Albarino		5	

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*



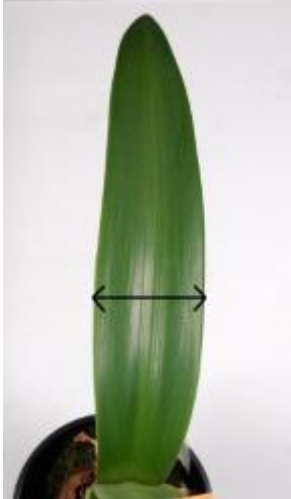
Characteristics containing the following key in the Table of Characteristics should be examined as indicated below:

- (a) Observations should be made on the largest fully expanded leaf. This is in most cases after the flowering period.
- (b) Observations should be made just before the flowers are open.
- (c) Observations should be made when all flowers on the firstly emerged peduncle are open.
- (d) Observations should be made when the anthers are open or at an equivalent flower stage for varieties without anthers.
- (e) The main color is the color with the largest surface area. In cases where the areas of the main and secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color.

8.2 Explanations for individual characteristics

Ad. 1: Leaf: width

Observations should be made on the widest part.



Ad. 2: Leaf: anthocyanin coloration at basal part



Ad. 3: Peduncle: length

Observations should be made from the top of the bulb to the base of the pedicels.

Ad. 4: Peduncle: thickness

Observations should be made in the middle of the peduncle.

Ad. 5: Peduncle: anthocyanin coloration

Observations should be made from the top of the bulb to the base of the pedicels. The strongest expression should be observed.

Ad. 6: Peduncle: distribution of anthocyanin coloration



Ad. 10: Flower: type

Double flowers have more than 6 tepals.



1
single



2
double

Ad. 11: Only varieties with flower type: double: Flower: shape of petaloid staminodes



1
regular



2
irregular

Ad. 12: Flower: attitude

Observations should be made excluding the pedicel.



1
erect



3
horizontal



5
drooping

Ad. 13: Pedicel: length



Ad. 15: Flower: shape in front view



1
round



2
triangular



3
star-shaped

Ad. 16: Flower: length






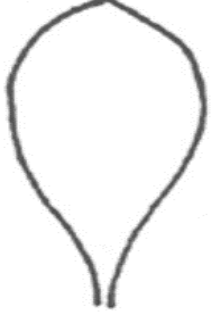





Ad. 17: Flower: width

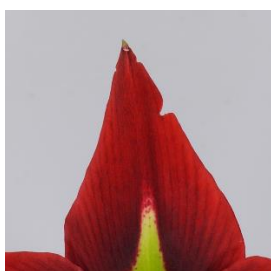
Observations should be made on the maximum width of the flower.



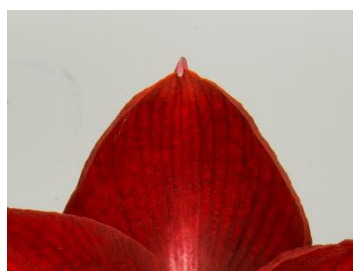
Ad. 18: Outer median tepal: shape

		← broadest part →		
		below middle	at middle	above middle
narrow (elongated) ↑ width (ratio length/width) ↓ broad (compressed)	 3 narrow ovate	 6 narrow elliptic	 9 narrow obovate	
	 2 medium ovate	 5 medium elliptic	 8 medium obovate	
	 1 broad ovate	 4 broad elliptic	 7 broad obovate	

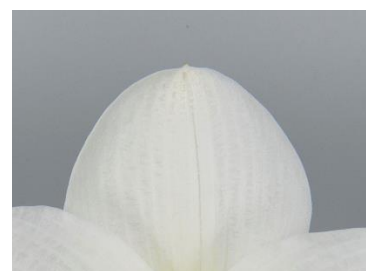
Ad. 19: Outer median tepal: shape of apex



1
acute



2
acuminate



3
rounded

Ad. 24: Outer median tepal: pattern of secondary color on inner side



1
none



2
veined



3
central stripe



4
narrow marginate












5
striped and speckled

Ad. 25: Only varieties with outer median tepal: pattern of secondary color on inner side: none:
Outer median tepal: conspicuousness of veins



Ad. 28: Inner median tepal: shape

		← broadest part →		
		below middle	at middle	above middle
narrow (elongated) ↑ width (ratio length/width) ↓ broad (compressed)	 3 narrow ovate	 6 narrow elliptic	 9 narrow obovate	
	 2 medium ovate	 5 medium elliptic	 8 medium obovate	
	 1 broad ovate	 4 broad elliptic	 7 broad obovate	

Ad. 31: Inner median tepal: pattern of secondary color on inner side



1
none



2
veined



3
central stripe












4
narrow marginate



5
striped and speckled

Ad. 34: Inner lateral tepal: shape

		← broadest part →		
		below middle	at middle	above middle
narrow (elongated) ↑ width (ratio length/width) ↓ broad (compressed)	 3 narrow ovate	 6 narrow elliptic	 9 narrow obovate	
	 2 medium ovate	 5 medium elliptic	 8 medium obovate	
	 1 broad ovate	 4 broad elliptic	 7 broad obovate	

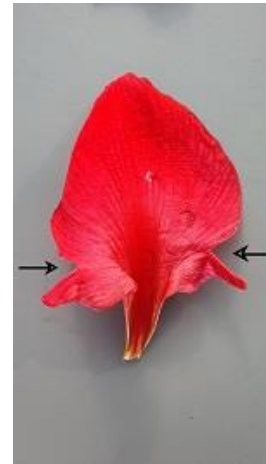
Ad. 35: Inner lateral tepal: depth of incisions



1
absent or shallow



2
medium

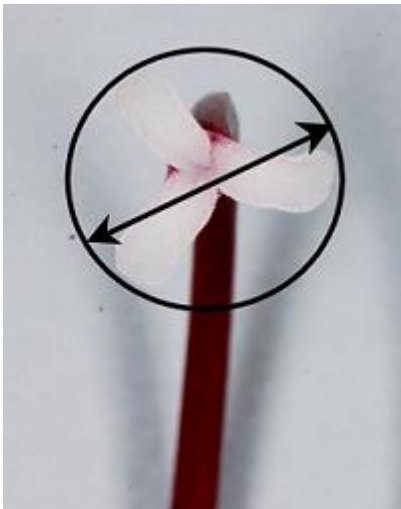


3
deep

Ad. 37: Anther: color

Observations should be made just before dehiscence.

Ad. 39: Stigma: diameter



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	<input type="text" value="Hippeastrum Herb."/>
1.2	Common name	<input type="text" value="Amaryllis"/>
1.3	Species (please indicate):	<input type="text"/>
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 variety)
(.....) 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	Vegetative propagation	
(a)	<i>In vitro</i> propagation	[]
(b)	Division	[]
(c)	Other (state method)	[]
	<input type="text"/>	
4.2.2	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 Flower: type (10)		
single	Antarctica, Peach Melba	1 []
double	Double Dragon, Scarlet Belle	2 []
5.2 Flower: width (17)		
very narrow	Red Beauty	1 []
very narrow to narrow	White Garden	2 []
narrow	Table Dance	3 []
narrow to medium	Pink Rival	4 []
medium	Cherry Bloss, Coral Flame	5 []
medium to broad	Antarctica	6 []
broad	NWK 8288, Tosca	7 []
broad to very broad	Arnym	8 []
very broad		9 []
5.3(i) Outer median tepal: main color of inner side (22)		
RHS Colour Chart (indicate reference number)		
5.3(ii) Outer median tepal: main color of inner side (22)		
white		1 []
yellow green		2 []
orange		3 []
light pink		4 []
medium pink		5 []
dark pink		6 []
medium red		7 []
dark red		8 []
other (indicate)		9 []
5.4 Outer median tepal: pattern of secondary color on inner side (24)		
none	Antarctica, Peach Melba	1 []
veined	Estella, Pretnym	2 []
central stripe	Balentino	3 []
narrow marginate	Picotee	4 []
striped and speckled	Mama Mia	5 []

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

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Peduncle: length</i>	<i>short</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.]

Resistance to pests and diseases?

yes no

(If yes, 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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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 <input type="checkbox"/>	No <input type="checkbox"/>
(b)	Chemical treatment (e.g. growth retardant, pesticide)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
(c)	Tissue culture	Yes <input type="checkbox"/>	No <input type="checkbox"/>
(d)	Other factors	Yes <input type="checkbox"/>	No <input type="checkbox"/>

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]