E

TG/181/4(proj.3)
ORIGINAL: English
DATE: 2023-04-30

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

AMARYLLIS

UPOV Code(s): HIPPE

Hippeastrum Herb.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from the Netherlands
to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its fifty-fifth session, to be held virtually
from 2023-06-12 to 2023-06-16

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Hippeastrum Herb., *Hippeastrum* × *hybridum* hort., *Hippeastrum Hybrids*, *Hippeastrum x hortorum* Maatsch, *Hippeastrum-Hybridae*	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.]

TABLE OF CONTENTS PAGE

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: maximum width of perianth (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)-(f) 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 Beispielssorten Variedades ejemplo	Note/ Nota
1. (*) QN MS/VG		**(+) (a)**				
	Leaf: width					
	very narrow					1
	narrow				Balentino	2
	medium				Coral Flame	3
	broad				Peach Melba	4
	very broad					5
2. QN VG		**(+) (a)**				
	Leaf: anthocyanin coloration					
	absent or very weak				White Garden	1
	weak				Lovely Lady	2
	medium				Floris Hekker	3
	strong				Ferrari	4
	very strong					5
3. (*) QN MS/VG		**(+) (b)**				
	Peduncle: length					
	very short					1
	very short to short					2
	short				Double Dragon, Pink Rival	3
	short to medium					4
	medium				Red Beauty, Red Garden	5
	medium to long					6
	long				Balentino, Scarlet Belle	7
	long to very long					8
	very long				Central Park	9
4. (*) QN MS/VG		**(+) (b)**				
	Peduncle: width					
	very narrow				Balentino	1
	narrow				Up Star	2
	medium				Coral Flame, KB111081	3
	broad				NWK 8288, Scarlet Belle	4
	very broad				Ferrari	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	**QN VG**	**(+)**	**(b)**			
	Peduncle: anthocyanin coloration					
	absent or very weak				Antarctica	1
	weak				Double Dragon	2
	medium				NWK 8288	3
	strong				Table Dance	4
	very strong				Lovely Lady	5
6.	**PQ VG**	**(+)**	**(b)**			
	Only varieties with anthocyanin coloration: present: Peduncle: distribution of anthocyanin coloration					
	basal third				Hyde Park	1
	distal third					2
	entire				Lovely Lady	3
7.	**QN VG**	**(+)**	**(b)**			
	Bracts: anthocyanin coloration					
	absent or very weak				Antarctica	1
	weak				Cherry Bloss	2
	medium				White Garden	3
	strong				NWK 8288	4
	very strong				Lovely Lady	5
8.	**QN VG**	**(+)**	**(b)**			
	Only varieties with Bracts: anthocyanin coloration: absent or very weak to medium: Bracts: intensity of green color					
	very light				White Amadeus	1
	light					2
	medium				Antarctica	3
	dark					4
	very dark				Lagoon	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. (*)	**QN MS/VG**	**(c)**				
	Inflorescence: number of flowers					
	few				Pretnym	1
	medium				Antarctica, Peach Melba	2
	many				Red Garden	3
10. (*)	**QL VG**	**(+) (c), (d)**				
	Flower: type					
	single				Antarctica, Peach Melba	1
	double				Double Dragon, Scarlet Belle	2
11.	**QL VG**	**(+) (c), (d)**				
	<u>Only varieties with flower type:</u> <u>double:</u> Flower: shape of petaloid staminodes					
	regular				Double Dragon	1
	irregular				NWK 8288	2
12.	**QN VG**	**(+) (c), (d)**				
	Flower: attitude of perianth (excluding pedicel)					
	erect				Up Star	1
	erect to horizontal				Double Dragon	2
	horizontal				Antarctica	3
	horizontal to drooping				Balentino	4
	drooping				Red Garden	5
13. (*)	**QN MS/VG**	**(+) (c), (d)**				
	Pedicel: length					
	very short				Up Star	1
	short				Peach Melba, Table Dance	2
	medium				Arnym, Balentino	3
	long				Double Dragon, Scarlet Belle	4
	very long				NWK 8288	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14.		**QN VG**	**(+) (c), (d)**				
		Pedicel: anthocyanin coloration					
		absent or very weak				Antarctica	1
		weak				NWK 8288	2
		medium				Floris Hekker	3
		strong				Lovely Lady	4
		very strong				KB111081	5
15.	**(*)**	**PQ VG**	**(+) (c), (d)**				
		Flower: shape in front view					
		round				Dancing Queen, Scarlet Belle	1
		triangular				Antarctica, Peach Melba	2
		star-shaped				Balentino	3
16.	**(*)**	**QN MS/VG**	**(+) (c), (d)**				
		Flower: length of perianth					
		very short				Orange Queen	1
		short				NWK 8288, White Garden	2
		medium				Cherry Bloss, Peach Melba	3
		long				Lagoon, Tosca	4
		very long					5
17.	**(*)**	**QN MS/VG**	**(+) (c), (d)**				
		Flower: maximum width of perianth					
		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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18.	**(*)**	**PQ VG**	**(+) (c), (d)**				
		Outer median tepal: shape					
		narrow ovate				Red Beauty	1
		medium ovate				Tosca	2
		broad ovate				Peach Melba	3
		narrow elliptic				Balentino, Night Star	4
		medium elliptic				Estella	5
		broad elliptic				Antarctica, Coral Flame	6
		narrow obovate					7
		medium obovate				Monaco	8
		broad obovate				Mama Mia	9
19.		**PQ VG**	**(+) (c), (d)**				
		Outer median tepal: shape of apex					
		acute					1
		acuminate					2
		rounded					3
20.		**QN VG**	**(c), (d)**				
		Outer median tepal: undulation of margin					
		absent or very weak				Balentino	1
		weak				Red Garden	2
		medium				White Garden	3
		strong				NWK 8288	4
		very strong				Central Park	5
21.		**QN VG**	**(c), (d)**				
		Outer median tepal: attitude					
		horizontal				Double Dragon	1
		slightly reflexed				White Garden	2
		moderately reflexed				Red Garden	3
		strongly reflexed				Balentino	4
22.	**(*)**	**PQ VG**	**(c), (d), (e)**				
		Outer median tepal: main color of inner side					
		RHS Colour Chart (indicate reference number)					

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23.		**PQ VG**	**(c), (d), (e)**				
		Outer median tepal: secondary color of inner side					
		RHS Colour Chart (indicate reference number)					
24.	**(*)**	**PQ VG**	**(+) (c), (d)**				
		Outer median tepal: color pattern of secondary color on inner side					
		none				Antarctica, Peach Melba	1
		veined				Estella, Pretnym	2
		star-shaped				Balentino	3
		narrow marginated				Picotee	4
		striped and speckled				Mama Mia	5
25.		**QN VG**	**(+) (c), (d)**				
		Only varieties with outer median tepal: color pattern of secondary color on inner side: none: Outer median tepal: conspicuousness of veins					
		very weak				Antarctica	1
		weak				Arnym	2
		medium				Red Garden	3
		strong				Lovely Lady	4
		very strong				Up Star	5
26.		**PQ VG**	**(c), (d), (e), (f)**				
		Outer median tepal: main color of outer side					
		RHS Colour Chart (indicate reference number)					
27.		**PQ VG**	**(c), (d), (e), (f)**				
		Outer median tepal: secondary color of outer side					
		RHS Colour Chart (indicate reference number)					

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.	**PQ VG**	**(+)**	**(c), (d)**			
	Inner median tepal: shape					
	narrow ovate					1
	medium ovate					2
	broad ovate					3
	narrow elliptic				Night Star	4
	medium elliptic				Estella	5
	broad elliptic					6
	narrow obovate					7
	medium obovate					8
	broad obovate					9
29.	**PQ VG**		**(c), (d), (e)**			
	Inner median tepal: main color of inner side					
	RHS Colour Chart (indicate reference number)					
30.	**PQ VG**		**(c), (d), (e)**			
	Inner median tepal: secondary color of inner side					
	RHS Colour Chart (indicate reference number)					
31.	**PQ VG**	**(+)**	**(c), (d)**			
	Inner median tepal: color pattern of secondary color on inner side					
	none				Antarctica, Peach Melba	1
	veined				Estella, Pretnym	2
	star shaped				Balentino	3
	narrow marginated				Picotee	4
	striped and speckled				Lieve, Table Dance	5
32.	**PQ VG**		**(c), (d), (e), (f)**			
	Inner median tepal: main color of outer side					
	RHS Colour Chart (indicate reference number)					

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33.	**PQ VG**	**(c), (d), (e), (f)**				
	Inner median tepal: secondary color of outer side					
	RHS Colour Chart (indicate reference number)					
34.	**PQ VG**	**(+)** **(c), (d)**				
	Inner lateral tepal: shape					
	narrow ovate					1
	medium ovate				Red Beauty	2
	broad ovate				Monaco	3
	narrow elliptic				Night Star	4
	medium elliptic				Estella	5
	broad elliptic					6
	narrow obovate					7
	medium obovate					8
	broad obovate					9
35.	**QN VG**	**(+)** **(c), (d)**				
	Inner lateral tepal: depth of incisions					
	absent or shallow				Balentino	1
	medium				Central Park	2
	deep				Lagoon	3
36.	**PQ VG**	**(c), (d)**				
	Filament: color					
	RHS Colour Chart (indicate reference number)					
37.	**PQ VG**	**(+)** **(c)**				
	Anther: color					
	yellowish				Antarctica	1
	pinkish				Lovely Lady	2
	reddish				Red Garden	3
	purplish				Pink Rival	4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38.	**PQ VG**	**(c), (d)**				
	Style: color					
	RHS Colour Chart (indicate reference number)					
39.	**QN VG**	**(+)** **(c), (d)**				
	Stigma: diameter					
	very small				Pink Panther	1
	small				Balentino, Estella	2
	medium				Antarctica, Peach Melba	3
	large				Monaco, Pink Rival	4
	very large				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 on the leaf should be made on the largest fully expanded leaf. This is in most cases after the flowering period.

(b) Observations on peduncle and bracts should be made before the flowers open.

(c) Observations should be made when all flowers on the first peduncle are open.

(d) Observations on the flower should be made when the anthers are open.

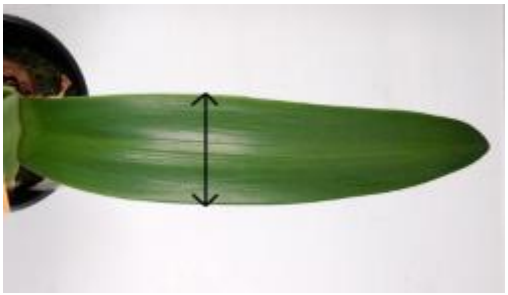
(e) The main color is the color with the largest surface area. In cases where the areas of the main and secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color.

(f) Observations on the color of outer side should only be made if the color is clearly different from the color of the inner side.

8.2 Explanations for individual characteristics

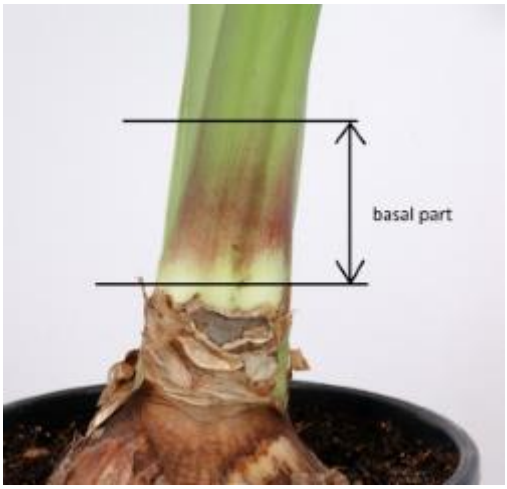
Ad. 1: Leaf: width

Observations should be made on the widest part of the leaf.



Ad. 2: Leaf: anthocyanin coloration

Observations should be made on the basal part of the leaf.



Ad. 3: Peduncle: length

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

Ad. 4: Peduncle: width

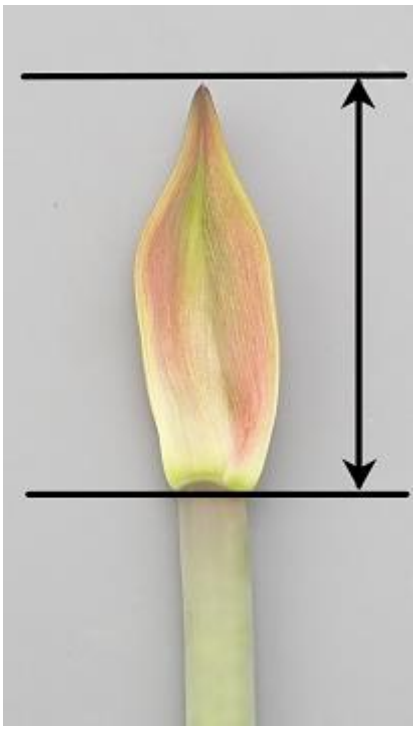
Observations should be made on the widest part in the middle third of the peduncle.

Ad. 5: Peduncle: anthocyanin coloration

Observations should be made from the top of the bulb to the base of the pedicel. The strongest anthocyanin coloration should be observed.

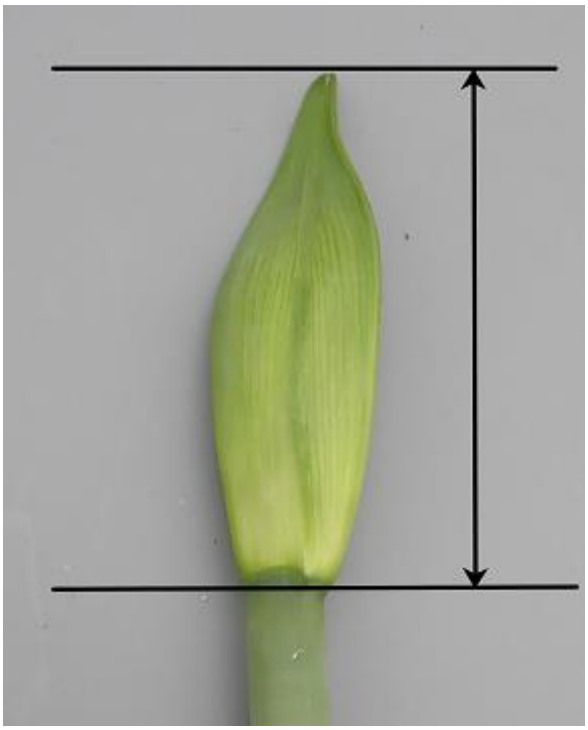
Ad. 6: Only varieties with anthocyanin coloration: present: Peduncle: distribution of anthocyanin coloration

Ad. 7: Bracts: anthocyanin coloration



Ad. 8: Only varieties with Bracts: anthocyanin coloration: absent or very weak to medium: Bracts: intensity of green color

Only to be observed for varieties with 'Bracts: anthocyanin coloration' less than strong (less than note 4 to 5).



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 of perianth (excluding pedicel)

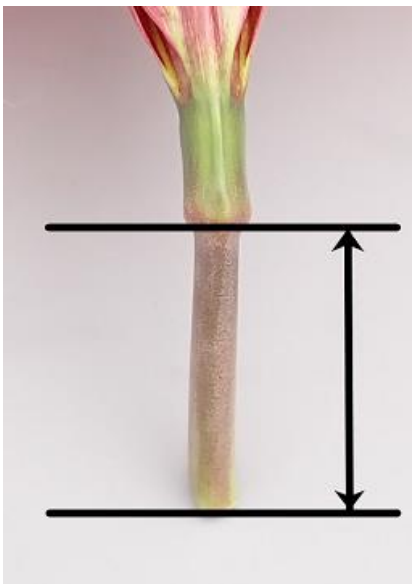
1
erect

3
horizontal

5
drooping

Ad. 13: Pedicel: length

Ad. 14: Pedicel: anthocyanin coloration



Ad. 15: Flower: shape in front view

1
round

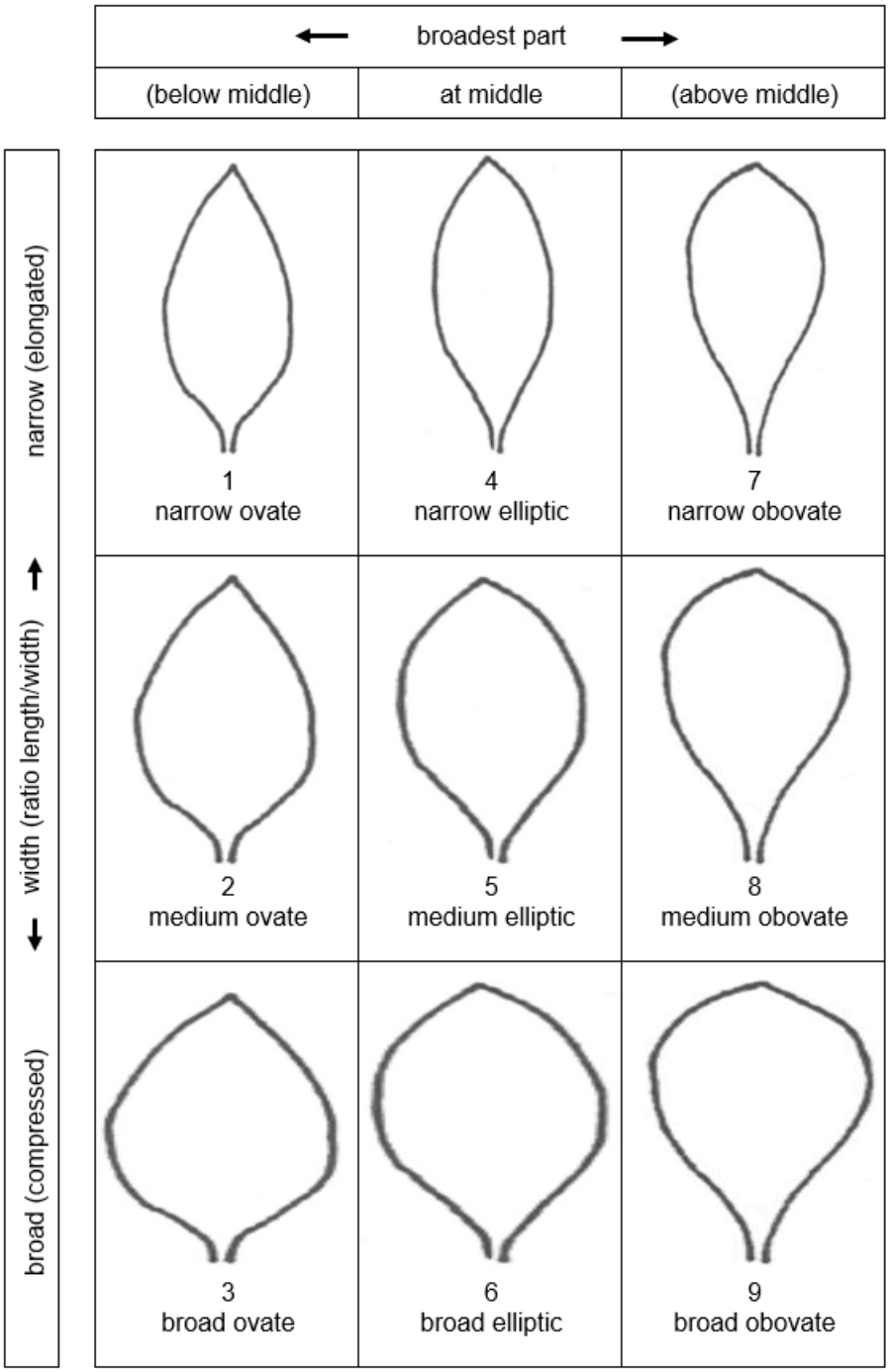
2
triangular

3
star-shaped

Ad. 16: Flower: length of perianth

Ad. 17: Flower: maximum width of perianth

Ad. 18: Outer median tepal: shape



Ad. 19: Outer median tepal: shape of apex

1
acute

2
acuminate

3
rounded

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

1
none

2
veined

3
star-shaped

4
narrow marginated

5
striped and speckled

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

1
very weak

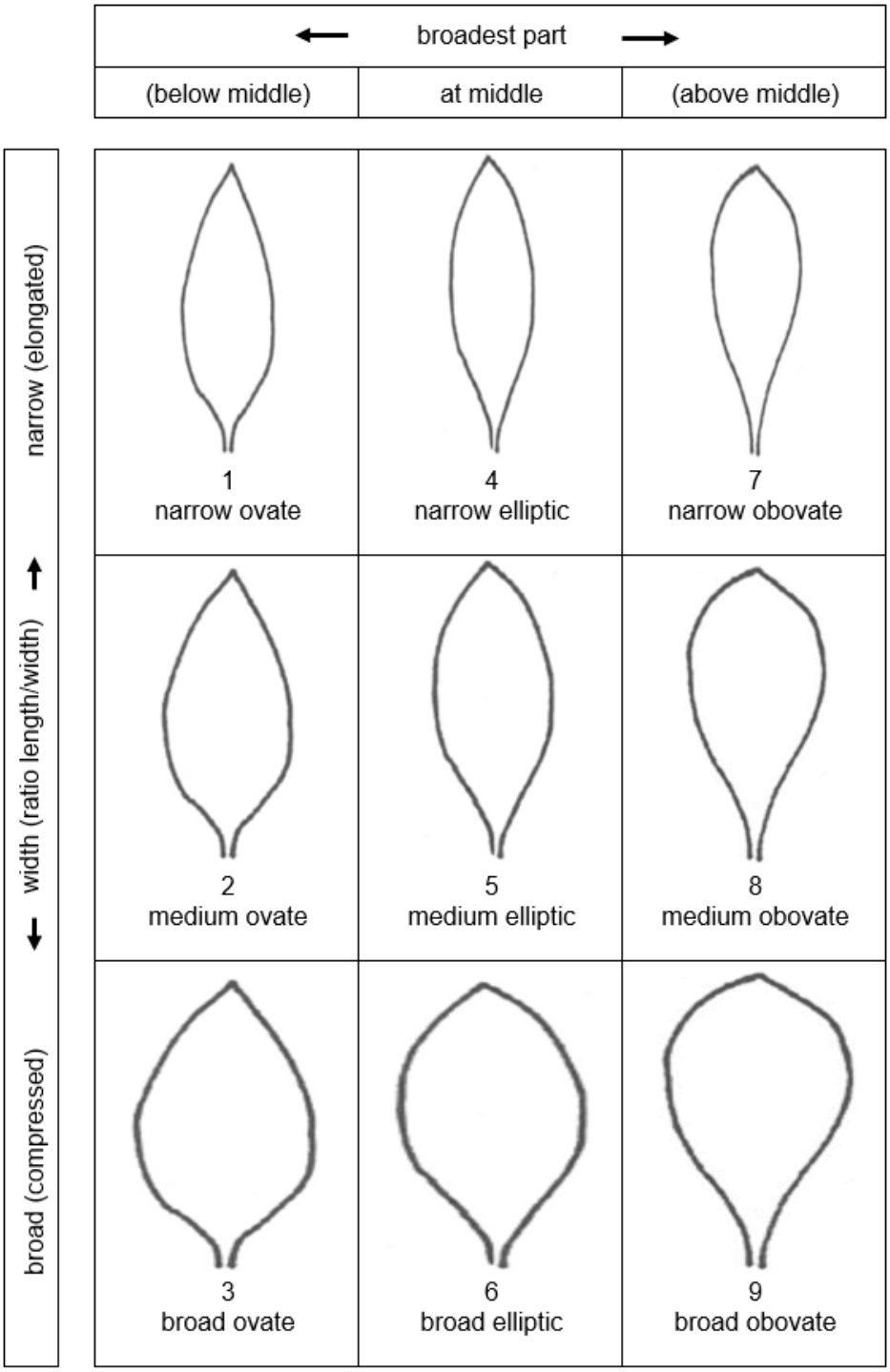
2
weak

3
medium

4
strong

5
very strong

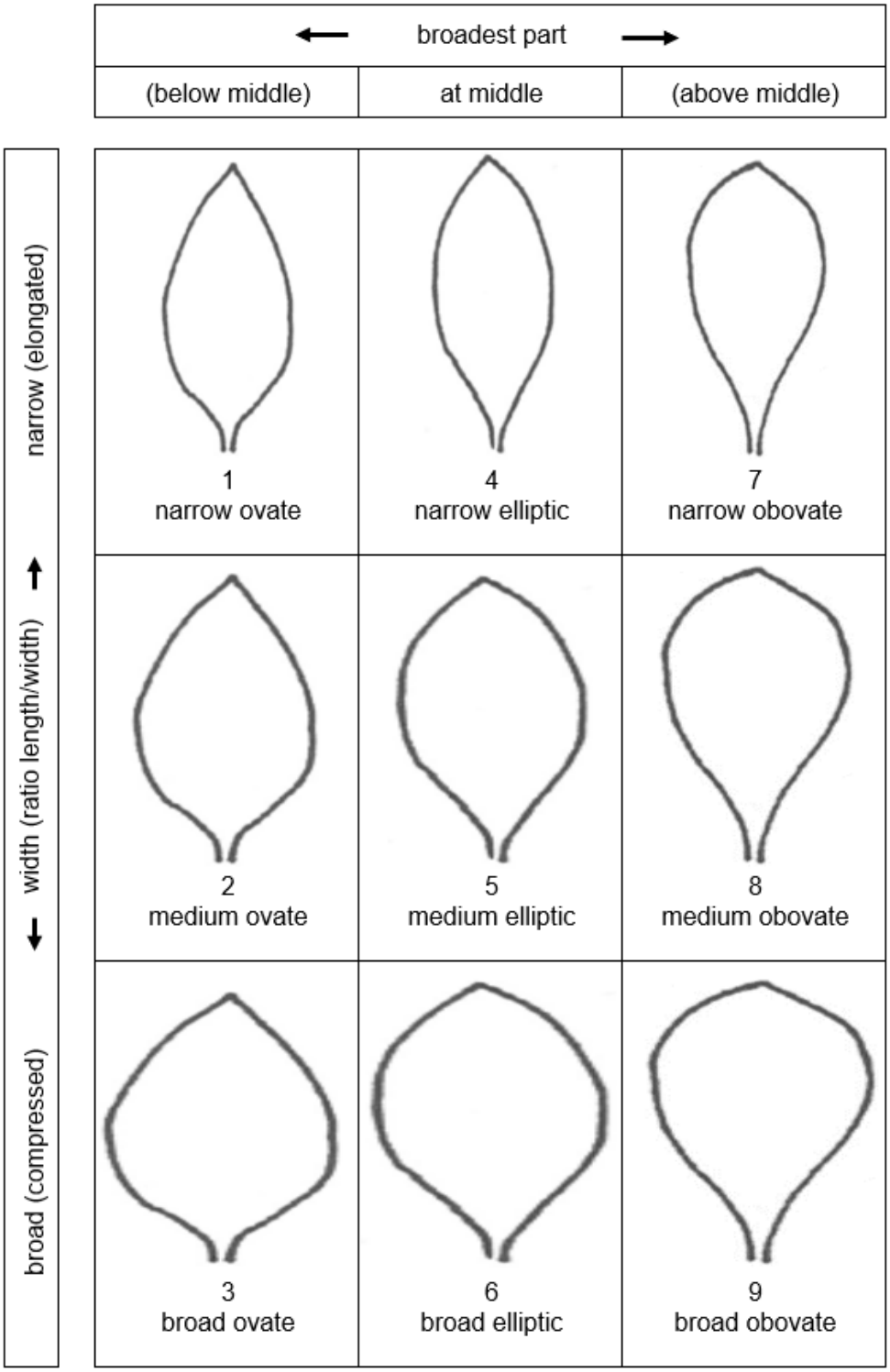
Ad. 28: Inner median tepal: shape



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

1 none | 2 veined | 3 star shaped | 4 narrow marginated | 5 striped and speckled

Ad. 34: Inner lateral tepal: shape



Ad. 35: Inner lateral tepal: depth of incisions

1
absent or shallow

2
medium

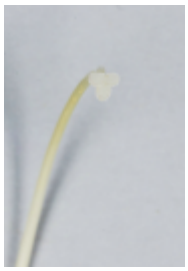
3
deep

Ad. 37: Anther: color

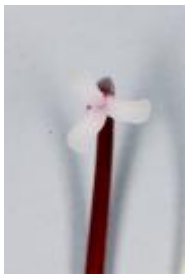
Observations on the color of the anther should be made just before dehiscence.

Ad. 39: Stigma: diameter

Observations on the stigma should be made on mature flowers.



2
small



4
large

9. 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	*Hippeastrum* Herb.
1.2	Common name	Amaryllis

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 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)

4.1.5 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) *In vitro* propagation [ ]
(b) Division [ ]
(c) Other (state method) [ ]

4.2.2 Other [ ]
(Please provide details)

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

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

	Characteristics	Example Varieties	Note
5.1 (10)	**Flower: type**		
	single	Antarctica, Peach Melba	1 [ ]
	double	Double Dragon, Scarlet Belle	2 [ ]
5.2 (17)	**Flower: maximum width of perianth**		
	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) (22)	**Outer median tepal: main color of inner side**		
	RHS Colour Chart (indicate reference number)		
5.3(ii) (22)	**Outer median tepal: main color of inner side**		
	white	White Garden	1 [ ]
	yellow green	Yellow Garden	2 [ ]
	orange	Orange Queen, Peach Melba	3 [ ]
	light pink	Swenym	4 [ ]
	medium pink	Estella	5 [ ]
	dark pink	Pink Rival	6 [ ]
	medium red	Monaco, Red Garden	7 [ ]
	dark red	KB111081	8 [ ]
	other (please indicate)		9 [ ]
5.4 (24)	**Outer median tepal: color pattern of secondary color on inner side**		
	none	Antarctica, Peach Melba	1 [ ]
	veined	Estella, Pretnym	2 [ ]
	star-shaped	Balentino	3 [ ]
	narrow marginated	Picotee	4 [ ]
	striped and speckled	Mama Mia	5 [ ]

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	*Peduncle: length*	*short*	*medium*

Comments:

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

[#]7. Additional information which may help in the examination of the variety

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

Yes [ ] No [ ]

(If yes, please provide details)

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

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

A representative color 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:

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]