



TG/181/3

INTERNATIONAL UNION
FOR THE PROTECTION
OF NEW VARIETIES OF
PLANTS

UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS
VÉGÉTALES

INTERNATIONALER
VERBAND ZUM SCHUTZ
VON PFLANZEN-
ZÜCHTUNGEN

UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES

GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

AMARYLLIS

(Hippeastrum Herb.)

GENEVA
2001

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These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
I. Subject of these Guidelines	3
II. Material Required	3
III. Conduct of Tests	3
IV. Methods and Observations.....	4
V. Grouping of Varieties	4
VI. Characteristics and Symbols	5
VII. Table of Characteristics	6
VIII. Explanations on the Table of Characteristics	11
IX. Literature	12
X. Technical Questionnaire	13

I. Subject of these Guidelines

These Test Guidelines apply to all vegetatively propagated varieties of *Hippeastrum* Herb. of the family Amaryllidaceae.

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. As a minimum, the following quantity of plant material is recommended:

20 bulbs of flowering size.

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pests or diseases. It should preferably not be obtained from *in vitro* propagation.

3. The plant material must have been stored at a minimum temperature of 13-15°C during a minimum period of 6-8 weeks otherwise the material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. A test should normally be conducted for one growing period. If distinctness and/or uniformity cannot be sufficiently established in one growing period, the test should be extended for a second growing period.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The tests should be carried out under the following growing conditions:

Temperature: Bulb temperature between 20-22°C
(soil heating 20-22°C)

Planting time: December – January (Northern Hemisphere)

Substrate: Plain soil

Planting distance: 30 bulbs per m²

Fertilization: E.C. 1.5-2, standard solution

Irrigation: 5 to 6 mm daily: preferably drip system

The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should include a total of 20 plants. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. All observations should be made on 20 plants. All observations determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants.
2. For the assessment of uniformity a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 20 plants, the maximum number of off-types allowed would be 1.
3. All observations should be made on plants that have fully opened flowers.
4. Unless otherwise indicated, all observations on the flower should be made shortly after anther dehiscence.
5. 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 British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed within the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
 - (a) Flower: type (characteristic 7)
 - (b) Flower: maximum width of perianth (characteristic 13)
 - (c) Flower: main color of inner side (characteristic 17) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: salmon
 - Gr. 4: light pink
 - Gr. 5: pink
 - Gr. 6: red
 - Gr. 7: dark red

VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of expression for each characteristic.
3. Legend:
 - (*) Characteristics that should be used on all varieties in every growing period over which examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.
 - (+) See Explanations on the Table of Characteristics in Chapter VIII.

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

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. Leaf: width (*)	Feuille: largeur	Blatt: Breite	Hoja: anchura		
narrow	étroite	schmal	estrecha	Pink Floyd	3
medium	moyenne	mittel	media	Orange Love	5
broad	large	breit	ancha	Nellie	7
2. Leaf: anthocyanin coloration	Feuille: pigmentation anthocyanique	Blatt: Anthocyanfärbung	Hoja: coloración antociánica		
absent	absente	fehlend	ausente	Pink Floyd	1
present	présente	vorhanden	presente	Renée	9
3. Peduncle: length (*)	Pédoncule: longueur	Blütenstandstiel: Länge	Pedúnculo: longitud		
short	court	kurz	corto	Orange Love	3
medium	moyen	mittel	medio	Kokarde	5
long	long	lang	largo	Geest Flame	7
4. Peduncle: (*) maximum width at middle third	Pédoncule: largeur maximale au tiers moyen	Blütenstandstiel: größte Breite im mittleren Drittel	Pedúnculo: anchura máxima en el tercio central		
narrow	étroit	schmal	estrecho	Pink Floyd	3
medium	moyen	mittel	medio	Orange Love	5
broad	large	breit	ancho	Orion	7
5. Peduncle: anthocyanin coloration at base	Pédoncule: pigmentation anthocyanique à la base	Blütenstandstiel: Anthocyanfärbung an der Basis	Pedúnculo: coloración antociánica en la base		
absent	absente	fehlend	ausente	Pink Floyd	1
present	présente	vorhanden	presente	Moneymaker	9
6. Inflorescence: (*) number of flowers	Inflorescence: nombre de fleurs	Blütenstand: Anzahl Blüten	Inflorescencia: número de flores		
few	petit	gering	bajo	Lemon Lime	3
medium	moyen	mittel	medio	Masai	5
many	grand	groß	alto		7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. Flower: type (*)	Fleur: type	Blüte: Typ	Flor: tipo		
single	simple	einfach	sencilla	Orion	1
double	double	gefüllt	doble	White Peacock	2
8. Flower: shape of petaloid staminodes (+) (double flowers only)	Fleur: forme des staminodes pétaloïdes (fleurs doubles uniquement)	Blüte: Form der Nebenkronen-staminodien (nur gefüllte Blüten)	Flor: forma de los estaminodios petaloïdes (flores dobles únicamente)		
regular	régulière	regelmäßig	regular		1
irregular	irrégulière	unregelmäßig	irregular		2
9. Flower: length of pedicel (*)	Fleur: longueur du pédicelle	Blüte: Länge des Blütenstiels	Flor: longitud del pedicelo		
short	court	kurz	corta	Orange Love	3
medium	moyen	mittel	media	Orion	5
long	long	lang	larga	Pink Floyd	7
10. Flower: anthocyanin coloration of pedicel	Fleur: pigmentation anthocyanique du pédicelle	Blüte: Anthocyanfärbung des Blütenstiels	Flor: coloración antocianica del pedicelo		
absent	absente	fehlend	ausente	Mr. John, Pink Floyd	1
present	présente	vorhanden	presente	Red Lion	9
11. Flower: shape in front view (*)	Fleur: forme en vue de face	Blüte: Form in Vorderansicht	Flor: forma en vista frontal		
round	arrondie	rund	redonda	Orion	1
triangular	triangulaire	dreieckig	triangular	Loes van Velden	2
star shaped	étoilée	sternförmig	estrellada	Pink Floyd	3
12. Flower: maximum length of perianth (*)	Fleur: longueur maximale du périanthe	Blüte: größte Länge der Blütenhülle	Flor: longitud máxima del perianto		
short	court	kurz	corto	Yellow Pioneer	3
medium	moyen	mittel	medio	Orion	5
long	long	lang	largo	Loes van Velden	7

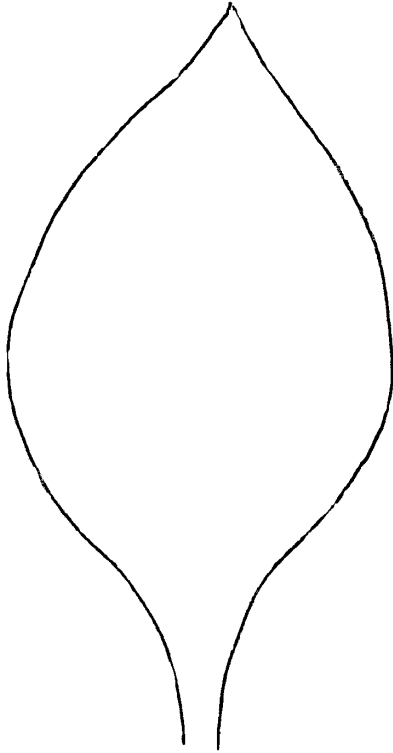
English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13. Flower: maximum (*) width of perianth	Fleur: largeur maximale du périanthe	Blüte: größte Breite der Blütenhülle	Flor: anchura máxima del perianto		
narrow	étroit	schmal	estrecha	Pink Floyd	3
medium	moyen	mittel	media	Masai	5
broad	large	breit	ancha	Maria Theresa	7
14. Flower: overlapping (*) of tepals	Fleur: chevauchement des tépales	Blüte: Überlappung der Perigonblätter	Flor: solapado de los tépalos		
weak	faible	gering	débil	Yellow Pioneer	3
medium	moyen	mittel	medio	Loes van Velden	5
strong	fort	stark	fuerte	Red Lion	7
15. Flower: shape of (*) outer tepal	Fleur: forme du tépale externe	Blüte: Form des äußeren Perigonblatts	Flor: forma del tépalo exterior		
narrow elliptic	elliptique étroite	schmal elliptisch	elíptica estrecha	Spotty	1
elliptic	elliptique	elliptisch	elíptica	Yellow Pioneer	2
broad elliptic	elliptique large	breit elliptisch	elíptica ancha	Masai	3
narrow ovate	ovale étroite	schmal eiförmig	oval estrecha		4
ovate	ovale	eiförmig	oval	Loes van Velden	5
broad ovate	ovale large	breit eiförmig	oval ancha	Orion	6
narrow obovate	obovale étroite	schmal verkehrt eiförmig	oboval estrecha	Pink Floyd	7
obovate	obovale	verkehrt eiförmig	oboval		8
broad obovate	obovale large	breit verkehrt eiförmig	oboval ancha		9
16. Flower: incisions of inner tepal	Fleur: incisions du tépale interne	Blüte: Einschnitte des inneren Perigonblatts	Flor: incisiones del tépalo interior		
absent	absentes	fehlend	ausentes	Pink Floyd	1
present	présentes	vorhanden	presentes	Maria Theresa	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. Flower: main color (*) of inner side	Fleur: couleur principale de la face interne	Blüte: Hauptfarbe der Innenseite	Flor: color principal del lado interior		
RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Tabla de colores RHS (indíquese el número de referencia)		
18. Flower: color (*) pattern	Fleur: répartition de la couleur	Blüte: Farbverteilung	Flor: distribución del color		
one colored	unicolore	einfarbig	monocolor	Red Lion	1
veined	veinée	geadert	veteada	Ludwig's Dazzler	2
flamed	flammé	geflammt	flameada	Masai	3
picotee	picotée	gezackt	moteada	Picotee	4
striped-speckled	en bandes tachetées	gestreift-gefleckt	rayada y manchada	Spotty	5
star like striped	en bande étoilée	sternförmig gestreift	en banda estrellada	Orion	6
19. Tepal: degree of wrinkling	Tépale: degré de rides	Perigonblatt: Grad der Schrumpfung	Tépalo: grado de arrugado		
weak	faible	gering	débil	Masai	3
medium	moyen	mittel	medio	Mont Blanc	5
strong	fort	stark	fuerte		7
20. Stamens: color	Étamines: couleur	Staubfäden: Farbe	Estambres: 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)		
21. Anthers: color (just before dehiscence)	Anthères: couleur (juste avant la déhiscence)	Staubbeutel: Farbe (kurz vor Pollenstäuben)	Anteras: color (inmediatamente antes de la dehiscencia)		
greenish	grisâtres	gräulich	grisáceo		1
yellowish	jaunâtres	gelblich	amarillento		2
reddish	rougeâtres	rötlich	rojizo		3
pinkish	rosâtres	blaß rosa	rosáceo		4
purplish	pourpres	blaß purpur	purpúreo		5

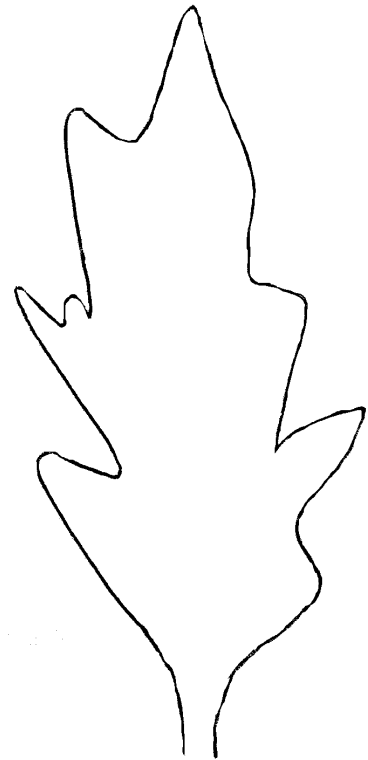
English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22. Pistil: color	Pistil: couleur	Stempel: Farbe	Pistilo: color		
RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Tabla de colores RHS (indíquese el número de referencia)		
23. Stigma: size	Stigmate: taille	Narbe: Größe	Estigma: tamaño		
small	petit	klein	pequeño		3
medium	moyen	mittel	mediano		5
large	grand	groß	grande		7

VIII. Explanations on the Table of Characteristics

Ad. 8: Flower: shape of petaloid staminodes (double flowers only)



1
regular



2
irregular

IX. Literature

ALFABETISCHE LIJST van de in Nederland in cultuur zijnde AMARYLLIS (*Hippeastrum*) CULTIVARS (Alphabetic list of Amaryllis varieties grown in the Netherlands), Koninklijke Algemeene Vereeniging voor Bloembollencultuur, Hillegom, 1980, NL.

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p>	
1. Species	<p><i>Amaryllis (Hippeastrum Herb.)</i> AMARYLLIS</p>
2. Applicant (Name and address)	
3. Proposed denomination or breeder's reference	

4. Information on origin, maintenance and reproduction of the variety

4.1 Origin

(a) Seedling (indicate parent varieties)

..... []

(b) Mutation (indicate parent variety)

..... []

(c) Discovery (indicate where and when)

..... []

(d) Other (specify)

..... []

4.2 Method of reproduction

- by incisions []

- *in vitro* propagation []

- other (state method) []

4.3 Other information

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

Characteristics	Example Varieties	Note
5.1 Flower: type (7)		
single	Orion	1[]
double	White Peacock	2[]
5.2 Flower: maximum width of perianth (13)		
narrow	Pink Floyd	3[]
medium	Masai	5[]
broad	Maria Theresa	7[]
5.3i Flower: main color of inner side (17)		
RHS Colour Chart (indicate reference number)		
5.3ii Flower: main color of inner side (17)		
white	Ludwig Dazzler	1[]
yellow	Lemon Lime	2[]
salmon	Rilona	3[]
light pink	Apple Blossom	4[]
pink	Pink Perfection	5[]
red	Red Lion	6[]
dark red	Midnight	7[]

6. Similar varieties and differences from these varieties

Denomination of similar variety	Characteristic in which the similar variety is different ^{o)}	State of expression of similar variety	State of expression of candidate variety
---------------------------------	--	--	--

^{o)} In the case of identical states of expressions of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.1 Resistance to pest and diseases

7.2 Special conditions for the examination of the variety

7.3 Other information

A representative color photo of the variety should be added to the Technical Questionnaire.

8. Authorization for release

- (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [] No []

- (b) Has such authorization been obtained?

Yes [] No []

If the answer to that question is yes, please attach a copy of such an authorization.

[End of document]