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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

VRIESEA

UPOV Code: VRIES

Vriesea Lindl.

[*]

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from the Netherlands

to be considered by

Technical Committee at its forty-seventh session,
to be held in Geneva from April 4 to 6, 2011

Alternative Names:[*]

Botanical name	*English*	*French*	*German*	*Spanish*
Vriesea Lindl.	Vriesea	Vriesea	Vriesea	Vriesea

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 *Vriesea* Lindl..

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 young plants, capable of flowering within one month and expressing all relevant characteristics of the variety during the first growing cycle.

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

seed-propagated varieties:	45 plants
vegetatively propagated varieties:	20 plants

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 Number of Growing Cycles

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

3.2 Testing Place

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

3.3 Conditions for Conducting the Examination

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

3.3.2 Observation of color by eye

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

3.4 Test Design

3.4.1 Seed propagated varieties: each test should be designed to result in a total of at least 45 plants

3.4.2 Vegetatively propagated varieties: each test should be designed to result in a total of at least 20 plants.

3.4.3 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 Additional Tests

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being

examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other 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 second column of the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

"Visual" observation (V) is an observation made on the basis of the expert's judgment. For the purposes of this document, "visual" observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness."

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

4.2 Uniformity

4.2.1 It is of particular importance for users of these Test Guidelines to consult the Genera Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 The assessment of uniformity of seed-propagated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction.

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) Plant: height of foliage (characteristic 1)
(b) Leaf blade: main color of upper side (excluding variegation) (characteristic 16)
(c) Inflorescence: branching (characteristic 23)
(d) Floral bract: main color of outer side (characteristic 39), with the following groups:

Gr. 1: white
Gr. 2: yellow
Gr. 3: orange
Gr. 4: orange red
Gr. 5: red
Gr. 6: red purple
Gr. 7: purple
Gr. 8: green

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

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 States of Expression and Corresponding Notes

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

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

State	Note
small	3
medium	5
large	7

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

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

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

(*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3
QN: Quantitative characteristic – see Chapter 6.3
PQ: Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

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

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

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(*)** **(+)**	**MG**	**Plant: height of foliage**	**Plante : hauteur du feuillage**	**Pflanze: Höhe des Laubs**	**Planta: altura del follaje**		
QN	**(a)**	very short	très basse	sehr niedrig	muy baja		1
		short	basse	niedrig	baja	Pluto	3
		medium	moyenne	mittel	media	Clementine	5
		tall	haute	hoch	alta	Enjoy	7
		very tall	très haute	sehr hoch	muy alta	Evita	9
2. **(*)** **(+)**	**MG**	**Plant: diameter**	**Plante : diamètre**	**Pflanze: Durchmesser**	**Planta: diámetro**		
QN	**(a)**	very small	très petit	sehr klein	muy pequeño	Pluto	1
		small	petit	klein	pequeño	Cathy	3
		medium	moyen	mittel	medio	Venus	5
		large	grand	groß	grande	Magic	7
		very large	très grand	sehr groß	muy grande	Saturn	9
3.	**MG**	**Plant: number of leaves**	**Plante : nombre de feuilles**	**Pflanze: Anzahl Blätter**	**Planta: número de hojas**		
QN	**(a)**	few	petit	gering	bajo	Era	3
		medium	moyen	mittel	medio	Saturn	5
		many	grand	groß	alto	Oberon	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
4. (*) (+)	**VG**	**Young leaf blade: main color of upper side (excluding variegation)**	**Jeune limbe : couleur principale de la face supérieure (panachure exclue)**	**Junge Blattspreite: Hauptfarbe der Oberseite (ohne Panaschierung)**	**Limbo joven: color principal del haz (excluida la variegación)**		
PQ	**(a)**	light green	vert clair	hellgrün	verde claro		1
		medium green	vert moyen	mittelgrün	verde medio	Style	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Lion	3
		grey green	vert-gris	graugrün	verde gris		4
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo	Autumn Blaze	5
		purple	pourpre	purpurn	púrpura	Pacific Ruby	6
		red brown	rouge-brun	rotbraun	marrón rojizo		7
5. (*)	**VG**	**Young leaf blade: variegation**	**Jeune limbe : panachure**	**Junge Blattspreite: Panaschierung**	**Limbo joven: variegación**		
QL	**(a)**	absent	absente	fehlend	ausente	Style	1
		present	présente	vorhanden	presente	Robin	9
6. (*) (+)	**VG**	**Young leaf blade: type of variegation**	**Jeune limbe : type de panachure**	**Junge Blattspreite: Art der Panaschierung**	**Limbo joven: tipo de variegación**		
PQ	**(a)**	narrow marginal	marginale étroite	schmal marginal	marginal estrecha		1
		broad marginal	marginale large	breit marginal	marginal ancha		2
		central stripe	bande centrale	Mittelstreifen	raya central	Robin	3
		multiple stripes	bandes multiples	mehrere Streifen	múltiples rayas	Clementine	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. (*) (+)	**VG**	**Young leaf blade: pattern of secondary color (excluding variegation)**	**Jeune limbe : distribution de la couleur secondaire (panachure exclue)**	**Junge Blattspreite: Verteilung der Sekundärfarbe (ohne Panaschierung)**	**Limbo joven: distribución del color secundario (excluida la variegación)**		
PQ	**(a)**	none	nulle	keine	ninguna	Stream	1
		flushed	floue	geflammt	difusa		2
		striated	striée	gestreift	estriada	Tasman Cherry White	3
		netted	réticulée	netzartig	reticular		4
		banded	regroupée	in Banden	listada	Era	5
		marbled	marbrée	marmoriert	marmórea	Purple Haze	6
		spotted	tachetée	gefleckt	moteada	Racine	7
		marbled and spotted	marbrée et tachetée	marmoriert und gefleckt	marmórea y moteada	Tasman Tartan	8
		marginal	marginale	marginal	marginal	Lion	9
8. (*)	**VG**	**Young leaf blade: secondary color of upper side (excluding variegation)**	**Jeune limbe : couleur secondaire de la face supérieure (panachure exclue)**	**Junge Blattspreite: Sekundärfarbe der Oberseite (ohne Panaschierung)**	**Limbo joven: color secundario del haz (excluida la variegación)**		
PQ	**(a)**	light green	vert clair	hellgrün	verde claro	Kiwi Cream	1
		medium green	vert moyen	mittelgrün	verde medio	Splenriet	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Pacific Opal	3
		grey green	vert-gris	graugrün	verde gris	Tasman Candyman	4
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo	Style	5
		purple	pourpre	purpurn	púrpura	Kiwi Sunset	6
		red brown	rouge-brun	rotbraun	marrón rojizo	Era	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9. **(+)**	**VG**	**Young leaf blade: color of apical part if different from main color (excluding variegation)**	**Jeune limbe : couleur de la partie apicale si elle diffère de la couleur principale (panachure exclue)**	**Junge Blattspreite: Farbe des oberen Teils sofern nicht gleichfarbig mit Hauptfarbe (ohne Panaschierung)**	**Limbo joven: color de la zona apical si difiere del color principal (excluida la variegación)**		
PQ	**(a)**	light green	vert clair	hellgrün	verde claro	Purple Haze	1
	(b)	medium green	vert moyen	mittelgrün	verde medio	Snowman	2
		dark green	vert foncé	dunkelgrün	verde oscuro		3
		grey green	vert-gris	graugrün	verde gris	Tasman Coconut Ice	4
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo	Tasman rose	5
		purple	pourpre	purpurn	púrpura		6
		red brown	rouge-brun	rotbraun	marrón rojizo		7
10. **(*)** **(+)**	**MG**	**Leaf sheath: length**	**Gaine de la feuille : longueur**	**Blattscheide: Länge**	**Vaina: longitud**		
QN	**(a)**	short	courte	kurz	corta	Era	3
	(b)	medium	moyenne	mittel	media	Clementine	5
		long	longue	lang	larga	Deplacar	7
11. **(*)** **(+)**	**MG**	**Leaf sheath: width**	**Gaine de la feuille : largeur**	**Blattscheide: Breite**	**Vaina: anchura**		
QN	**(a)**	narrow	étroite	schmal	estrecha	Venus	3
	(b)	medium	moyenne	mittel	media	Clementine	5
		broad	large	breit	ancha	Saturn	7
12. **(*)** **(+)**	**MG**	**Leaf blade: length**	**Limbe : longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
QN	**(a)**	short	court	kurz	corto	Deplacar	3
	(b)	medium	moyen	mittel	medio	Draco	5
		long	long	lang	largo	Saturn	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13. (*) (+)	**MG**	**Leaf blade: width**	**Limbe : largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
QN	**(a)**	narrow	étroit	sehr schmal	estrecho	Draco	3
	(b)	medium	moyen	mittel	medio	Clementine	5
		broad	large	breit	ancho	Stream	7
14. (*) (+)	**VG**	**Leaf blade: shape of tip**	**Limbe : forme de l'extrémité**	**Blattspreite: Form der Spitze**	**Limbo: forma del extremo**		
PQ	**(a)**	acute	aiguë	spitz	agudo	Pluto	1
	(b)	acuminate	acuminée	zugespitzt	acuminado	Isabel	2
		mucronate	mucronée	keilförmig	mucronado	Stream	3
15. (*) (+)	**VG**	**Leaf blade: variegation**	**Limbe : panachure**	**Blattspreite: Panaschierung**	**Limbo: variegación**		
QL	**(b)**	absent	absente	fehlend	ausente		1
		present	présente	vorhanden	presente	Robin	9
16. (*)	**VG**	**Leaf blade: main color of upper side (excluding variegation)**	**Limbe : couleur principale de la face supérieure (panachure exclue)**	**Blattspreite: Hauptfarbe der Oberseite (ohne Panaschierung)**	**Limbo: color principal del haz (excluida la variegación)**		
PQ	**(b)**	light green	vert clair	hellgrün	verde claro	Draco	1
		medium green	vert moyen	mittelgrün	verde medio	Era	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Isabel	3
		grey green	vert-gris	graugrün	verde gris	Kiwi Sunset	4
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo		5
		purple	pourpre	purpurn	púrpura		6
		red brown	rouge-brun	rotbraun	marrón rojizo	Alcantarea vinicolor	7
		dark brown	brun foncé	dunkelbraun	marrón oscuro		8

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. (*) (+)	**VG**	**Leaf blade: type of variegation**	**Limbe : type de panachure**	**Blattspreite: Art der Panaschierung**	**Limbo: tipo de variegación**		
PQ		narrow marginal	marginale étroite	schmal marginal	marginal estrecha		1
		broad marginal	marginale large	breit marginal	marginal ancha		2
		central stripe	bande centrale	Mittelstreifen	raya central	Robin	3
		multiple stripes	bandes multiples	mehrere Streifen	múltiples rayas	Clementine	4
18. (*) (+)	**VG**	**Leaf blade: pattern of secondary color (excluding variegation)**	**Limbe : distribution de la couleur secondaire (panachure exclue)**	**Blattspreite: Verteilung der Sekundärfarbe (ohne Panaschierung)**	**Limbo: distribución del color secundario (excluida la variegación)**		
PQ		none	nulle	keine	ninguna	Stream	1
		flushed	floue	geflammt	difusa	Tasman Candyman	2
		striated	striée	gestreift	estriada	Tasman Cherry White	3
		banded	regroupée	in Banden	listada	Era	4
		marbled	marbrée	marmoriert	marmórea	Kiwi Cream	5
		spotted	tachetée	gefleckt	moteada	Racine	6
		marbled and spotted	marbrée et tachetée	marmoriert und gefleckt	marmórea y moteada	Tasman Tartan	7
		marginal	marginale	marginal	marginal	Lion	8
19. (*)	**VG**	**Leaf blade: secondary color of upper side (excluding variegation)**	**Limbe : couleur secondaire de la face supérieure (panachure exclue)**	**Blattspreite: Sekundärfarbe der Oberseite (ohne Panaschierung)**	**Limbo: color secundario del haz (excluida la variegación)**		
PQ		light green	vert clair	hellgrün	verde claro	Kiwi Dush	1
		medium green	vert moyen	mittelgrün	verde medio	Splenriet	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Dark Knight	3
		grey green	vert-gris	graugrün	verde gris	Tasman Coconut Ice	4
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo	Style	5
		purple	pourpre	purpurn	púrpura		6
		red brown	rouge-brun	rotbraun	marrón rojizo	Era	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
20. (*) (+)	**VG**	**Leaf blade: color of apical part if different from main color (excluding variegation)**	**Limbe : couleur de la partie apicale si elle diffère de la couleur principale (panachure exclue)**	**Blattspreite: Farbe des oberen Teils sofern nicht gleichfarbig mit Hauptfarbe (ohne Panaschierung)**	**Limbo: color de la zona apical si difiere del color principal (excluida la variegación)**		
PQ	**(a)**	pink	rose	rosa	rosa		1
	(b)	red	rouge	rot	rojo	Tasman Rose	2
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo	Draco	3
		purple brown	pourpre-brun	purpurbraun	marrón púrpura	Enjoy	4
21.	**VG**	**Leaf blade: main color of lower side (excluding variegation)**	**Limbe : couleur principale de la face inférieure (panachure exclue)**	**Blattspreite: Hauptfarbe der Unterseite (ohne Panaschierung)**	**Limbo: color principal del envés (excluida la variegación)**		
PQ	**(a)**	light green	vert clair	hellgrün	verde claro		1
		medium green	vert moyen	mittelgrün	verde medio	Enjoy	2
		dark green	vert foncé	dunkelgrün	verde oscuro	Saturn	3
		grey green	vert-gris	graugrün	verde gris	Evita	4
		red purple	rouge pourpre	rotpurpurn	púrpura rojizo		5
		purple	pourpre	purpurn	púrpura		6
		red brown	rouge-brun	rotbraun	marrón rojizo		7
		dark brown	brun foncé	dunkelbraun	marrón oscuro		8
22. (*) (+)	**VG**	**Inflorescence: height in relation to foliage**	**Inflorescence : hauteur par rapport au feuillage**	**Blütenstand: Höhe im Vergleich zum Laub**	**Inflorescencia: altura en relación con el follaje**		
QN	**(a)**	lower	inférieure	niedriger	por debajo		1
		same height	même hauteur	gleich hoch	en el mismo nivel	Modesta	2
		higher	supérieure	höher	por encima	Draco	3
23. (*) (+)	**VG**	**Inflorescence: branching**	**Inflorescence : ramification**	**Blütenstand: Verzweigung**	**Inflorescencia: ramificación**		
QL	**(a)**	absent	nulle	fehlend	ausente	Era, Venus	1
		present	présente	vorhanden	presente	Goldstar, Pluto	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. (*) (+)	**MG**	**Inflorescence: number of branches**	**Inflorescence : nombre de rameaux**	**Blütenstand: Anzahl Zweige**	**Inflorescencia: ramificación**		
QN	**(a)**	few	petit	gering	bajo	Cathy	3
		medium	moyen	mittel	medio	Style	5
		many	grand	groß	alto	Evita	7
25. (+)	**VG**	**Inflorescence: attitude**	**Inflorescence : port**	**Blütenstand: Haltung**	**Inflorescencia: porte**		
PQ	**(a)**	erect	dressé	aufrecht	erecto	Style	1
		semi-erect	semi-dressé	halbaufrecht	semierecto		2
		drooping	retombant	überhängend	colgante		3
26. (*) (+)	**MG**	**Inflorescence: length**	**Inflorescence : longueur**	**Blütenstand: Länge**	**Inflorescencia: longitud**		
QN	**(c)**	short	courte	kurz	corta	Pavo	3
		medium	moyenne	mittel	media	Clementine	5
		long	longue	lang	alta	Evita	7
27. (*)	**VG**	**Peduncle: color of bracts**	**Pédoncule : couleur des bractées**	**Blütenstand: Farbe der Deckblätter**	**Pedúnculo: color de las brácteas**		
PQ	**(c)**	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)		
28. (*) (+)	**MG**	**Inflorescence: length of flowering part**	**Inflorescence : longueur de la partie florifère**	**Blütenstand: Länge des blühenden Teils**	**Inflorescencia: longitud de la parte floral**		
QN	**(c)**	short	courte	kurz	corta	Energy	3
		medium	moyenne	mittel	media	Style	5
		long	longue	lang	larga	Deplacar	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29. (*) (+)	**MG**	**Only varieties with inflorescence branching: present: Inflorescence: diameter of flowering part**	**Seulement variétés avec inflorescence : ramification présente : Inflorescence : diamètre de la partie florifère**	**Nur Sorten mit Blütenstand Verzweigung: vorhanden: Blütenstand: Durchmesser des blühenden Teils**	**Únicamente variedades con ramificación de la inflorescencia: presente: Inflorescencia: diámetro de la parte floral**		
QN	**(c)**	small	petit	klein	pequeño	Style	3
		medium	moyen	mittel	medio	Latina	5
		large	grand	groß	grande	Elan, Splendide	7
30. (*) (+)	**MG**	**Only varieties with inflorescence branching: present: Inflorescence: length of terminal branch**	**Seulement variétés avec inflorescence : ramification présente : Inflorescence : longueur du rameau terminal**	**Nur Sorten mit Blütenstand Verzweigung: vorhanden: Blütenstand: Länge des Endzweiges**	**Únicamente variedades con ramificación de la inflorescencia: presente: Inforescencia: longitud de la rama terminal**		
QN	**(c)**	short	courte	kurz	corta	Oberon	1
		medium	moyenne	mittel	media	Lion	2
		long	longue	lang	*larga*	Stream	3
31. (*) (+)	**MG**	**Inflorescence: width of terminal branch**	**Inflorescence : largeur du rameau terminal**	**Blütenstand: Breite des Endzweiges**	**Inflorescencia: anchura de la rama terminal**		
QN	**(c)**	narrow	étroite	schmal	delgada	Pacific Ruby	1
		medium	moyenne	mittel	media	Lion	2
		broad	large	breit	gruesa	Venus	3
32.	**MG/ VG**	**Inflorescence: thickness of terminal branch**	**Inflorescence : épaisseur du rameau terminal**	**Blütenstand: Dicke des Endzweiges**	**Inflorescencia: grosor de la rama terminal**		
QN	**(c)**	thin	fine	dünn	delgada		3
		medium	moyenne	mittel	media		5
		thick	épaisse	dick	gruesa		7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33. (*) (+)	**VG**	**Inflorescence: shape of terminal branch**	**Inflorescence : forme du rameau terminal**	**Blütenstand: Form des Endzweiges**	**Inflorescencia: forma de la rama terminal**		
PQ	**(c)**	narrow ovate	ovale étroit	schmal eiförmig	oval estrecha	Jumping Bofire	1
		medium ovate	ovale moyen	mittel eiförmig	oval media	Clementine	2
		elliptic	elliptique	elliptisch	elíptica	Deplacar	3
		oblong	oblong	rechteckig	oblonga	Pacific Ruby	4
		obovate	obovale	verkehrt eiförmig	oboval	Lion	5
34. (*)	**MG**	**Inflorescence: number of floral bracts of terminal branch**	**Inflorescence : nombre de bractées florales du rameau terminal**	**Blütenstand: Anzahl Deckblätter des Endzweiges**	**Inflorescencia: número de brácteas florales de la rama terminal**		
QN	**(c)**	few	faible	gering	bajo	Annie	3
		medium	moyen	mittel	medio	Draco	5
		many	élevé	groß	alto	Oberon	7
35. (*) (+)	**VG**	**Inflorescence: position of floral bracts**	**Inflorescence : position des bractées florales**	**Blütenstand: Stellung der Deckblätter**	**Inflorescencia: posición de las brácteas florales**		
QL	**(c)**	free	disjointe	frei	libre	Jumping Bofire	1
		adpressed	appliquée	anliegend	alineada	Lion	2
36. (*)	**MG**	**Floral bract: length**	**Bractée : longueur**	**Deckblatt: Länge**	**Bráctea floral: longitud**		
QN	**(c)**	short	courte	kurz	corta	Pacific ruby	3
		medium	moyenne	mittel	media	Lion	5
		long	longue	lang	larga	Enjoy	7
37. (*)	**MG**	**Floral bract: width**	**Bractée : largeur**	**Deckblatt: Breite**	**Bráctea floral: anchura**		
QN	**(c)**	narrow	étroite	schmal	estrecha	Oberon	3
		medium	moyenne	mittel	media	Pavo	5
		broad	large	breit	ancha	Stream	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38.	**VG**	**Floral bract: angle of apex**	**Bractée : angle du sommet**	**Deckblatt: Winkel der Spitze**	**Bráctea floral: ángulo del ápice**		
QN	**(c)**	small	petit	klein	pequeño		1
		medium	moyen	mittel	mediano		2
		large	grand	groß	grande		3
39. **(*)** **(+)**	**VG**	**Floral bract: main color of outer side**	**Bractée : couleur principale de la face externe**	**Deckblatt: Hauptfarbe der Außenseite**	**Bráctea floral: color principal de la cara externa**		
PQ	**(c)**	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)		
40. **(*)** **(+)**	**VG**	**Floral bract: secondary color of outer side**	**Bractée : couleur secondaire de la face externe**	**Deckblatt: Sekundärfarbe der Außenseite**	**Bráctea floral: color secundario de la cara externa**		
PQ	**(c)**	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)		
41. **(+)**	**VG**	**Floral bract: main color of inner side**	**Bractée : couleur principale de la face interne**	**Deckblatt: Hauptfarbe der Innenseite**	**Bráctea floral: color principal del envés**		
PQ	**(c)**	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)		
42. **(*)**	**VG**	**Calyx: color**	**Calice : couleur**	**Kelch: Farbe**	**Cáliz: color**		
PQ	**(c)**	whitish	blanchâtre	weißlich	blanquecino	Era	1
		greenish	verdâtre	grünlich	amarillento	Magic	2
		yellowish	jaunâtre	gelblich	verdoso	Pluto	3
43.	**MG**	**Petal: length**	**Pétale : longueur**	**Kronblatt: Länge**	**Pétalo: longitud**		
QN	**(c)**	short	court	kurz	corta		3
		medium	moyen	mittel	media	Deplacar	5
		long	long	lang	larga	Goldstar	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
44.	**MG**	**Petal: width**	**Pétale : largueur**	**Kronblatt: Breite**	**Pétalo: anchura**		
QN	**(c)**	narrow	étroit	schmal	estrecho	Oberon	1
		medium	moyen	mittel	medio	Enjoy	2
		broad	large	breit	ancho	Draco	3
45. (*)	**VG**	**Petal: color of apex**	**Pétale : couleur du sommet**	**Blütenblatt: Farbe der Spitze**	**Pétalo: color de la punta**		
PQ	**(c)**	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)		
46.	**VG**	**Ovary: color**	**Ovaire : couleur**	**Fruchtknoten: Farbe**	**Ovario: color**		
PQ	**(c)**	white	blanc	weiß	blanco	Clementine, Pluto	1
		light green	vert clair	hellgrün	verde claro	Era, Venus	2
		light yellow	jaune clair	hellgelb	amarillo claro		3
47.	**VG**	**Style: color**	**Style : couleur**	**Griffel: Farbe**	**Flor: color del estilo**		
PQ	**(c)**	white	blanc	weiß	blanco		1
		yellow green	vert-jaune	gelbgrün	verde amarillento	Goldstar, Pluto	2
		light yellow	jaune clair	hellgelb	amarillo claro	Era, Saturn	3
		medium yellow	jaune moyen	mittelgelb	amarillo medio		4
48.	**VG**	**Stigma: color**	**Stigmate : couleur**	**Narbe: Farbe**	**Flor: color del estigma**		
PQ	**(c)**	white	blanc	weiß	blanco		1
		light green	vert clair	hellgrün	verde claro	Clementine	2
		medium green	vert moyen	mittelgrün	verde medio	Saturn, Venus	3
		light yellow	jaune clair	hellgelb	amarillo claro	Style	4

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

(a) Observations on plant, leaves and inflorescence should be made when flowers are opened in the middle third of the main spike
(b) Observations on leaves should be made on largest leaves of the rosette.
(c) Observations on flowers should be made on fully expanded flowers in the middle third of the terminal branch.
(d) Young leaf blades: leaf blades growing in the first three whorls of the centre of the rosette.
(e) Leaf blades: the largest full grown leaves of the outer whorls.

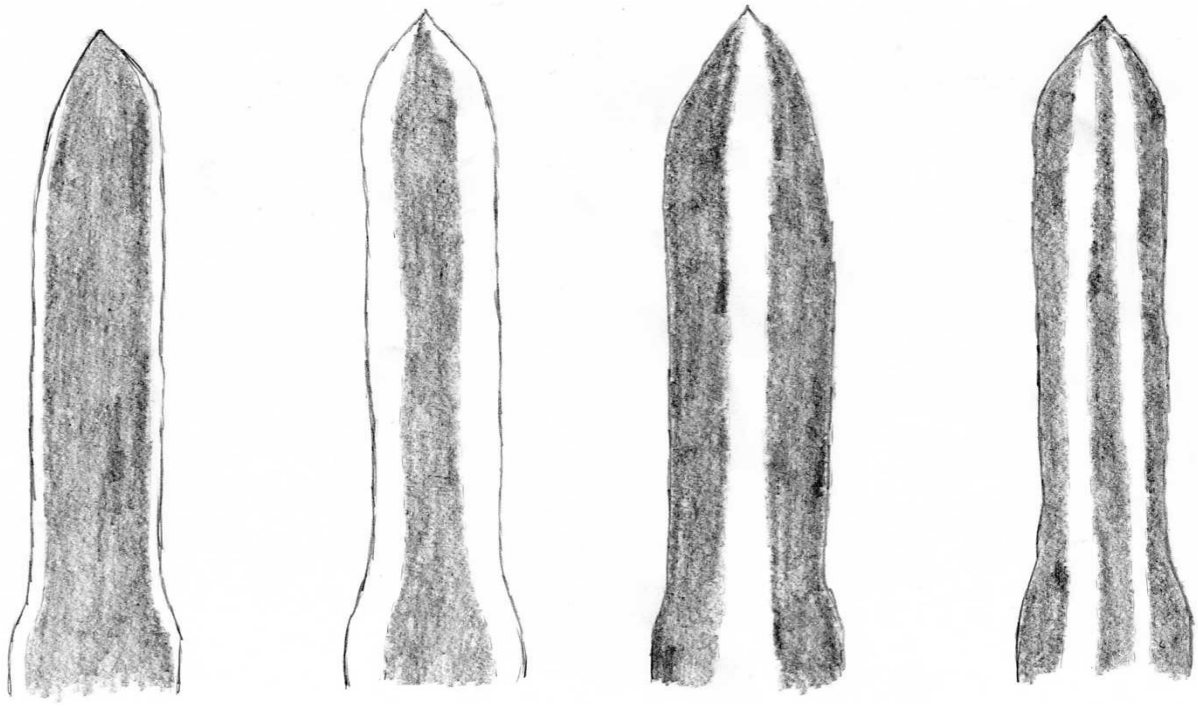
8.2 Explanations for individual characteristics

Ad. 1: Plant: height of foliage
Ad. 2: Plant: diameter

Ad. 4: Young leaf blade: main color of upper side (excluding variegation)

The main color is the color with the largest surface area, excluding variegation. In cases where the color with the largest surface area is not clear, the lightest color is the main color.

Ad.6: Young leaf blade: type of variegation



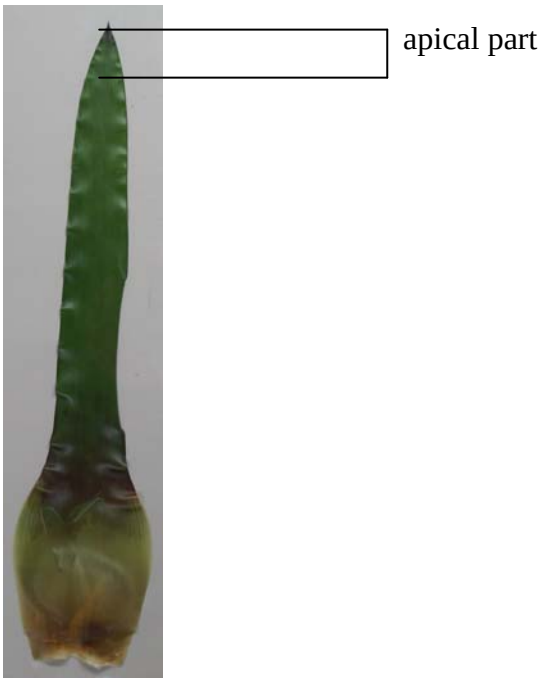
1	2	3	4
narrow marginal	broad marginal	central stripe	multiple stripes

Ad. 7: Young leaf blade: pattern of secondary color (excluding variegation)

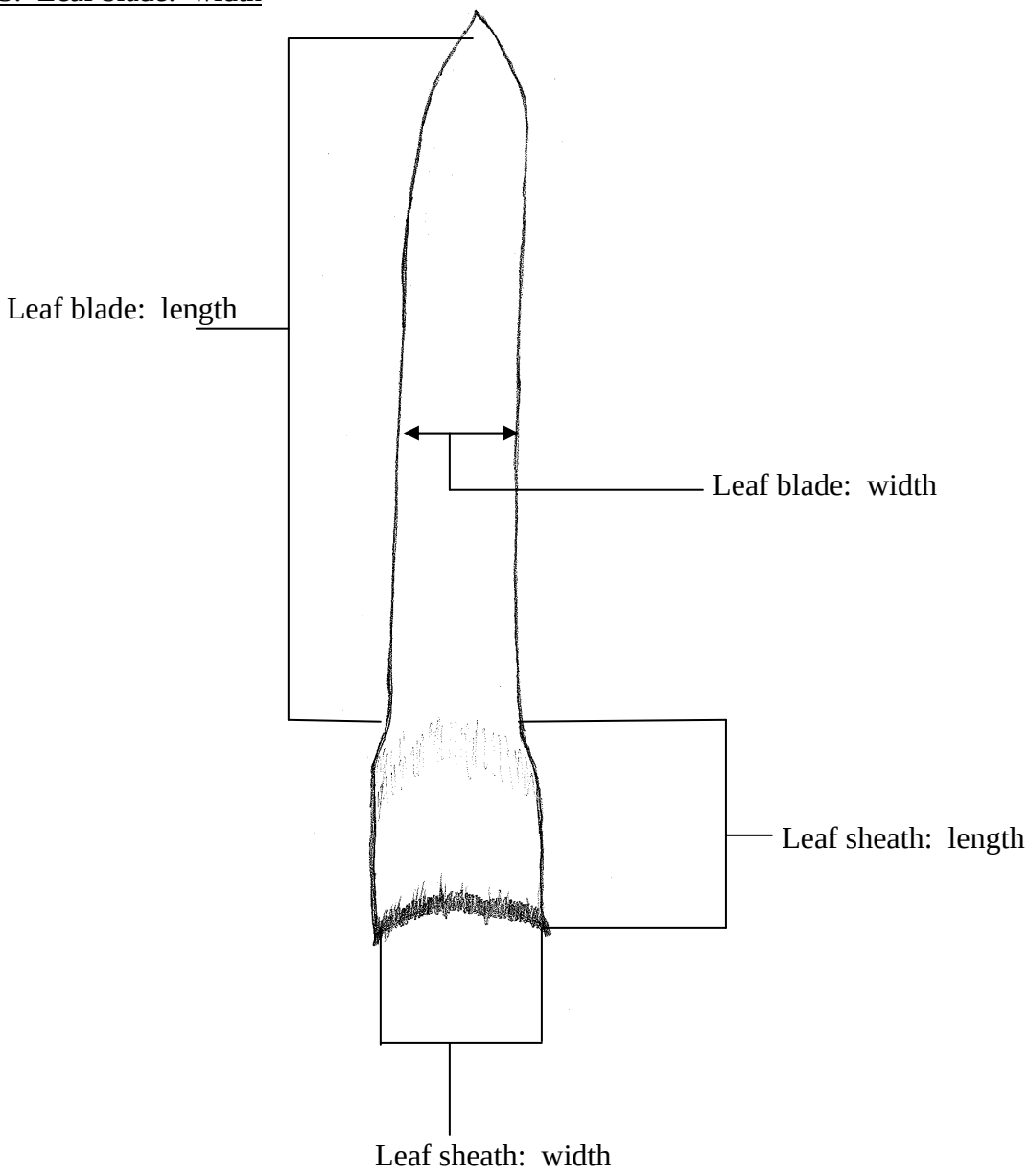
2	3	5	6	7	8	9
flushed	striated	banded	marbled	spotted	marbled and spotted	marginal

1. none — color equal
2. flushed — gradual change of color
3. striated — small longitudinal stripes
4. netted — pattern of small stripes making up a net
5. banded — broad transverse stripes
6. marbled — small irregular transverse stripes
7. spotted — small spots all over the leaf surface
8. marbled and spotted — small irregular transverse stripes and small spots
9. marginal — narrow zone along the margin

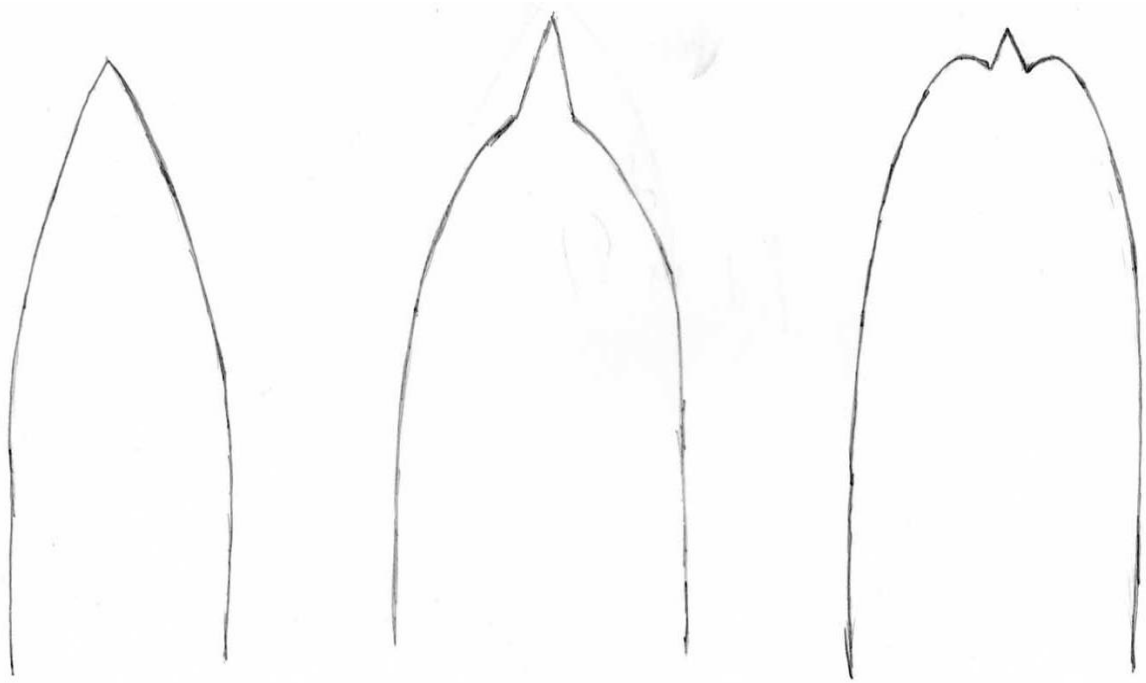
Ad. 9: Young leaf blade: color of apical part if different from main color (excluding variegation



Ad. 10: Leaf sheath: length
Ad. 11: Leaf sheath: width
Ad. 12: Leaf blade: length
Ad. 13: Leaf blade: width

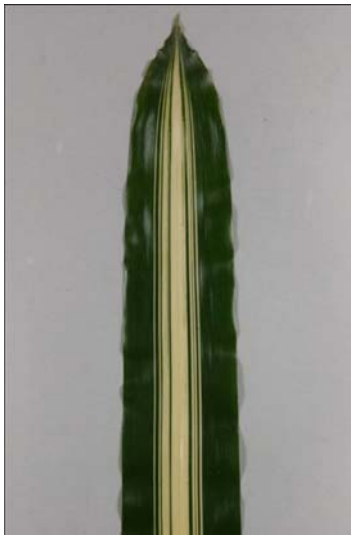


Ad.14: Leaf blade: shape of tip

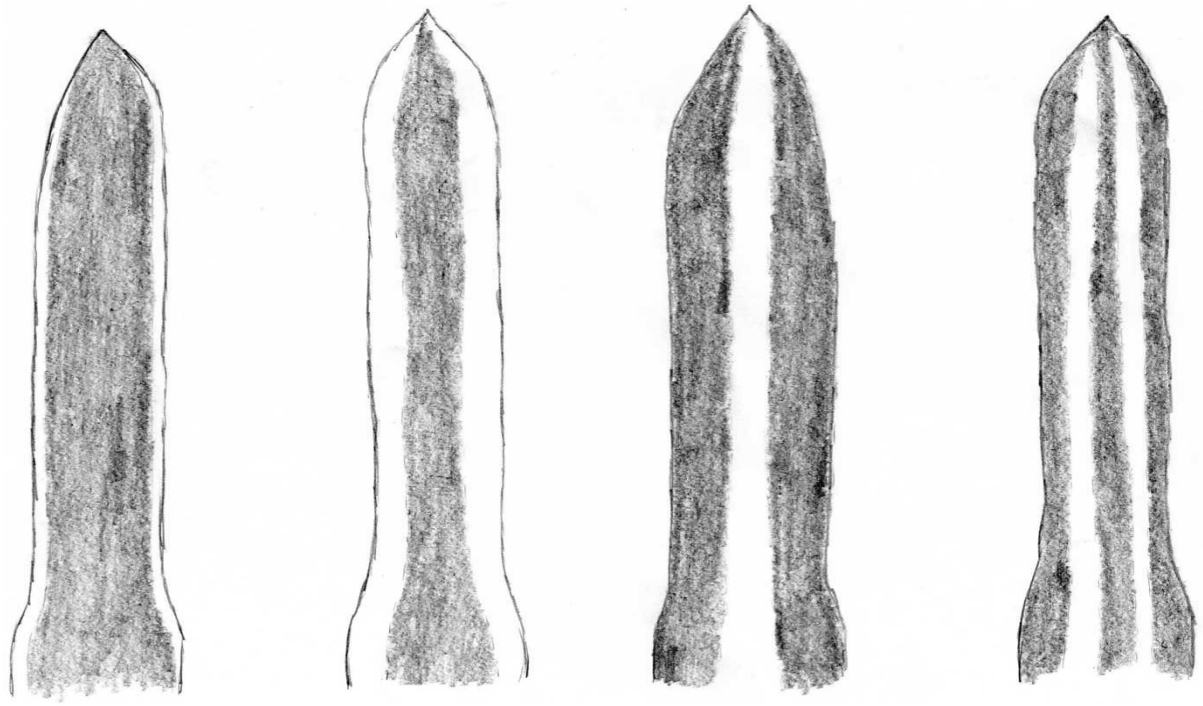


1	2	3
acute	acuminate	mucronate

Ad. 15: Leaf blade: variegation



Ad. 17: Leaf blade: type of variegation



1	2	3	4
narrow marginal	broad marginal	central stripe	multiple stripes

Ad. 18: Leaf blade: pattern of secondary color (excluding variegation)

2	3	4	5	6	7	8
flushed	striated	banded	marbled	spotted	marbled and spotted	marginal

1. none	color equal
2. flushed	gradual change of color
3. striated	small longitudinal stripes
4. banded	broad transverse stripes
5. marbled	small irregular transverse stripes
6. spotted	small spots
7. marbled and spotted	small irregular transverse stripes with small spots
8. marginal	narrow zone along the margin

Ad. 20: Leaf blade: color of apical part if different from main color (excluding variegation)

Ad. 22: Inflorescence: height in relation to foliage

1
lower

2
same height

3
higher

Ad. 24: Inflorescence: number of branches
Ad. 28: Inflorescence: length of flowering part
Ad. 29: Only varieties with inflorescence branching: present: Inflorescence: diameter of flowering part

Diameter of flowering part

Length of flowering part

Branches

Ad. 25: Inflorescence: attitude

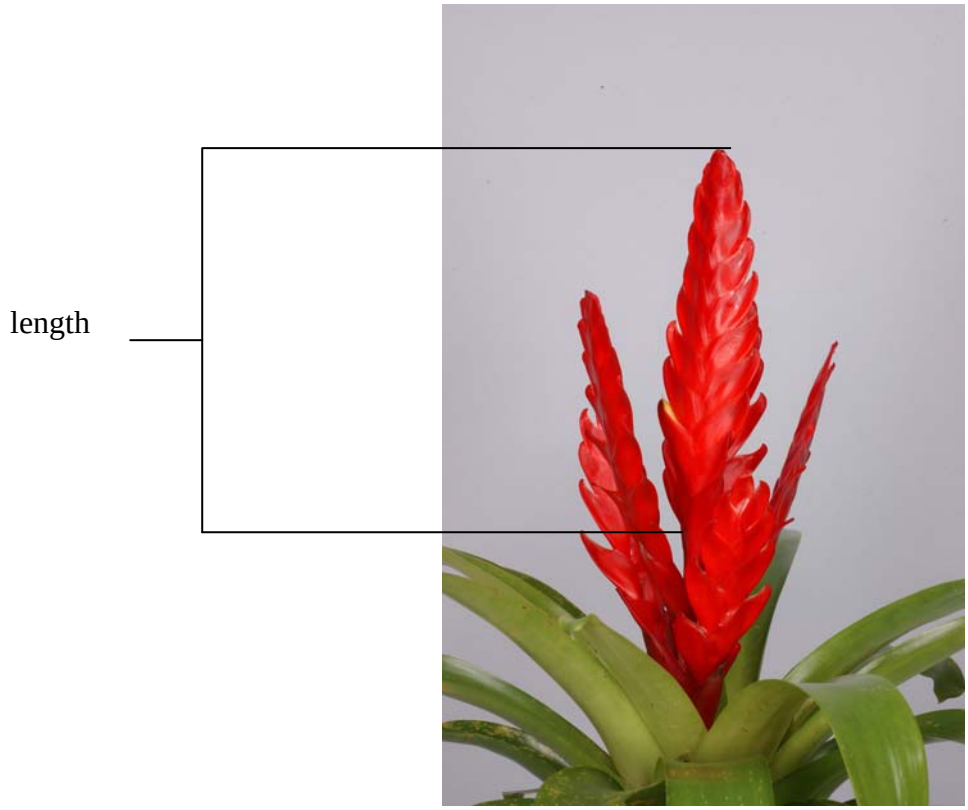
1
erect

2
semi-erect

3
drooping

Ad. 26: Inflorescence: length

Ad. 30: Only varieties with inflorescence branching: present: Inflorescence: length of terminal branch



Ad. 31: Inflorescence: width of terminal branch

Ad 33: Inflorescence: shape of terminal branch

	← broadest part →		
	below middle	at middle	above middle
←length/width ratio→			
	1 narrow ovate	4 oblong	
broad (compressed)	 2 medium ovate	 3 elliptic	 5 obovate

Ad. 35: Inflorescence: position of floral bracts

1
free

2
adpressed

Ad. 39: Floral bract: main color of outer side
Ad. 40: Floral bract: secondary color of outer side
Ad. 41: Floral bract: main color of inner side

The main color is the color with the largest total surface area, the secondary color (if present) is the color with the second largest total surface area. In case of when none of the colors is clearly predominant then the lightest color will be the main color.

9. Literature

Baensch, U. and Baensch, U., 1994: Blooming Bromeliads, Tropic Beauty Publishers, Nassau/Bahamas, ISBN 0-9641056-0-8, BS.

Rauh, W., 1981: Bromelien, Verlag Eugen Ulmer, Stuttgart, ISBN 3-8001-6029-3, DE.

Rauh, W., 1990: The Bromeliad Lexicon, Blandford, London, GB.

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	*Vriesea* Lindl.
1.2 Common name	Vriesea

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	
Breeder (if different from applicant)	

3. Proposed denomination and breeder's reference

Proposed denomination (if available)	
Breeder's reference	

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

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

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross [ ]
(please state parent varieties)

(……..……..…) 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:

4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

(a) Self-pollination [ ]
(b) Cross-pollination
(i) population [ ]
(ii) synthetic variety [ ]
(c) Hybrid [ ]
(d) Other [ ]
(please provide details)

4.2.2 Vegetative propagation

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

4.2.3 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 (1)	**Plant: height of foliage**		
	very short		1[ ]
	very short to short		2[ ]
	short	Pluto	3[ ]
	short to medium		4[ ]
	medium	Clementine	5[ ]
	medium to tall		6[ ]
	tall	Enjoy	7[ ]
	tall to very tall		8[ ]
	very tall	Evita	9[ ]
5.2 (16)	**Leaf blade: main color of upper side (excluding variegation)**		
	light green	Draco	1 [ ]
	medium green	Era	2 [ ]
	dark green	Isabel	3[ ]
	grey green	Kiwi Sunset	4[ ]
	red purple		5[ ]
	purple		6[ ]
	red brown	Alcantarea vinicolor	7[ ]
	dark brown		8[ ]

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

	Characteristics	Example Varieties	Note
5.3 (23)	**Inflorescence: branching**		
	absent	Era, Venus	1[ ]
	present	Goldstar, Pluto	9[ ]
5.3i (39)	**Floral bract: main color of outer side**		
	RHS Colour Chart (indicate reference number)		
5.3ii (39)	**Floral bract: main color of outer side**		
	white		1[ ]
	yellow		2[ ]
	orange		3[ ]
	orange red		4[ ]
	red		5[ ]
	red purple		6[ ]
	purple		7[ ]
	green		8[ ]

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	*Plant: height*	*short*	*tall*

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

7.3.1 Main use

(a) garden plant [ ]
(b) pot plant [ ]
(c) cut-flower [ ]
(d) other [ ]
(please provide details)

7.3.2 A representative color image of the variety should accompany the Technical Questionnaire.

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

If the answer to (b) is yes, please attach a copy of the authorization.

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

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

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

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

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

(a) Microorganisms (e.g. virus, bacteria, phytoplasma) Yes [ ] No [ ]

(b) Chemical treatment (e.g. growth retardant, pesticide) Yes [ ] No [ ]

(c) Tissue culture Yes [ ] No [ ]

(d) Other factors Yes [ ] No [ ]

Please provide details for where you have indicated “yes”.

……

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]