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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

<p>VRIESEA</p> <p>UPOV Code: VRIES</p> <p><i>Vriesea</i> Lindl.</p>
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GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Vriesea</i> 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.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles	3
3.2 Testing Place	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design	4
3.5 Additional Tests	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	4
4.1 Distinctness	4
4.2 Uniformity.....	5
4.3 Stability	6
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	7
6.1 Categories of Characteristics.....	7
6.2 States of Expression and Corresponding Notes.....	7
6.3 Types of Expression.....	8
6.4 Example Varieties	8
6.5 Legend.....	8
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	9
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS	21
8.1 Explanations covering several characteristics	21
8.2 Explanations for individual characteristics	21
9. LITERATURE	37
10. TECHNICAL QUESTIONNAIRE	38

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 All observations should be made when at least one flower is fully open in the middle third of the terminal branch.

3.3.3 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 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 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 24)
- (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. VG/ Plant: height of (* MG foliage (+)	Plante : hauteur du feuillage	Pflanze: Höhe des Laubes	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. VG/ Plant: width (* MG (+)	Plante : largeur	Pflanze: Breite	Planta: anchura		
QN (a) very narrow	très étroite	sehr schmal	muy estrecha	Pluto	1
narrow	étroite	schmal	estrecha	Cathy	3
medium	moyenne	mittel	medio	Venus	5
broad	large	breit	ancha	Magic	7
very broad	très large	sehr breit	muy ancha	Saturn	9
3. VG/ Plant: number of MG 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. VG/ (*) (+)	Leaf sheath: length	Gaine de la feuille : longueur	Blattscheide: Länge	Vaina: longitud		
MG						
QN	(a) short	courte	kurz	corta	Era	3
	(b) medium	moyenne	mittel	media	Clementine	5
	long	longue	lang	larga	Deplacar	7
11. VG/ (*) (+)	Leaf sheath: width	Gaine de la feuille : largeur	Blattscheide: Breite	Vaina: anchura		
MG						
QN	(a) narrow	étroite	schmal	estrecha	Venus	3
	(b) medium	moyenne	mittel	media	Clementine	5
	broad	large	breit	ancha	Saturn	7
12. VG/ (*) (+)	Leaf blade: length	Limbe : longueur	Blattspreite: Länge	Limbo: longitud		
MG						
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. VG/ (*) 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 abweichend von 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 (*)	Peduncle: color of bracts	Pédoncule : couleur des bractées	Blütenstandstiel: 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)		

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23. VG (* (+)	Inflorescence: position in relation to foliage	Inflorescence : position par rapport au feuillage	Blütenstand: Stellung im Vergleich zum Laub	Inflorescencia: posición en relación con el follaje		
QN (a)	same height	même hauteur	auf gleicher Höhe	en el mismo nivel		1
	partly above	en partie au-dessus	teilweise oberhalb	parcialmente por encima	Modesta	2
	completely above	complètement au-dessus	vollständig oberhalb	totalmente por encima	Draco	3
24. 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
25. VG/ (* (+)	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
26. 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
27. VG/ (* (+)	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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.	VG/	Inflorescence: length	Inflorescence :	Blütenstand: Länge	Inflorescencia:	
(*)	MG	of flowering part	longueur de la partie	des blühenden Teils	longitud de la parte	
(+)			florifère		floral	
QN	(c)	short	courte	kurz	corta	Energy 3
		medium	moyenne	mittel	media	Style 5
		long	longue	lang	larga	Deplacar 7
29.	VG/	<u>Only varieties with</u>	<u>Seulement variétés</u>	<u>Nur Sorten mit</u>	<u>Únicamente</u>	
(*)	MG	<u>inflorescence</u>	<u>avec inflorescence :</u>	<u>Blütenstand</u>	<u>variedades con</u>	
(+)		<u>branching: present:</u>	<u>ramification</u>	<u>Verzweigung:</u>	<u>ramificación de la</u>	
		<u>Inflorescence: width</u>	<u>présente :</u>	<u>vorhanden:</u>	<u>inflorescencia:</u>	
		<u>of flowering part</u>	<u>Inflorescence :</u>	<u>Blütenstand: Breite</u>	<u>présente:</u>	
			<u>largeur de la partie</u>	<u>des blühenden Teils</u>	<u>Inflorescencia:</u>	
			<u>florifère</u>		<u>anchura de la parte</u>	
					<u>floral</u>	
QN	(c)	narrow	étroite	schmal	estrecha	Style 3
		medium	moyen	mittel	medio	Latina 5
		broad	large	breit	ancha	Elan, Splendide 7
30.	VG/	<u>Only varieties with</u>	<u>Seulement variétés</u>	<u>Nur Sorten mit</u>	<u>Únicamente</u>	
(*)	MG	<u>inflorescence</u>	<u>avec inflorescence :</u>	<u>Blütenstand</u>	<u>variedades con</u>	
(+)		<u>branching: present:</u>	<u>ramification</u>	<u>Verzweigung:</u>	<u>ramificación de la</u>	
		<u>Inflorescence: length</u>	<u>présente :</u>	<u>vorhanden:</u>	<u>inflorescencia:</u>	
		<u>of terminal branch</u>	<u>Inflorescence :</u>	<u>Blütenstand: Länge</u>	<u>présente:</u>	
			<u>longueur du rameau</u>	<u>des Endzweiges</u>	<u>Inflorescencia:</u>	
			<u>terminal</u>		<u>longitud de la rama</u>	
					<u>terminal</u>	
QN	(c)	short	courte	kurz	corta	Oberon 1
		medium	moyenne	mittel	media	Lion 2
		long	longue	lang	larga	Stream 3
31.	VG/	Inflorescence: width	Inflorescence :	Blütenstand: Breite	Inflorescencia:	
(*)	MG	of terminal branch	largeur du rameau	des Endzweiges	anchura de la rama	
(+)			terminal		terminal	
QN	(c)	narrow	étroite	schmal	delgada	Pacific Ruby 1
		medium	moyenne	mittel	media	Lion 2
		broad	large	breit	gruesa	Venus 3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32.	VG/ MG	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
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.	VG/ (* (+)	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.	VG/ (* 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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37. VG/ (*) 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
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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
43. VG/ MG	Petal: length	Pétale : longueur	Blütenblatt: Länge	Pétalo: longitud		
QN (c)	short	court	kurz	corta		3
	medium	moyen	mittel	media	Deplacar	5
	long	long	lang	larga	Goldstar	7
44. VG/ MG	Petal: width	Pétale : largeur	Blütenblatt: 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*

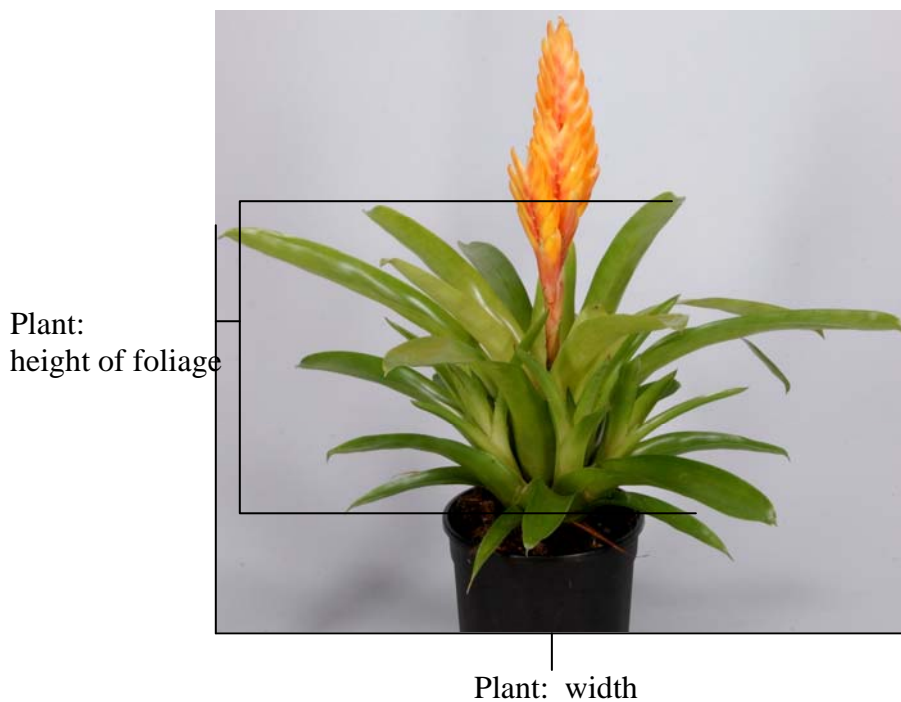
Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

- (a) Observations on the young leaf blade should be made on a leaf blade from the first three inner whorls of the rosette.
- (b) Observations on the leaf should be made on the largest fully expanded leaf of the outer whorl of the rosette.
- (c) Observations on the flower should be made on a fully expanded flower in the middle third of the terminal branch.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: height of foliage

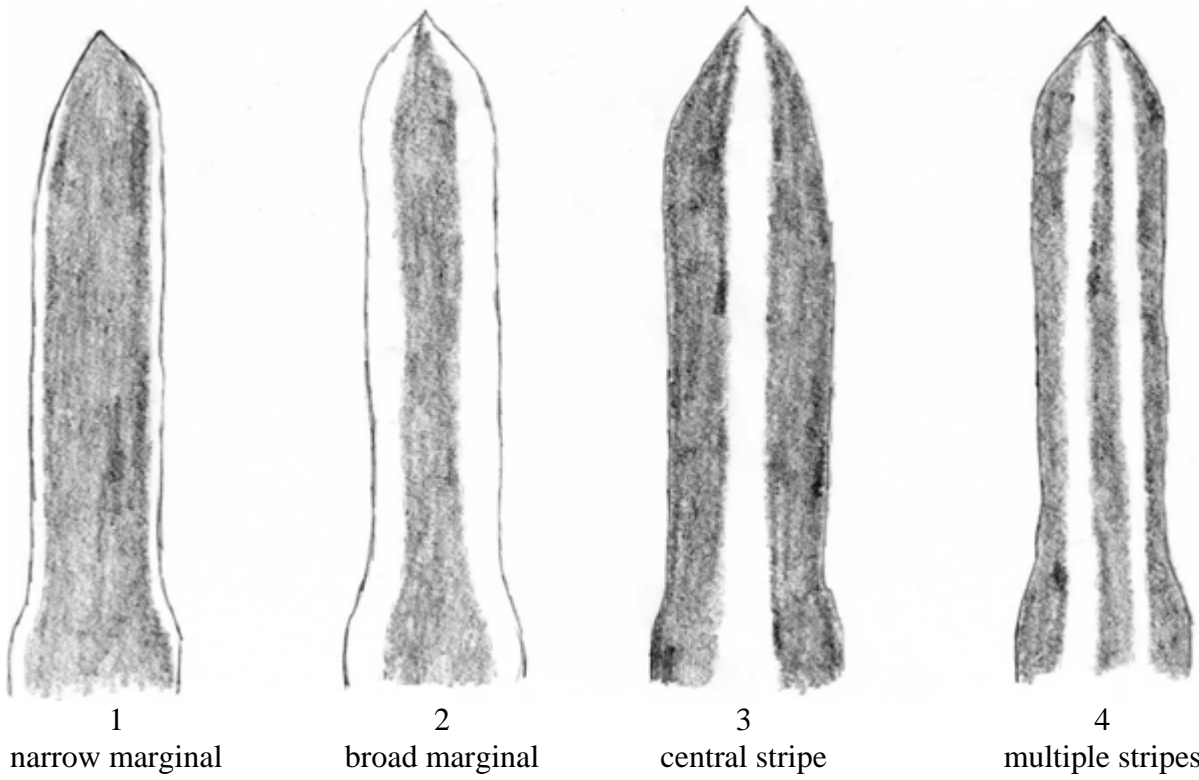
Ad. 2: Plant: width



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. If the area of the colors is nearly half and half, the lighter color is the main color

Ad.6: Young leaf blade: type of variegation



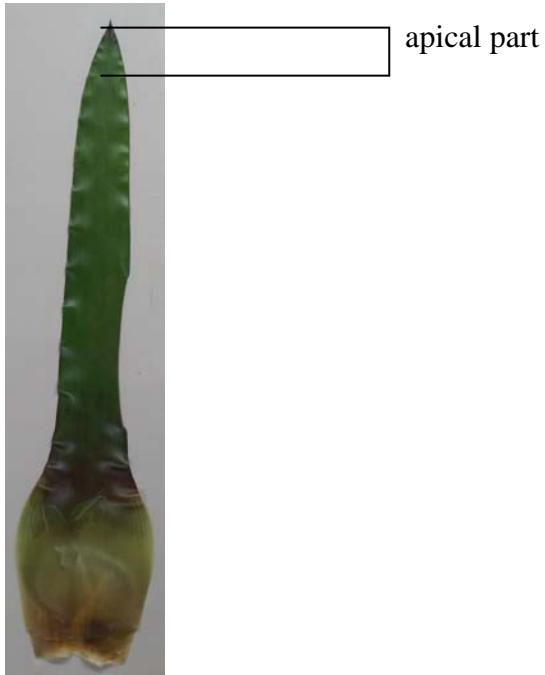
Ad. 7: Young leaf blade: pattern of secondary color (excluding variegation)



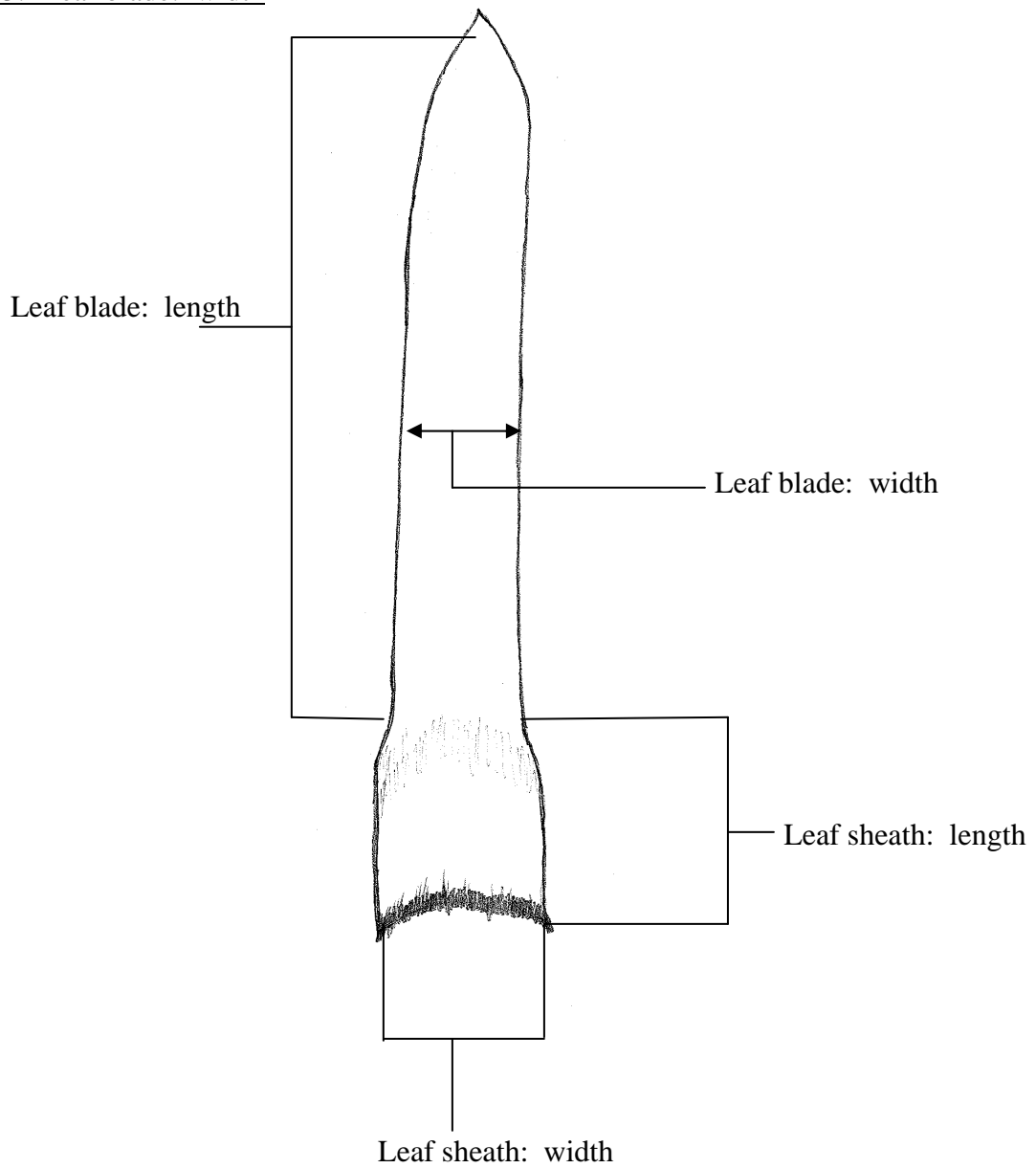
2 flushed 3 striated 5 banded 6 marbled 7 spotted 8 marbled and spotted 9 marginal

- | | |
|------------------------|--|
| 1. none | color equal |
| 2. flushed | red purple, purple or red brown color that changes gradually |
| 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 |

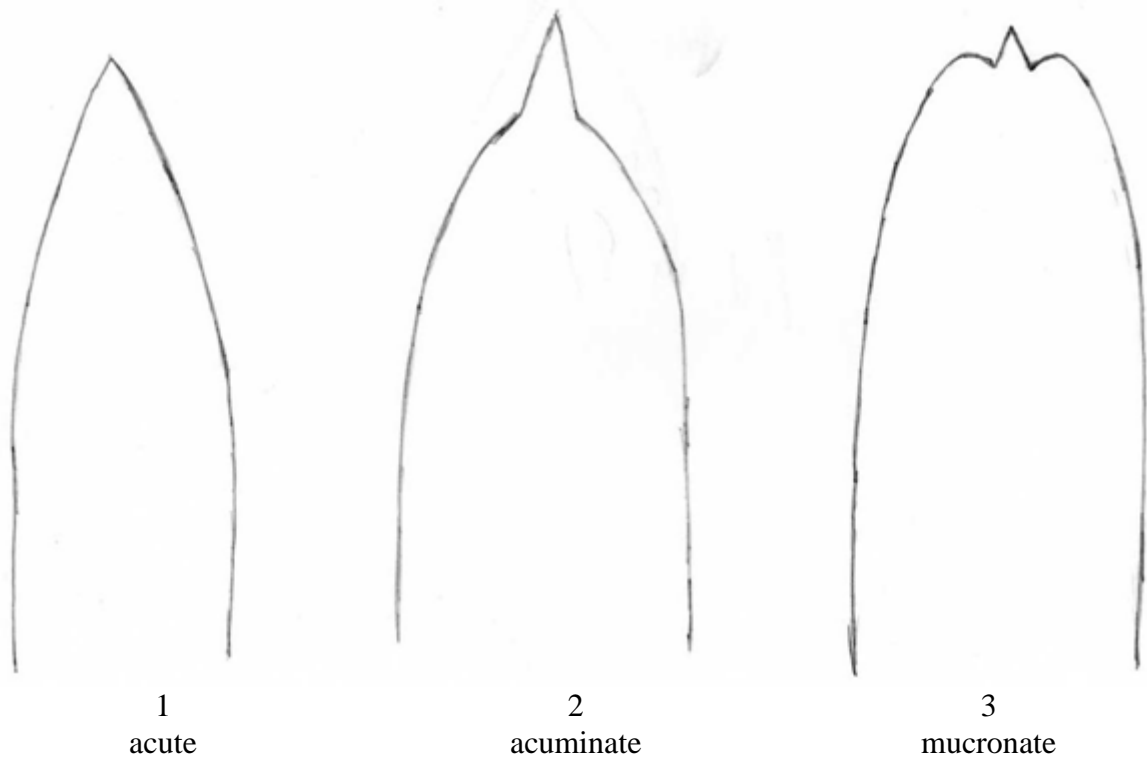
Ad. 9: Young leaf blade: color of apical part if different from main color (excluding variegation)



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



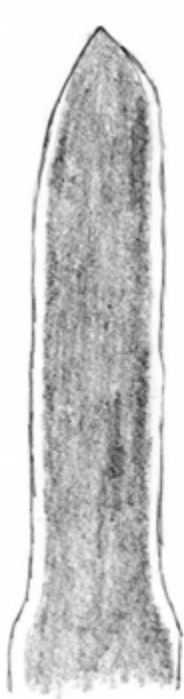
Ad. 14: Leaf blade: shape of tip



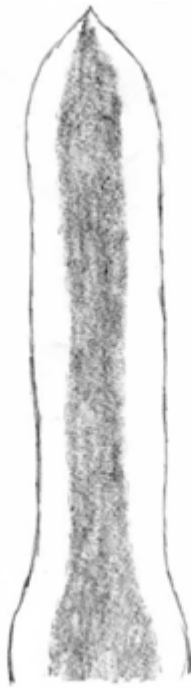
Ad. 15: Leaf blade: variegation



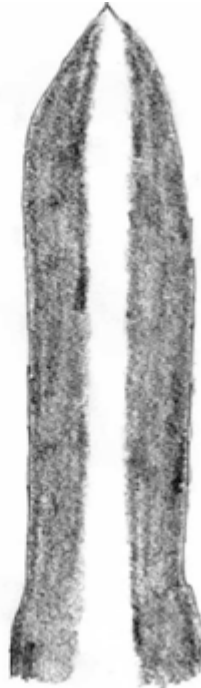
Ad. 17: Leaf blade: type of variegation



1
narrow marginal



2
broad marginal



3
central stripe



4
multiple stripes

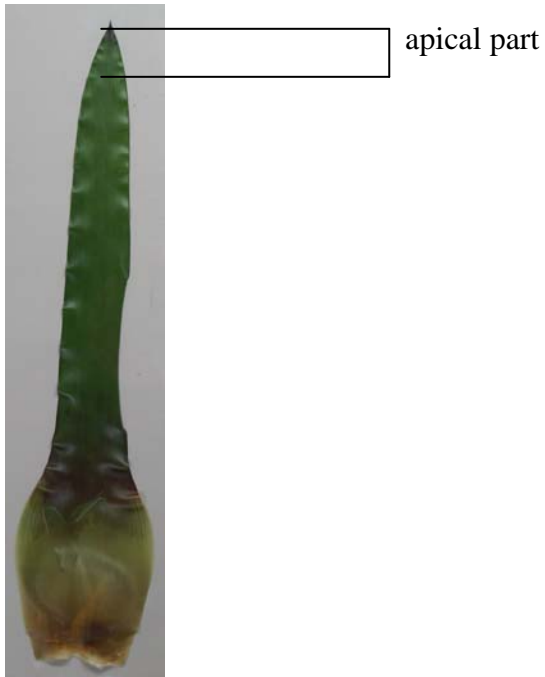
Ad. 18: Leaf blade: pattern of secondary color (excluding variegation)



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

- | | |
|------------------------|--|
| 1. none | color equal |
| 2. flushed | red purple, purple or red brown color that changes gradually |
| 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. 23: Inflorescence: position in relation to foliage



1
same height



2
partly above



3
completely above

Ad. 24: Inflorescence: branching



1
absent

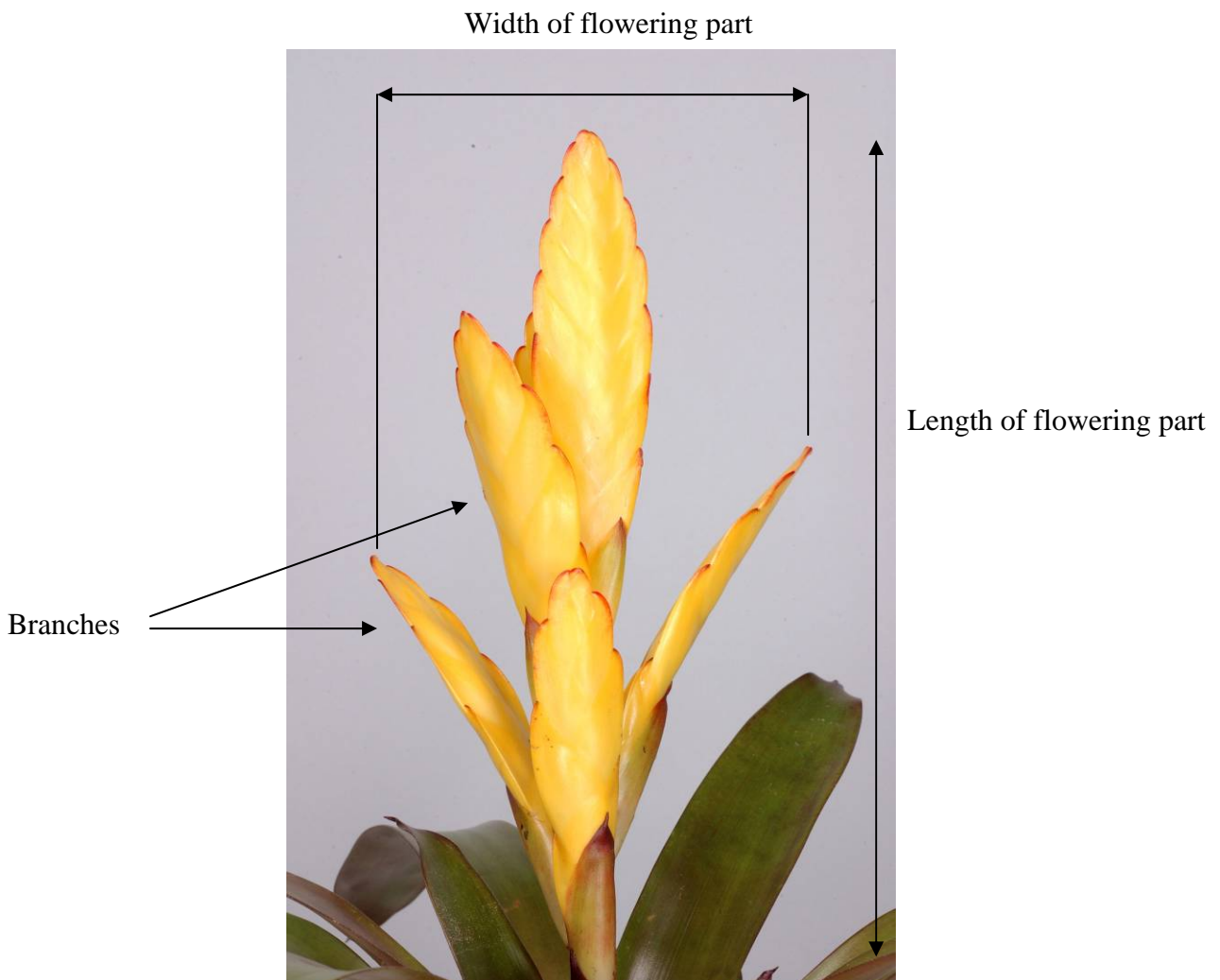


9
present

Ad. 25: Inflorescence: number of branches

Ad. 28: Inflorescence: length of flowering part

Ad. 29: Only varieties with inflorescence branching: present: Inflorescence: width of flowering part



Ad. 26: Inflorescence: attitude



1
erect



2
semi-erect



3
drooping

Ad. 27: Inflorescence: length



length

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

length



Ad. 31: Inflorescence: width of terminal branch

width



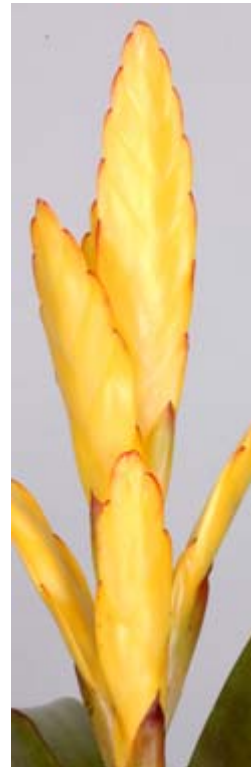
Ad 33: Inflorescence: shape of terminal branch

		← broadest part →		
		below middle	at middle	above middle
broad (compressed) ← length/width ratio → narrow (elongated)		1 narrow ovate	4 oblong	
		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

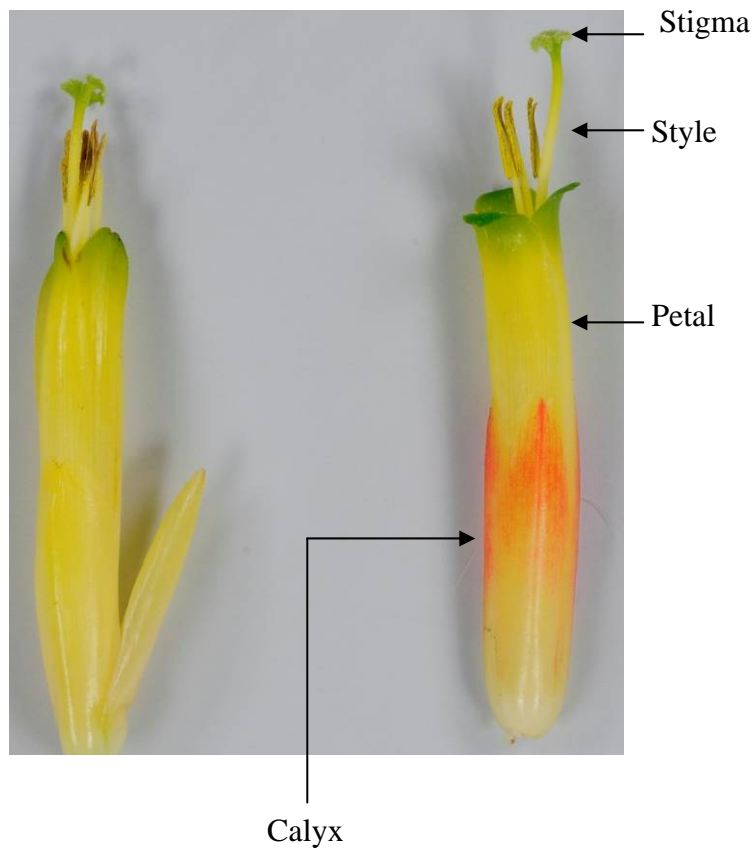
The main color is the color with the largest total surface area, the secondary color (if present) is the color with the second largest total surface area. If the area of the colors is nearly half and half, the lighter color is the main color.

Ad. 42: Calyx: color

Ad. 43: Petal: length

Ad. 47: Style: color

Ad. 48: Stigma: color



Ad. 46: Ovary: color



Ovary

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	<input type="text" value="Vriesea Lindl."/>	
1.2 Common name	<input type="text" value="Vriesea"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

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)		
<div style="border: 1px dashed black; height: 20px; width: 100%;"></div>		
4.1.3 Discovery and development		[]
(please state where and when discovered and how developed)		
<div style="border: 1px dashed black; height: 40px; width: 100%;"></div>		
4.1.4 Other		[]
(please provide details)		
<div style="border: 1px dashed black; height: 40px; width: 100%;"></div>		

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:
<hr/>		
4.2 Method of propagating the variety		

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
<p>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).</p>			
Characteristics	Example Varieties	Note	
<p>5.1 Plant: height of foliage (1)</p>			
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 []	
<p>5.2 Leaf blade: main color of upper side (excluding variegation) (16)</p>			
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 Inflorescence: branching (24)			
absent	Era, Venus	1[]	
present	Goldstar, Pluto	9[]	
5.3i Floral bract: main color of outer side (39)			
RHS Colour Chart (indicate reference number)			
5.3ii Floral bract: main color of outer side (39)			
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:	
<p>6. Similar varieties and differences from these varieties</p> <p><i>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.</i></p>			
Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Plant: height</i>	<i>short</i>	<i>tall</i>
<p>Comments:</p>			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
<p>#7. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.2 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.3 Other information</p> <p>7.3.1 Main use</p> <p>(a) garden plant []</p> <p>(b) pot plant []</p> <p>(c) cut-flower []</p> <p>(d) other []</p> <p>(please provide details)</p> <p>7.3.2 A representative color image of the variety should accompany the Technical Questionnaire.</p>		
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [] No []</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [] No []</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>		

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:												
<p>9. Information on plant material to be examined or submitted for examination.</p> <p>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.</p> <p>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:</p> <table data-bbox="284 801 1407 1057"><tr><td>(a) Microorganisms (e.g. virus, bacteria, phytoplasma)</td><td>Yes []</td><td>No []</td></tr><tr><td>(b) Chemical treatment (e.g. growth retardant, pesticide)</td><td>Yes []</td><td>No []</td></tr><tr><td>(c) Tissue culture</td><td>Yes []</td><td>No []</td></tr><tr><td>(d) Other factors</td><td>Yes []</td><td>No []</td></tr></table> <p>Please provide details for where you have indicated “yes”.</p> <p>.....</p>			(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 []
(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 []												
<p>10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:</p> <p>Applicant's name <input data-bbox="539 1429 1426 1482" type="text"/></p> <p>Signature <input data-bbox="424 1505 983 1559" type="text"/> Date <input data-bbox="1136 1505 1426 1559" type="text"/></p>														

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