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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

the Technical Working Party for Ornamental Plants and Forest Trees
at its forty-third session, to be held in Cuernavaca, Morelos State, Mexico,
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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, one month before flower induction, capable of 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 Unless otherwise stated, all observations should be made at the time of full flowering.

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, all observations for the purposes of distinctness should be made on 10 plants or parts taken from each of 10 plants, 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 seed 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 (inflorescence excluded) (characteristic 1)
(b) Leaf blade: main color of inner side (excluding longitudinal variegation) (characteristic 16)
(c) Inflorescence: branching (characteristic 24)
(d) Flower bract: number of colors of lower side (characteristic 33)
(e) Flower bract: main color of outer side (characteristic 40), with the following groups:

Gr. 1: white
Gr. 2: green
Gr. 3: yellow
Gr. 4: orange
Gr. 5: orange red
Gr. 6: purple pink
Gr. 7: red
Gr. 8: red purple
Gr. 9: purple

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. **(*)** (+)		**Plant: height (inflorescence excluded)**	**Plante: hauteur (inflorescence exclue)**	**Pflanze: Höhe (ohne Blütenstand)**	**Planta: altura (inflorescencia excluida)**		
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. **(*)** **(+)**		**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.		**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. **(*)** **(+)**		**Young leaf blade: main color of inner side (excl. longitudinal variegation)**	**Limbe: couleur principale de la face supérieure**	**Blattspreite: Hauptfarbe an der Oberseite**	**Limbo: color principal del haz**		
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. **(*)**		**Young leaf blade: longitudinal variegation**	**Limbe:**	**Blattspreite:**	**Limbo:**		
QL	**(a)**	absent	absente	fehlend	ausente	Style	1
		present	présente	vorhanden	presente	Robin	9
6.		**Young leaf blade: type of variegation**					
PQ	**(a)**	narrow marginal					1
		broad marginal					2
		central stripe				Robin	3
		multiple stripes				Clementine	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. **(*)**		**Young leaf blade: pattern of secondary color (excluding longitudinal variegation)**	**Limbe:**	**Blattspreite:**	**Limbo:**		
PQ	**(a)**	none				Stream	1
		with a flush	floue	geflammt	difusa		2
		striated	en stries	in Streifen	en bandas	Tasman Cherry White	3
		netted					4
		banded				Era	5
		marbled				Purple Haze	6
		spotted				Racine	7
		marbled and spotted				Tasman Tartan	8
		marginal				Lion	9
8.		**Young leaf blade: secondary color of inner side (excluding longitudinal variegation)**					
PQ	**(a)**	none					1
		light green	vert clair	hellgrün	verde claro		2
		medium green	vert moyen	mittelgrün	verde medio		3
		dark green	vert foncé	dunkelgrün	verde oscuro		4
		grey green	vert-gris	graugrün	verde gris		5
		red purple	rouge-pourpre	rotpurpurn	púrpura rojizo	Style	6
		purple	pourpre	purpurn	púrpura		7
		red brown	rouge-brun	rotbraun	marrón rojizo	Era	8

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9.		**Young leaf blade: color of apical part if different from main color (excl. longitudinal variegation)**	**Limbe: couleur principale de la face supérieure**	**Blattspreite: Hauptfarbe an der Oberseite**	**Limbo: color principal del haz**		
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. **(+)**		**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. **(+)**		**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. **(*)** **(+)**		**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. **(*)** **(+)**		**Leaf blade: width**	**Limbe: largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
QN	**(a)**	narrow	étroit	schmal	estrecho	Draco	3
	(b)	medium	moyen	mittel	medio	Clementine	5
		broad	large	breit	ancho	Stream	7
14. **(*)**		**Leaf blade: shape of tip**	**Limbe: forme du**	**Blattspreite: Form der Spitze**	**Limbo: forma del**		
PQ	**(a)**	acute	aigu	spitz	ancha	Pluto	1
	(b)	acuminate				Isabel	2
		mucronate				Stream	3
15. **(*)** **(+)**		**Leaf blade: longitudinal variegation**	**Limbe:**	**Blattspreite:**	**Limbo:**		
QL	**(a)**	absent	absente	fehlend	ausente		1
	(b)	present	présente	vorhanden	presente	Robin	9
16. **(*)**		**Leaf blade: main color of inner side (excl. longitudinal variegation)**	**Limbe: couleur principale de la face supérieure**	**Blattspreite: Hauptfarbe an der Oberseite**	**Limbo: color principal del haz**		
PQ	**(a)**	light green	vert clair	hellgrün	verde claro	Draco	1
	(b)	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					8

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. **(*)**		**Leaf blade: type of longitudinal variegation**					
PQ	**(a)**	narrow marginal					1
		broad marginal					2
		central stripe				Robin	3
		multiple stripes				Clementine	4
18. **(+)**		**Leaf blade: pattern of secondary color (excluding longitudinal variegation)**	**Limbe:**	**Blattspreite:**	**Limbo:**		
PQ	**(a)**	none				Stream	1
		with a flush	floue	geflammt	difusa	Tasman Candyman	2
		striated				Tasman Cherry White	3
		banded				Era	4
		marbled				Kiwi Cream	5
		spotted				Racine	6
		marbled and spotted				Tasman Tartan	7
		marginal				Lion	8

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19. (*)		**Leaf blade: secondary color of inner side (excluding longitudinal variegation)**	**Limbe: couleur secondaire de la face supérieure**	**Blattspreite: sekundäre Farbe an der Oberseite**	**Limbo: color secundario del haz**		
PQ	**(a)**	none					1
		light green	vert clair	hellgrün	verde claro		2
		medium green	vert moyen	mittelgrün	verde medio		3
		dark green	vert foncé	dunkelgrün	verde oscuro		4
		grey green	vert-gris	graugrün	verde gris		5
		red purple	rouge-pourpre	rotpurpurn	púrpura rojizo	Style	6
		purple	pourpre	purpurn	púrpura		7
		red brown	rouge-brun	rotbraun	marrón rojizo	Era	8
20. (*)		**Leaf blade: color of apical part if different from main color (excl. longitudinal variegation)**	**Limbe: couleur principale de la face supérieure**	**Blattspreite: Hauptfarbe an der Oberseite**	**Limbo: color principal del haz**		
PQ	**(a)**	pink					1
	(b)	red				Tasman Rose	2
		red purple				Draco	3
		purple brown				Enjoy	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.		**Leaf blade: main color of lower side (excl. longitudinal variegation)**	**Limbe: couleur principale de la face inférieure**	**Blattspreite: Hauptfarbe an der Unterseite**	**Limbo: color principal del envés**		
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					8
22. **(*)**		**Inflorescence: point of origin**					
QL	**(a)**	from centre				Era	1
		from lateral leaf axil					2
23. **(*)**		**Inflorescence: position in relation to top of foliage**					
QN	**(a)**	below					1
		same level				Modesta	2
		above				Draco	3
24. **(*)** **(+)**		**Inflorescence: branching**	**Inflorescence: ramification**	**Blütenstand: verzweigung**	**Inflrescencia: ramificación**		
QL	**(a)**	absent	nulle	fehlend	ausente	Era, Venus	1
		present	présente	vorhanden	presente	Pluto, Goldstar	9
25.		**Inflorescence: number of branches**	**Inflorescence: ramification**	**Blütenstand: verzweigung**	**Inflrescencia: ramificación**		
QN	**(a)**	few	petit	gering	bajo	Cathy	3
		medium	moyen	mittel	medio	Style	5
		many	grand	groß	alto	Evita	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26.		**Inflorescence: attitude**					
QN	**(a)**	erect				Style	1
		semi erect					2
		spreading				"Vriesea guttata"	3
27. **(+)**		**Inflorescence: length**	**Inflorescence: longueur**	**Blütenstand: Länge der haupt**	**Inflorescencia: longitud**		
QN	**(c)**	short	courte	kurz	corta	Pavo	3
		medium	moyenne	mittel	media	Clementine	5
		long	longue	lang	alta	Evita	7
28. **(*)**		**Peduncle: color of bracts**					
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)		
29. **(*)** **(+)**		**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
30. **(*)** **(+)**		**<u>Only varieties with inflorescence branching</u>: present: Inflorescence: diameter of flowering part**	**Inflorescence: diamètre de la partie florifère**	**Blütenstand: Durchmesser des blühenden Teils**	**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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31. **(+)**		**<u>Only varieties with inflorescence branching</u>: present: Inflorescence: length of terminal branch**					
QN	**(c)**	short				Oberon	1
		medium				Lion	2
		long				Stream	3
32. **(+)**		**Inflorescence: width of terminal branch**					
QN	**(c)**	narrow				Pacific Ruby	1
		medium				Lion	2
		broad				Venus	3
33.		**Inflorescence: thickness of terminal branch**					
QN	**(c)**	thin					3
		medium					5
		thick					7
34. **(*)**		**Inflorescence: shape of terminal branch**	**Inflorescence: de la partie florifère**	**Blütenstand: Forme haupt**	**Inflorescencia: de la parte floral**		
PQ	**(c)**	narrow ovate				Jumping Bofire	1
		medium ovate				Clementine	2
		elliptic				Deplacar	3
		oblong				Pacific Ruby	4
		obovate				Lion	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35.		**Inflorescence: number of floral bracts of terminal branch**	**Inflorescence: nombre de bractées**	**Blütenstand: Anzahl Deckblätter**	**Inflorescencia: número de brácteas**		
QN	**(c)**	few	faible	gering	bajo	Annie	3
		medium	moyen	mittel	medio	Draco	5
		many	élevé	groß	alto	Oberon	7
36. **(*)** **(+)**		**Inflorescence: position of floral bracts**					
QL	**(c)**	free				Jumping Bofire	1
		adpressed				Lion	2
37.		**Floral bract: length**	**Bractée: longueur**	**Deckblatt: Länge**	**Bráctea: longitud**		
QN	**(c)**	short	courte	kurz	corta	Pacific ruby	3
		medium	moyenne	mittel	media	Lion	5
		long	longue	lang	larga	Enjoy	7
38.		**Floral bract: width**	**Bractée: largeur**	**Deckblatt: Breite**	**Bráctea: anchura**		
QN	**(c)**	narrow	étroite	schmal	estrecha	Oberon	3
		medium	moyenne	mittel	media	Pavo	5
		broad	large	breit	ancha	Stream	7
39.		**Floral bract: angle of apex**					
QN	**(c)**	small					1
		medium					2
		large					3
40. **(+)**		**Floral bract: main color of outer side**	**Bractée: couleur principale de la face supérieure**	**Deckblatt: Hauptfarbe der Oberseite**	**Bráctea: color principal del haz**		
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
41. **(+)**		**Floral bract: secondary color of outer side**	**Bractée: couleur secondaire de la face inférieure**	**Deckblatt: sekundäre Farbe der Unterseite**	**Bráctea: color secundario 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. **(+)**		**Floral bract: main color of inner side**	**Bractée: couleur principale de la face inférieure**	**Deckblatt: Hauptfarbe der Unterseite**	**Bráctea: 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)		
43.		**Calyx: color**					
PQ	**(c)**	whitish				Era	1
		greenish				Magic	2
		yellowish				Pluto	3
44.		**Petal: length**	**Pétale: longueur**	**Kronblatt: Länge**	**Pétalo: longitud**		
QN	**(c)**	short	courte	kurz	corta		3
		medium	moyenne	mittel	media	Deplacar	5
		long	longue	lang	larga	Goldstar	7
45.		**Petal: width**	**Pétale: largueur**	**Kronblatt: Breite**	**Pétalo: anchura**		
QN	**(c)**	narrow				Oberon	3
		medium				Enjoy	5
		broad				Draco	7
46. **(*)**		**Petal: color of apex**	**Pétale: couleur de la bout**	**Kronblatt: 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)		
47.		**Ovary: color**					
PQ	**(c)**	white	blanc	weiß	blanco	Pluto, Clementine	1
		light green	vert clair	hellgrün	verde claro	Era, Venus	2
		light yellow	jaune clair	hellgelb	amarillo claro		3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
48.		**Style: color**	**Fleur: couleur du style**	**Blüte: Farbe des Griffels**	**Flor: color del estilo**		
PQ	**(c)**	white	blanc	weiß	blanco		1
		yellow green	vert-jaune	gelbgrün	verde amarillento	Pluto, Goldstar	2
		light yellow	jaune clair	hellgelb	amarillo claro	Era, Saturn	3
		medium yellow	jaune moyen	mittelgelb	amarillo medio		4
49.		**Stigma: color**	**Fleur: couleur du stigmate**	**Blüte: Farbe der Narbe**	**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	Venus, Saturn	3
		light yellow	jaune clair	hellgelb	amarillo claro	Style	4

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

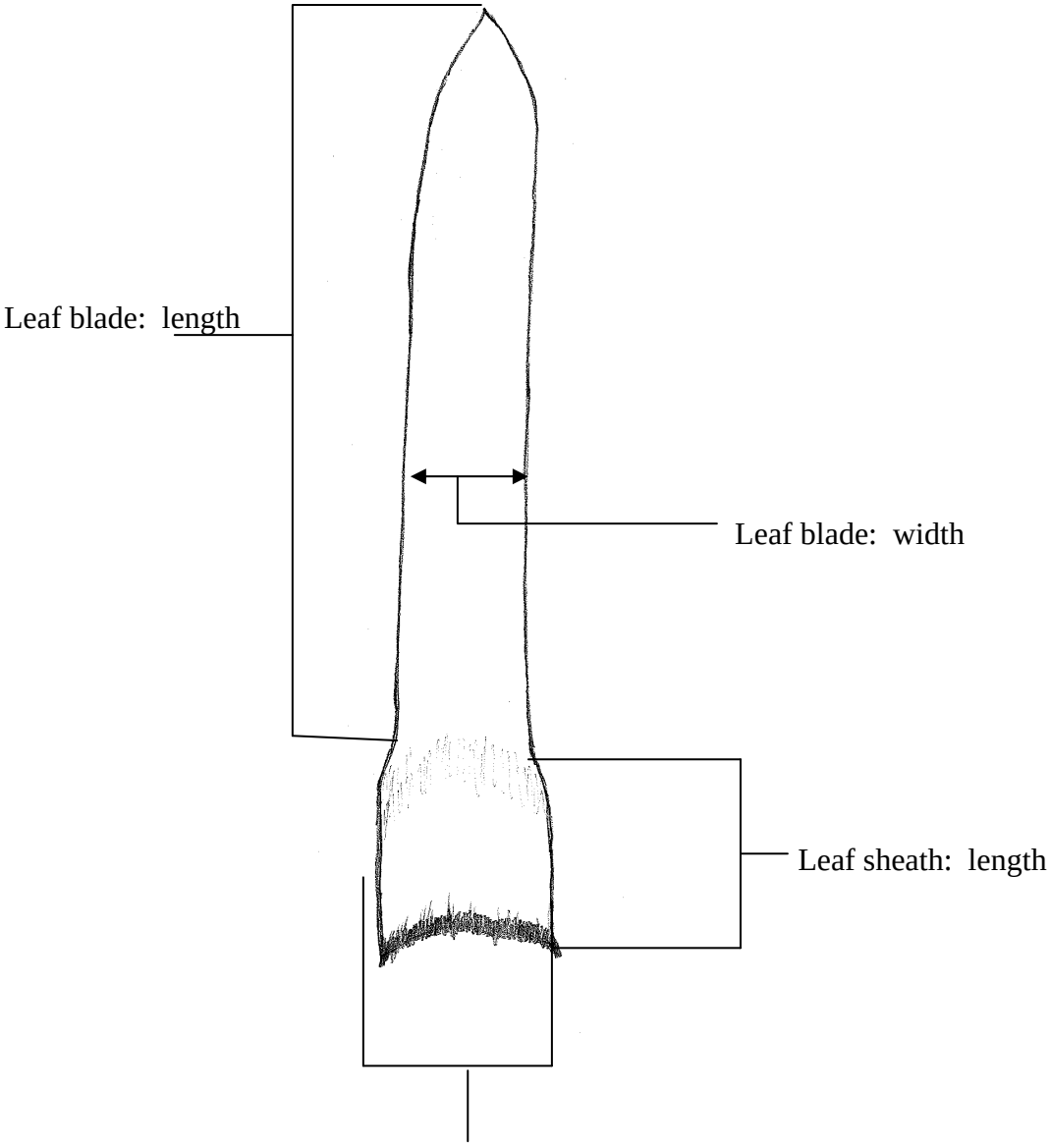
Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

(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.

8.2 Explanations for individual characteristics

Ad. 1: Plant: height (inflorescence excluded)
Ad. 2: Plant: diameter
Ad. 27: Inflorescence length

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



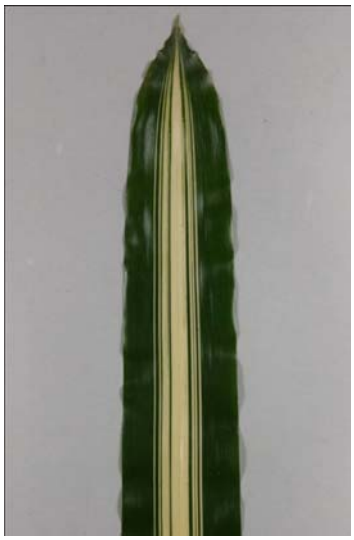
Ad. 24: Inflorescence: branching
Ad. 29: Inflorescence: length of flowering part
Ad. 30: Only varieties with inflorescence branching: present: Inflorescence: diameter of flowering part

Diameter of flowering part

Length of flowering part

Branches

Ad. 15: Leaf blade: longitudinal variegation



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

with a flush

striped

bande

marbled

spotted

marbled and spotted

with a margin

Ad. 36: Inflorescence: position of floral bracts

free (1)

adpressed (2)

Ad. 40: Floral bract: main color of outer side
Ad. 41: Floral bract: secondary color of outer side
Ad. 42: 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 (inflorescence excluded)**		
	very short		1[ ]
	very short to short		2[ ]
	short		3[ ]
	short to medium		4[ ]
	medium		5[ ]
	medium to tall		6[ ]
	tall		7[ ]
	tall to very tall		8[ ]
	very tall		9[ ]
5.2 (41)	**Floral bract: number of colors**		
	one		1 [ ]
	two		2 [ ]

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

	Characteristics	Example Varieties	Note
5.3i (40)	**Floral bract: main color of outer side**		
	RHS Colour Chart (indicate reference number)		
5.3ii (40)	**Floral bract: main color of outer side**		
	white		1[ ]
	green		2[ ]
	yellow		3[ ]
	orange		4[ ]
	orange red		5[ ]
	purple pink		6[ ]
	red		7[ ]
	red purple		8[ ]
	purple		9[ ]

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]