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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

<p>GUZMANIA</p> <p>UPOV Code(s): GUZMA</p> <p><i>Guzmania</i> Ruiz et Pav.</p>

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>Guzmania</i> Ruiz et Pav., <i>Guzmania</i> hybrid	Guzmania	Guzmania	Guzmania	Guzmania

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 *Guzmania* Ruiz et Pav..

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.

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

vegetative-propagated varieties: 20 plants,
seed-propagated varieties: 40 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 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 In the case of vegetatively propagated varieties, each test should be designed to result in a total of at least 20 plants.

3.4.2 In the case of seed-propagated varieties, each test should be designed to result in a total of at least 40 plants.

3.5 *Additional Tests*

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.1.4 Number of Plants or Parts of Plants to be Examined

In the case of vegetatively propagated varieties, unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 19 plants or parts taken from each of 19 plants and any other observation made on all plants in the test, disregarding any off-type plants.

In the case of seed-propagated varieties, unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 38 plants or parts taken from each of 38 plants and any other observation made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

MG: single measurement of a group of plants or parts of plants

MS: measurement of a number of individual plants or parts of plants

VG: visual assessment by a single observation of a group of plants or parts of plants

VS: visual assessment by observation of individual plants or parts of plants

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

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

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

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

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

4.2 *Uniformity*

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

4.2.2 These Test Guidelines have been developed for the examination of vegetatively and seed propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 20 plants, 1 off-type is allowed.

4.2.4 For the assessment of uniformity of seed-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 40 plants, 2 off-types are 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 or 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 (characteristic 1)
 - (b) Peduncle: secondary color of bract (characteristic 20) with the following groups:
 - Gr 1: white
 - Gr 2: yellow
 - Gr 3: orange
 - Gr 4: red
 - Gr 5: purple red
 - Gr 6: purple
 - (c) Inflorescence: position in relation to leaves (characteristic 22)
 - (d) Floral bract: main color of inner side (characteristic 32) with the following groups:
 - Gr 1: white
 - Gr 2: yellow
 - Gr 3: orange
 - Gr 4: red
 - Gr 5: purple red
 - Gr 6: purple
 - (e) Floral bract: number of flowers per bract (characteristic 35)
- 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:

<i>State</i>	<i>Note</i>
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:

<i>State</i>	<i>Note</i>
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

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1	2	3	4	5	6	7		
	Name of characteristics in English		Nom du caractère en français		Name des Merkmals auf Deutsch		Nombre del carácter en español	
	states of expression		types d'expression		Ausprägungsstufen		tipos de expresión	

- 1 Characteristic number
- 2 (*) Asterisked characteristic – see Chapter 6.1.2
- 3 Type of expression
 QL Qualitative characteristic – see Chapter 6.3
 QN Quantitative characteristic – see Chapter 6.3
 PQ Pseudo-qualitative characteristic – see Chapter 6.3
- 4 Method of observation (and type of plot, if applicable)
 MG, MS, VG, VS – see Chapter 4.1.5
- 5 (+) See Explanations on the Table of Characteristics in Chapter 8.2
- 6 (a)-(d) See Explanations on the Table of Characteristics in Chapter 8.1
- 7 Not applicable

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

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	QN	MG/MS/VG	(+)	(a)				
	Plant: height		Plante : hauteur		Pflanze: Höhe	Planta: altura		
	short		basse		niedrig	baja	Marcella	3
	medium		moyenne		mittel	media	Torch	5
	tall		haute		hoch	alta	Magenta	7
2. (*)	QN	MG/MS/VG	(+)	(a)				
	Plant: width		Plante : largeur		Pflanze: Breite	Planta: anchura		
	narrow		étroite		schmal	estrecha	Empire	3
	medium		moyenne		mittel	media	Tatiana	5
	broad		large		breit	ancha	Rana	7
3.	QN	MG/MS/VG		(a)				
	Plant: number of leaves		Plante : nombre de feuilles		Pflanze: Anzahl Blätter	Planta: número de hojas		
	few		petit		gering	bajo	Duranik	3
	medium		moyen		mittel	medio	Rana	5
	many		grand		groß	alto	Taiga	7
4.	QN	MG/MS/VG	(+)	(a), (b)				
	Leaf sheath: length		Gaine de la feuille : longueur		Blattscheide: Länge	Vaina foliar: longitud		
	short		courte		kurz	corta	Cherry	1
	medium		moyenne		mittel	media	Rana	2
	long		longue		lang	larga	Manzana	3
5.	QN	MG/MS/VG	(+)	(a), (b)				
	Leaf sheath: width		Gaine de la feuille : largeur		Blattscheide: Breite	Vaina foliar: anchura		
	narrow		étroite		schmal	estrecha	Papilio	1
	medium		moyenne		mittel	media	Cherry	2
	broad		large		breit	ancha	Duracan	3
6. (*)	QN	MG/MS/VG	(+)	(a), (b)				
	Leaf blade: length		Limbe : longueur		Blattspreite: Länge	Limbo: longitud		
	short		court		kurz	corto	Victory	3
	medium		moyen		mittel	medio	Torch	5
	long		long		lang	largo	Taiga	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. (*)	QN MG/MS/VG	(+) (a), (b)				
	Leaf blade: width	Limbe : largeur	Blattspreite: Breite	Limbo: anchura		
	narrow	étroit	schmal	estrecho	Freeze	3
	medium	moyen	mittel	medio	Luna	5
	broad	large	breit	ancho	Durafire	7
8. (*)	PQ VG	(+) (a), (b)				
	Leaf blade: shape of apex	Limbe : forme du sommet	Blattspreite: Form der Spitze	Limbo: forma del ápice		
	acuminate	acuminé	mit aufgesetzter Spitze	acuminado	Rana	1
	acute	aigu	spitz	agudo	Luna	2
	obtuse	obtus	stumpf	obtuso	neptunes	3
9. (*)	PQ VG	(a), (b), (c)				
	Leaf blade: main color of inner side	Limbe : couleur principale de la face interne	Blattspreite: Hauptfarbe der Innenseite	Limbo: color principal del haz		
	light green	vert clair	hellgrün	verde claro	Victory	1
	medium green	vert moyen	mittelgrün	verde medio	Torch	2
	dark green	vert foncé	dunkelgrün	verde oscuro	Ostara	3
	medium blue green	vert bleu moyen	mittelblaugrün	verde azulado medio		4
10. (*)	QN VG	(a), (b)				
	Leaf blade: anthocyanin coloration of basal half of inner side	Limbe : pigmentation anthocyanique de la moitié basale de la face interne	Blattspreite: Anthocyanfärbung der basalen Hälfte der Innenseite	Limbo: pigmentación antocianica de la mitad basal del haz		
	absent or very weak	nulle ou très faible	fehlend oder sehr schwach	ausente o muy ligera	Hilda	1
	weak	faible	schwach	ligera	Flo	3
	medium	moyenne	mittel	media	Francesca	5
	strong	forte	stark	intensa	Red Moon	7
	very strong	très forte	sehr stark	muy intensa		9
11. (*)	QL VG	(a), (b)				
	Leaf blade: variegation of inner side	Limbe : panachure de la face interne	Blattspreite: Panaschierung der Innenseite	Limbo: variegación del haz		
	absent	absente	fehlend	ausente	Victory	1
	present	présente	vorhanden	presente	Durafire, Sue Anne	9

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	PQ	VG	(a), (b), (c)				
	Leaf blade: main color of outer side	Limbe : couleur principale de la face externe	Blattspreite: Hauptfarbe der Außenseite	Limbo: color principal del envés			
	light green	vert clair	hellgrün	verde claro	Flava	1	
	medium green	vert moyen	mittelgrün	verde medio	Torch	2	
	dark green	vert foncé	dunkelgrün	verde oscuro	Ostara	3	
	medium blue green	vert bleu moyen	mittelblaugrün	verde azulado medio		4	
13. (*)	QN	VG	(a), (b)				
	Leaf blade: anthocyanin coloration of outer side	Limbe : pigmentation anthocyanique de la face externe	Blattspreite: Anthocyanfärbung der Außenseite	Limbo: pigmentación antocianica del envés			
	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy ligera	Manzana	1	
	weak	faible	gering	ligera	Sky	3	
	medium	moyenne	mittel	media	Fall	5	
	strong	forte	stark	intensa	Francesca	7	
	very strong	très forte	sehr stark	muy intensa		9	
14.	PQ	VG	(a), (b)				
	Leaf blade: pattern of anthocyanin coloration of outer side	Limbe : répartition de la pigmentation anthocyanique de la face externe	Blattspreite: Muster der Anthocyanfärbung der Außenseite	Limbo: forma de disposición de la pigmentación antocianica del envés			
	as a flush	floue	geflammt	en pátina	Amoretto	1	
	in stripes	en stries	in Streifen	en rayas	Duranik	2	
	as a flush and in stripes	floue et en stries	geflammt und in Streifen	en pátina y en rayas	Combi	3	
15.	QN	MG/MS/VG	(+)	(a)			
	Peduncle: number of bracts	Pédoncule : nombre de bractées	Blütenstandsstiel: Anzahl Deckblätter	Pedúnculo: número de brácteas			
	few	petit	gering	bajo	Misty	3	
	medium	moyen	mittel	medio		5	
	many	grand	groß	alto	Mirador	7	
16. (*)	QN	MG/MS/VG	(a), (d)				
	Peduncle: length of bract	Pédoncule : longueur de la bractée	Blütenstandsstiel: Länge des Deckblatts	Pedúnculo: longitud de la bráctea			
	short	courte	kurz	corta	Misty	3	
	medium	moyenne	mittel	media	GUZ 008	5	
	long	longue	lang	larga	G9197	7	

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17.	QN MG/MS/VG	(a), (d)				
	Peduncle: width of bract	Pédoncule : largeur de la bractée	Blütenstandsstiel: Breite des Deckblatts	Pedúnculo: anchura de la bráctea		
	narrow	étroite	schmal	estrecha	Misty	3
	medium	moyenne	mittel	media	GUZ 008	5
	broad	large	breit	ancha	Sky	7
18.	QN VG	(a), (d)				
	Peduncle: intensity of green color of bract	Pédoncule : intensité de la couleur verte de la bractée	Blütenstandsstiel: Intensität der Grünfärbung des Deckblatts	Pedúnculo: intensidad del color verde de la bráctea		
	light	claire	hell	claro	Tinto	3
	medium	moyenne	mittel	medio	Rostara	5
	dark	foncée	dunkel	oscuro	Durajen	7
19. (*)	QN VG	(+) (a)				
	Peduncle: position of first bi-colored bract	Pédoncule : position de la première bractée bicolore	Blütenstandsstiel: Sitz des ersten zweifarbigen Deckblatts	Pedúnculo: posición de la primera bráctea bicolor		
	at basal third	au tiers basal	im basalen Drittel	en el tercio basal	Revolution	1
	middle third	au tiers médian	im mittleren Drittel	en el tercio central	Rock	2
	at distal third	au tiers distal	im distalen Drittel	en el tercio distal	Tropix	3
20. (*)	PQ VG	(a), (c)				
	Peduncle: secondary color of bract	Pédoncule : couleur secondaire de la bractée	Blütenstandsstiel: Sekundärfarbe des Deckblatts	Pedúnculo: color secundario de la bráctea		
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
21.	QN VG	(a)				
	Peduncle: area of secondary color of bract	Pédoncule : surface de la couleur secondaire de la bractée	Blütenstandsstiel: Fläche der Sekundärfarbe des Deckblatts	Pedúnculo: superficie del color secundario de la bráctea		
	small	petite	klein	pequeña		1
	medium	moyenne	mittel	media		2
	large	grande	groß	grande		3
22. (*)	QN VG	(a)				
	Inflorescence: position in relation to leaves	Inflorescence : position par rapport aux feuilles	Blütenstand: Sitz im Vergleich zu den Blättern	Inflorescencia: posición en relación con las hojas		
	below	en dessous	unterhalb	por debajo	Glossita	1
	same level	au même niveau	in gleicher Höhe	al mismo nivel	Durabel	2
	above	au-dessus	oberhalb	por encima	Torch	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23. (*)	QN	MG/MS/VG	(+)	(a)		
	Inflorescence: length	Inflorescence : longueur	Blütenstand: Länge	Inflorescencia: longitud		
	short	courte	kurz	corta	Victory	3
	medium	moyenne	mittel	media	Continental	5
	long	longue	lang	larga	Amoretto	7
24. (*)	QN	MG/MS/VG	(+)	(a)		
	Inflorescence: length of flowering part	Inflorescence : longueur de la partie florifère	Blütenstand: Länge des blühenden Teils	Inflorescencia: longitud de la parte en floración		
	short	courte	kurz	corta	Manzana	3
	medium	moyenne	mittel	media	Amoretto	5
	long	longue	lang	larga	Rana	7
25. (*)	QN	MG/MS/VG	(+)	(a)		
	Inflorescence: diameter of flowering part	Inflorescence : diamètre de la partie florifère	Blütenstand: Durchmesser des blühenden Teils	Inflorescencia: diámetro de la parte en floración		
	small	petit	klein	pequeño	Duranik	3
	medium	moyen	mittel	medio	Manzana	5
	large	grand	groß	grande	Durafire	7
26. (*)	QN	MG/MS/VG	(+)	(a)		
	Inflorescence: number of floral bracts	Inflorescence : nombre de bractées florales	Blütenstand: Anzahl blütenbedeckender Deckblätter	Inflorescencia: número de brácteas florales		
	few	petit	gering	bajo	Rana	3
	medium	moyen	mittel	medio	Victory	5
	many	grand	groß	alto	Manzana	7
27.	QN	MG/MS/VG	(+)	(a)		
	Floral bract: length	Bractée florale : longueur	Blütenbedeckendes Deckblatt: Länge	Bráctea floral: longitud		
	short	courte	kurz	corta	Torch	3
	medium	moyenne	mittel	media	Manzana	5
	long	longue	lang	larga	Rana	7
28. (*)	QN	MG/MS/VG	(+)	(a)		
	Floral bract: width	Bractée florale : largeur	Blütenbedeckendes Deckblatt: Breite	Bráctea floral: anchura		
	narrow	étroite	schmal	estrecha	Flava	3
	medium	moyenne	mittel	media	Cherry	5
	broad	large	breit	ancha	Manzana	7

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29.	QN	VG	(+)	(a)				
	Floral bract: width of apex	Bractée florale : largeur de l'extrémité	Blütenbedeckendes Deckblatt: Breite der Spitze	Bráctea floral: anchura del ápice				
	narrow	étroite	schmal	estrecho	Victory		1	
	medium	moyenne	mittel	medio	Cherry		2	
	broad	large	breit	ancho	Torch		3	
30. (*)	PQ	VG	(a), (c)					
	Floral bract: main color of outer side	Bractée florale : couleur principale de la face externe	Blütenbedeckendes Deckblatt: Hauptfarbe der Außenseite	Bráctea floral: color principal del envés				
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)				
31. (*)	PQ	VG	(a), (c)					
	Floral bract: secondary color of outer side	Bractée florale : couleur secondaire de la face externe	Blütenbedeckendes Deckblatt: Sekundärfarbe der Außenseite	Bráctea floral: color secundario del envés				
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)				
32. (*)	PQ	VG	(a), (c)					
	Floral bract: main color of inner side	Bractée florale : couleur principale de la face interne	Blütenbedeckendes Deckblatt: Hauptfarbe der Innenseite	Bráctea floral: color principal del haz				
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)				
33.	PQ	VG	(a), (c)					
	Floral bract: secondary color of inner side	Bractée florale : couleur secondaire de la face interne	Blütenbedeckendes Deckblatt: Sekundärfarbe der Innenseite	Bráctea floral: color secundario del haz				
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)				
34.	QN	VG	(+)	(a)				
	Floral bract: curvature of longitudinal section	Bractée florale : courbure de la section longitudinale	Blütenbedeckendes Deckblatt: Biegung im Längsschnitt	Bráctea floral: curvatura en sección longitudinal				
	straight	droite	gerade	recta	Durajul		1	
	slightly recurved	légèrement recourbée	leicht zurückgebogen	ligeramente recurvada	Techno		2	
	moderately recurved	modérément recourbée	mäßig zurückgebogen	medianamente recurvada	Hasta la Vista		3	
	strongly recurved	fortement recourbée	stark zurückgebogen	muy recurvada	Duratat		4	

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35. (*)	QN	MG/MS/VG	(+)	(a)		
	Floral bract: number of flowers per bract	Bractée florale : nombre de fleurs par bractée	Blütenbedeckendes Deckblatt: Anzahl Blüten je Deckblatt	Bráctea floral: número de flores por bráctea		
	few	petit	gering	bajo	Techno	3
	medium	moyen	mittel	medio	Rana	5
	many	grand	groß	alto	Continental	7
36.	QN	MG/VG	(+)	(a)		
	Prophyll: length	Préfeuille : longueur	Vorblatt: Länge	Perfil: longitud		
	short	courte	kurz	corto	Soledo	1
	medium	moyenne	mittel	medio	Continental	2
	long	longue	lang	largo	Cherry	3
37.	QN	MG/VG	(+)	(a)		
	Prophyll: width	Préfeuille : largeur	Vorblatt: Breite	Perfil: anchura		
	narrow	étroite	schmal	estrecho	Manzana	1
	medium	moyenne	mittel	medio	Rana	2
	broad	large	breit	ancho	Continental	3
38.	PQ	VG		(a), (c)		
	Prophyll: main color	Préfeuille : couleur principale	Vorblatt: Hauptfarbe	Perfil: color principal		
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
39. (*)	PQ	VG	(+)	(a)		
	Flower: color of the apex of the corolla	Fleur : couleur de l'extrémité de la corolle	Blüte: Farbe der Spitze der Krone	Flor: color del ápice de la corola		
	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
40.	PQ	VG		(a)		
	Ovary: color	Ovaire : couleur	Fruchtknoten: Farbe	Ovario: color		
	white	blanc	weiß	blanco	Victory	1
	yellow	jaune	gelb	amarillo	Duracla	2
	green	vert	grün	verde	Torch	3

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
41.	PQ	VG	(a)			
	Style: color of distal half	Style : couleur de la moitié distale	Griffel: Farbe der distalen Hälfte	Estilo: color de la mitad distal		
	white	blanc	weiß	blanco	Manzana	1
	yellow	jaune	gelb	amarillo	Kenbro4910	2
	green	vert	grün	verde		3
42.	PQ	VG	(a)			
	Stigma: color	Stigmate : couleur	Narbe: Farbe	Estigma: color		
	white	blanc	weiß	blanco	Victory	1
	yellow	jaune	gelb	amarillo	Torch	2
	green	vert	grün	verde	Soledo	3

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

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

- (a) Observations on plant, leaf, inflorescence, peduncle and floral bracts should be made when the flowers in the middle third of the flowering part are open.
- (b) Observations on the leaf should be made on the largest fully expanded leaf.
- (c) The main color is the color with the largest surface area. In cases where the areas of the main and secondary color are too similar to reliably decide which color has the largest surface area, the darkest color is considered to be the main color.
- (d) Observations on the bract should be made on the largest bract in the middle third of the peduncle.

8.2 *Explanations for individual characteristics*

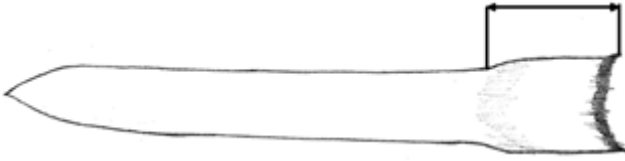
Ad. 1: Plant: height



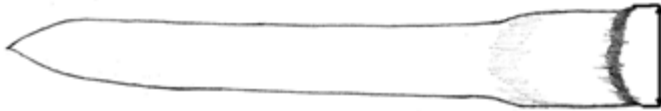
Ad. 2: Plant: width



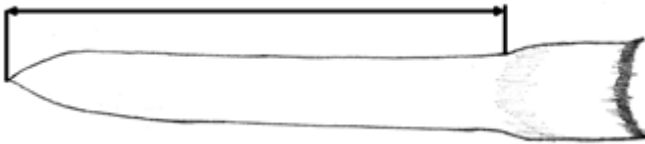
Ad. 4: Leaf sheath: length



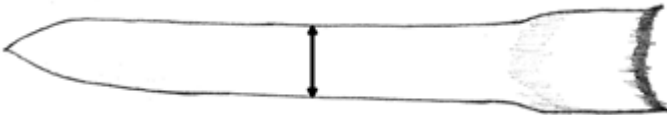
Ad. 5: Leaf sheath: width



Ad. 6: Leaf blade: length



Ad. 7: Leaf blade: width



Ad. 8: Leaf blade: shape of apex



1
acuminate



2
acute



3
obtuse

Ad. 15: Peduncle: number of bracts

Bracts are small scale-like leaves on the peduncle.

Ad. 19: Peduncle: position of first bi-colored bract

Bi-colored bracts are bracts with a secondary color excluding anthocyanin

Ad. 23: Inflorescence: length



Ad. 24: Inflorescence: length of flowering part

Length of flowering part should be observed from the base of the first floral bract to the top of the last flower.



Ad. 25: Inflorescence: diameter of flowering part

The diameter of the flowering part should be observed at the largest diameter.



Ad. 26: Inflorescence: number of floral bracts

Floral bracts are small scale-like leaves associated with a flower or flower cluster.

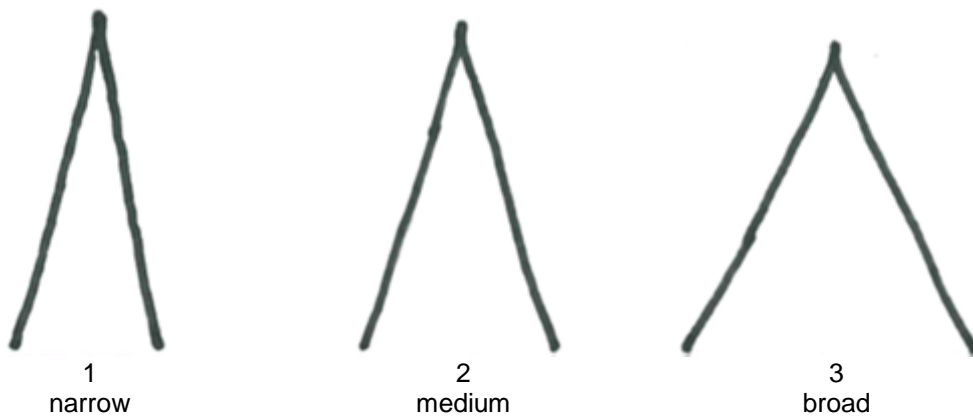
Ad. 27: Floral bract: length

Observations should be made on the longest floral bract.

Ad. 28: Floral bract: width

Observations should be made on the longest floral bract.

Ad. 29: Floral bract: width of apex



Ad. 34: Floral bract: curvature of longitudinal section



1
straight



2
slightly recurved



4
strongly recurved

Ad. 35: Floral bract: number of flowers per bract



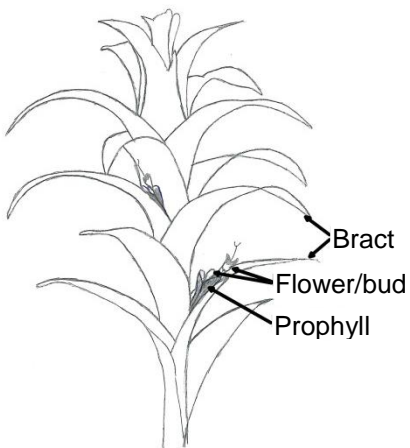
3
few



7
many

Ad. 36: Prophyll: length

Prophylls are the second level bracts covering more than one flower or flower bud. Should be observed when more than one flower per bract is present.



Ad. 37: Prophyll: width

See Ad. 36

Ad. 39: Flower: color of the apex of the corolla



9. Literature

Baensch, U., 1994: Blooming Bromeliads, Tropic Beauty Publishers, Nassau, BS, pp. 162, 174 to 176

Boonstra H., de Jong B., 1988: Teelt van Bromeliaceeën, WUR, Wageningen, NL, pp. 5, 6, 21, 47 to 53

Rauh, W., 1990: The Bromeliad Lexicon, Blandford, London, GB, 431 pp.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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	Application date: (not to be filled in by the applicant)
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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="Guzmania Ruiz et Pav."/>
1.2	Common name	<input type="text" value="Guzmania"/>
1.3	Species (please specify):	<input type="text"/>
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"/>

#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)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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4.2 Method of propagating the variety

4.2.1 Seed-propagated varieties

- (a) Cross-pollination
- (b) Hybrid
- (c) Other (please provide details)

4.2.2 Vegetative propagation

- (a) *In vitro* propagation
- (b) Other (state method)

4.2.3 Other
(Please provide details)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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 Plant: height (1)		
very short		1 []
very short to short		2 []
short	Marcella	3 []
short to medium		4 []
medium	Torch	5 []
medium to tall		6 []
tall	Magenta	7 []
tall to very tall		8 []
very tall		9 []
5.2(i) Peduncle: secondary color of bract (20)		
RHS Colour Chart (indicate reference number)		
5.2(ii) Peduncle: secondary color of bract (20)		
white		1 []
yellow		2 []
orange		3 []
red		4 []
purple red		5 []
purple		6 []
5.3 Inflorescence: position in relation to leaves (22)		
below	Glossita	1 []
same level	Durabel	2 []
above	Torch	3 []

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.4(i) Floral bract: main color of outer side (30)		
RHS Colour Chart (indicate reference number)		
5.4(ii) Floral bract: main color of outer side (30)		
white		1 []
yellow		2 []
orange		3 []
red		4 []
purple red		5 []
purple		6 []
5.5(i) Floral bract: main color of inner side (32)		
RHS Colour Chart (indicate reference number)		
5.5(ii) Floral bract: main color of inner side (32)		
white		1 []
yellow		2 []
orange		3 []
red		4 []
purple red		5 []
purple		6 []
5.6 Floral bract: number of flowers per bract (35)		
very few		1 []
very few to few		2 []
few	Techno	3 []
few to medium		4 []
medium	Rana	5 []
medium to many		6 []
many	Continental	7 []
many to very many		8 []
very many		9 []

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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
<i>Example</i>	<i>Plant: height</i>	<i>short</i>	<i>medium</i>
Comments:			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

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

Yes [] No []

(If yes, please provide details)

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

Yes [] No []

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)"

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (<http://www.upov.int/tgp/en/>).

[The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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8. Authorization for release

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

Yes [] No []

(b) Has such authorization been obtained?

Yes [] No []

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

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

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

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

(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes []	No []
(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes []	No []
(c) Tissue culture	Yes []	No []
(d) Other factors	Yes []	No []

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature Date

[End of document]