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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

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

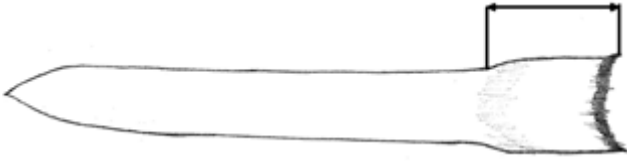
Ad. 1: Plant: height



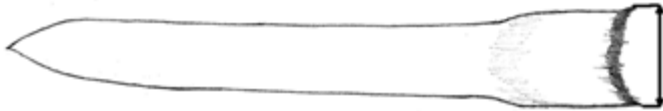
Ad. 2: Plant: width



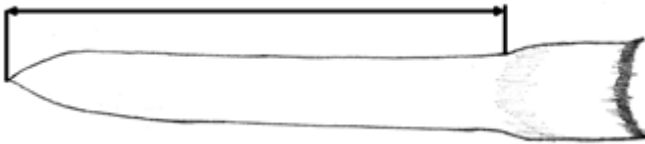
Ad. 4: Leaf sheath: length



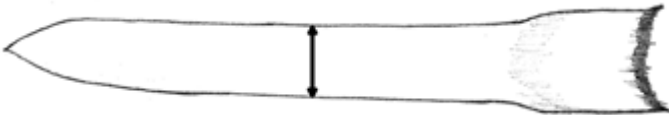
Ad. 5: Leaf sheath: width



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.

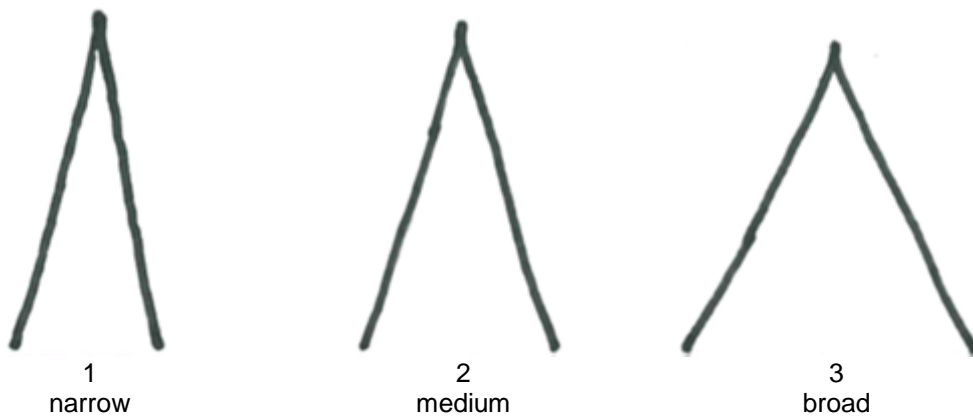
Ad. 27: Floral bract: length

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



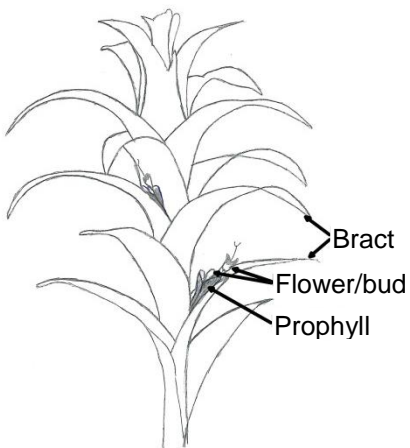
3
few



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: |
|-------------------------|-----------------|-------------------|

| | |
|--|---|
| | 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="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: |
|-------------------------|-----------------|-------------------|

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: |
|-------------------------|-----------------|-------------------|

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: |
|-------------------------|-----------------|-------------------|

| 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: |
|-------------------------|-----------------|-------------------|

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: |
|-------------------------|-----------------|-------------------|

#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: |
|-------------------------|-----------------|-------------------|

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]