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| Geneva | | | | |
| DRAFT |

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|  | GRANADILLA, PASSION FRUIT  UPOV Code(s): PASSI\_EDU  *Passiflora edulis* Sims | \* |

GUIDELINESFOR THE CONDUCT OF TESTS  
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Australia

to be considered by the

Technical Committee at its sixty-first session,

to be held Geneva from 2025-10-20 to 2025-10-21

Disclaimer: this document does not represent UPOV policies or guidance

Alternative Names:\*

| *Botanical name* | *English* | *French* | *German* | *Spanish* |
| --- | --- | --- | --- | --- |
| *Passiflora edulis* Sims | Granadilla,  Passion fruit | Barbadine,  Fruit de la passion | Passionsfrucht, Purpurgranadilla | Granadilla, Maracuyá |

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.

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# Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Passiflora edulis* Sims.

# 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 rooted cuttings or vegetatively propagated young plants.

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

5 rooted cuttings or 5 vegetatively propagated young 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.

# Method of Examination

## 3.1 Number of Growing Cycles

3.1.1 The minimum duration of tests should normally be two independent growing cycles.

3.1.2 The two independent growing cycles may be observed from a single planting, examined in two separate growing cycles.

3.1.3 The growing cycle is considered to be the period ranging from the beginning of active vegetative growth or flowering, continuing through active vegetative growth or flowering and fruit development and concluding with the harvesting of fruit.

3.1.4 In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles.

3.1.5 To ensure satisfactory crop of good quality fruits, four freshly opened flowers from each of the five plants should be hand pollinated and marked. Fruit developed from these flowers should be used for assessing fruit characteristics.

3.1.6 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

## 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

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.

## 3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 5 plants.

3.4.2 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.

# 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

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts of plants taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants.

In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2.

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 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 5 plants, no 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.

# 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) Flower: anthocyanin spots on style (characteristic 35)

(b) Fruit: height (characteristic 37)

(c) Fruit: color of skin (characteristic 42)

(d) Fruit: weight (characteristic 44)

(e) Fruit: color of pulp (characteristic 45)

(f) Plant: self-incompatibility (characteristic 48)

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”.

# 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 All relevant states of expression are presented in the characteristic.

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

7 Not applicable See Explanations on the Table of Characteristics in Chapter 8.3

# Table of Characteristics/Tableau des caracteres/Merkmalstabelle/Tabla de caracteres

|  | | English | | français | | deutsch | español | Example Varieties  Exemples  Beispielssorten  Variedades ejemplo | Note/  Nota |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** |  | **QN** | **VG** | **(+)** |  |  |  |  |  |
|  | | **Plant: vigor** | | **Plante : vigueur** | | **Pflanze: Wuchsstärke** | **Planta: vigor** |  |  |
| very weak | | très faible | | sehr gering | muy débil | Lacey | 1 |
| weak | | faible | | gering | débil | Misty Gem | 2 |
| medium | | moyenne | | mittel | medio | Tango | 3 |
| strong | | forte | | stark | fuerte | Flamenco | 4 |
| very strong | | très forte | | sehr stark | muy fuerte | Toms Special | 5 |
| **2.** |  | **PQ** | **VG** | **(+)** |  |  |  |  |  |
|  | | **Shoot: color** | | **Rameau : couleur** | | **Trieb: Farbe** | **Rama: color** |  |  |
| light green | | vert clair | | hellgrün | verde claro | Nellie Kelly Black, Summer Queen | 1 |
| medium green | | vert moyen | | mittelgrün | verde medio | Misty Gem | 2 |
| dark green | | vert foncé | | dunkelgrün | verde oscuro | Charité, Ester | 3 |
| greenish purple | | pourpre verdâtre | | grünlichpurpurn | púrpura verdoso |  | 4 |
| purple | | pourpre | | purpurn | púrpura | Panama Gold | 5 |
| **3.** |  | **QN** | **VG** |  | **(a)** |  |  |  |  |
|  | | **Plant: relative number of leaves with three lobes** | | **Plante : nombre relatif de feuilles à trois lobes** | | **Pflanze: relative Anzahl dreilappiger Blätter** | **Planta: número relativo de hojas con tres lóbulos** |  |  |
| absent or very few | | absent ou très petit | | fehlend oder sehr gering | ausente o muy bajo | OPA6/19 | 1 |
| few | | petit | | gering | bajo |  | 2 |
| medium | | moyen | | mittel | medio | OPA4/19 | 3 |
| many | | élevé | | hoch | alto | Misty Gem | 4 |
| very many | | très élevé | | sehr hoch | muy alto | Flamenco,  Toms Special | 5 |
| **4.** |  | **QN** | **VG** |  |  |  |  |  |  |
|  | | **Stipules: anthocyanin coloration** | | **Stipules : pigmentation anthocyanique** | | **Nebenblatt: Anthocyanfärbung** | **Estípulas: pigmentación antociánica** |  |  |
| absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Flamenco | 1 |
| medium | | moyenne | | mittel | media |  | 2 |
| strong | | forte | | stark | fuerte | Panama Gold | 3 |
| **5.** |  | **QN** | **VG** |  | **(a)** |  |  |  |  |
|  | | **Leaf blade: blistering** | | **Limbe : cloqûre** | | **Blattspreite: Blasigkeit** | **Limbo: ampollado** |  |  |
| absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Panama Gold | 1 |
| medium | | moyenne | | mittel | medio | Panama Red | 2 |
| strong | | forte | | stark | fuerte | Nellie Kelly Black | 3 |
| **6.** |  | **QN** | **MG/MS/VG** |  | **(a), (b)** |  |  |  |  |
|  | | **Leaf blade: length** | | **Limbe : longueur** | | **Blattspreite: Länge** | **Limbo: longitud** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| very short to short | | très courte à courte | | sehr kurz bis kurz | muy corta a corta |  | 2 |
| short | | courte | | kurz | corta | Lacey | 3 |
| short to medium | | courte à moyenne | | kurz bis mittel | corta a media | Sweetheart | 4 |
| medium | | moyenne | | mittel | media | Flamenco, Misty Gem | 5 |
| medium to long | | moyenne à longue | | mittel bis lang | media a larga | Panama Red | 6 |
| long | | longue | | lang | larga | OPA3/19, OPA4/19 | 7 |
| long to very long | | longue à très longue | | lang bis sehr lang | larga a muy larga | OPA12/19 | 8 |
| very long | | très longue | | sehr lang | muy larga | OPA6/19 | 9 |
| **7.** |  | **QN** | **MG/MS/VG** |  | **(a), (b)** |  |  |  |  |
|  | | **Leaf blade: width** | | **Limbe : largeur** | | **Blattspreite: Breite** | **Limbo: anchura** |  |  |
| very narrow | | très étroite | | sehr schmal | muy estrecha |  | 1 |
| very narrow to narrow | | très étroite à étroite | | sehr schmal bis schmal | muy estrecha a estrecha |  | 2 |
| narrow | | étroite | | schmal | estrecha | E23 | 3 |
| narrow to medium | | étroite à moyenne | | schmal bis mittel | estrecha a media | Lacey | 4 |
| medium | | moyenne | | mittel | media | Misty Gem,  Toms Special | 5 |
| medium to broad | | moyenne à large | | mittel bis breit | media a ancha | Flamenco | 6 |
| broad | | large | | breit | ancha | OPA13/19, Tango | 7 |
| broad to very broad | | large à très large | | breit bis sehr breit | ancha muy ancha | OPA3/19 | 8 |
| very broad | | très large | | sehr breit | muy ancha |  | 9 |
| **8.** |  | **QN** | **MG/MS/VG** |  | **(a), (b)** |  |  |  |  |
|  | | **Only varieties with: Plant: relative number of leaves with three lobes: present: Leaf blade: width of the middle lobe** | | **Seulement variétés avec : Plante : nombre relatif de feuilles à trois lobes : présent : Limbe : largeur du lobe médian** | | **Nur Sorten mit: Pflanze: relative Anzahl dreilappiger Blätter: vorhanden: Blattspreite: Breite des Mittellappens** | **Sólo variedades con: Planta: número relativo de hojas con tres lóbulos: presente: Limbo: anchura del lóbulo medio** |  |  |
| very narrow | | très étroite | | sehr schmal | muy estrecha |  | 1 |
| very narrow to narrow | | très étroite à étroite | | sehr schmal bis schmal | muy estrecha a estrecha |  | 2 |
| narrow | | étroite | | schmal | estrecha | Lacey, Sweetheart | 3 |
| narrow to medium | | étroite à moyenne | | schmal bis mittel | estrecha a media | E23, Toms Special | 4 |
| medium | | moyenne | | mittel | media | Misty Gem | 5 |
| medium to broad | | moyenne à large | | mittel bis breit | media a ancha | OPA5/19, OPA7/19 | 6 |
| broad | | large | | breit | ancha | OPA11/19, OPA4/19 | 7 |
| broad to very broad | | large à très large | | breit bis sehr breit | ancha muy ancha | McGuffies Red, OPA3/19 | 8 |
| very broad | | très large | | sehr breit | muy ancha | OPA12/19 | 9 |
| **9.** |  | **QN** | **VG** |  | **(a)** |  |  |  |  |
|  | | **Leaf blade: intensity of green color of upper side** | | **Limbe : intensité de la couleur verte de la face supérieure** | | **Blattspreite: Intensität der Grünfärbung der Oberseite** | **Limbo: intensidad del color verde del haz** |  |  |
| very light | | très claire | | sehr hell | muy clara |  | 1 |
| light | | claire | | hell | clara | Lacey | 2 |
| medium | | moyenne | | mittel | media | McGuffies Red, Pandora | 3 |
| dark | | foncée | | dunkel | oscura | Sweetheart, Tango | 4 |
| very dark | | très foncée | | sehr dunkel | muy oscura | OPA6/19 | 5 |
| **10.** |  | **QN** | **VG** |  | **(a)** |  |  |  |  |
|  | | **Leaf blade: glossiness of upper side** | | **Limbe : brillance de la face supérieure** | | **Blattspreite: Glanz der Oberseite** | **Limbo: brillo del haz** |  |  |
| weak | | faible | | gering | débil | E23 | 1 |
| medium | | moyenne | | mittel | medio | Flamenco, Tango | 2 |
| strong | | forte | | stark | fuerte | OPA6/19, Sweetheart | 3 |
| **11.** |  | **PQ** | **VG** | **(+)** | **(a)** |  |  |  |  |
|  | | **Leaf blade: shape of base** | | **Limbe : forme de la base** | | **Blattspreite: Form der Basis** | **Limbo: forma de la base** |  |  |
| acute | | aiguë | | spitz | aguda |  | 1 |
| obtuse | | obtuse | | stumpf | obtusa |  | 2 |
| truncate | | tronquée | | gerade | truncada |  | 3 |
| weakly cordate | | faiblement cordée | | gering herzförmig | débilmente cordada | OPA4/19 | 4 |
| strongly cordate | | fortement cordée | | stark herzförmig | fuertemente cordada | Flamenco, Misty Gem | 5 |
| **12.** |  | **QN** | **MG/MS/VG** | **(+)** | **(a), (b)** |  |  |  |  |
|  | | **Leaf blade: depth of sinus** | | **Limbe : profondeur du sinus** | | **Blattspreite: Tiefe der Einbuchtungen** | **Limbo: profundidad del seno** |  |  |
| absent or very shallow | | absente ou très peu profonde | | fehlend oder sehr flach | ausente o muy poco profunda | OPA6/19 | 1 |
| shallow | | peu profonde | | flach | poco profunda |  | 2 |
| medium | | moyenne | | mittel | media | Panama Red | 3 |
| deep | | profonde | | tief | profunda | Panama Gold | 4 |
| very deep | | très profonde | | sehr tief | muy profunda |  | 5 |
| **13.** |  | **QN** | **MS/VG** |  | **(a)** |  |  |  |  |
|  | | **Petiole: length** | | **Pétiole : longueur** | | **Blattstiel: Länge** | **Peciolo: longitud** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| very short to short | | très courte à courte | | sehr kurz bis kurz | muy corta a corta |  | 2 |
| short | | courte | | kurz | corta | Tango, Toms Special | 3 |
| short to medium | | courte à moyenne | | kurz bis mittel | corta a media | Misty Gem, OPA13/19 | 4 |
| medium | | moyenne | | mittel | media | Flamenco, OPA3/19 | 5 |
| medium to long | | moyenne à longue | | mittel bis lang | media a larga | McGuffies Red, OPA4/19 | 6 |
| long | | longue | | lang | larga | OPA11/19, OPA7/19 | 7 |
| long to very long | | longue à très longue | | lang bis sehr lang | larga a muy larga | OPA12/19 | 8 |
| very long | | très longue | | sehr lang | muy larga |  | 9 |
| **14.** |  | **QN** | **VG** |  | **(a)** |  |  |  |  |
|  | | **Petiole: anthocyanin coloration** | | **Pétiole : coloration anthocyanique** | | **Blattstiel: Anthocyanfärbung** | **Peciolo: pigmentación antociánica** |  |  |
| absent or weak | | absente ou faible | | fehlend oder gering | ausente o débil | Misty Gem,  Toms Special | 1 |
| medium | | moyenne | | mittel | media | Lacey, McGuffies Red | 2 |
| strong | | forte | | stark | fuerte | Panama Gold | 3 |
| **15.** | **(\*)** | **QL** | **VG** | **(+)** | **(a)** |  |  |  |  |
|  | | **Petiole: position of nectaries** | | **Pétiole : position des nectaires** | | **Blattstiel: Position der Nektarien** | **Peciolo: posición de los nectarios** |  |  |
| adjacent to the base of the leaf blade | | adjacente à la base du limbe | | an die Basis der Blattspreite anstoßend | adyacente a la base del limbo | Flamenco, Lacey | 1 |
| distant from the base of the leaf blade | | éloignée de la base du limbe | | von der Basis der Blattspreite entfernt | distante de la base del limbo | E23, OPA3/19 | 2 |
| **16.** |  | **QN** | **MG/MS/VG** |  | **(c)** |  |  |  |  |
|  | | **Flower: length of pedicel** | | **Fleur : longueur du pédicelle** | | **Blüte: Länge des Blütenstiels** | **Flor: longitud del pedicelo** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| short | | courte | | kurz | corta | Lacey | 2 |
| medium | | moyenne | | mittel | media | Misty Gem | 3 |
| long | | longue | | lang | larga | Flamenco,  Toms Special | 4 |
| very long | | très longue | | sehr lang | muy larga | OPA11/19, Sweetheart | 5 |
| **17.** |  | **QN** | **MG/MS/VG** |  | **(c), (d)** |  |  |  |  |
|  | | **Flower: length of bracts** | | **Fleur : longueur des bractées** | | **Blüte: Länge der Hüllblätter** | **Flor: longitud de las brácteas** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| short | | courte | | kurz | corta | Lacey, Misty Gem | 2 |
| medium | | moyenne | | mittel | media | OPA3/19,  Toms Special | 3 |
| long | | longue | | lang | larga | McGuffies Red, OPA6/19 | 4 |
| very long | | très longue | | sehr lang | muy larga | OPA12/19, Sweetheart | 5 |
| **18.** |  | **QN** | **MG/MS/VG** |  | **(c), (d)** |  |  |  |  |
|  | | **Flower: width of bracts** | | **Fleur : largeur des bractées** | | **Blüte: Breite der Hüllblätter** | **Flor: anchura de las brácteas** |  |  |
| very narrow | | très étroite | | sehr schmal | muy estrecha |  | 1 |
| narrow | | étroite | | schmal | estrecha | Flamenco, OPA13/19 | 2 |
| medium | | moyenne | | mittel | media | McGuffies Red, Pandora | 3 |
| broad | | large | | breit | ancha | OPA7/19, Tango | 4 |
| very broad | | très large | | sehr breit | muy ancha | OPA6/19 | 5 |
| **19.** |  | **QL** | **VG** |  | **(c)** |  |  |  |  |
|  | | **Flower: nectaries on bracts** | | **Fleur : nectaires sur les bractées** | | **Blüte: Nektarien auf Hüllblättern** | **Flor: nectarios en las brácteas** |  |  |
| absent | | absents | | fehlend | ausentes |  | 1 |
| present | | présents | | vorhanden | presentes | Misty Gem | 9 |
| **20.** |  | **QL** | **VG** |  | **(c)** |  |  |  |  |
|  | | **Only varieties with Flower: nectaries on bract: present: Flower: color of nectaries on bracts** | | **Seulement variétés avec Fleur : nectaires sur les bractées : présents : Fleur : couleur des nectaires sur les bractées** | | **Nur Sorten mit Blüte: Nektarien am Hüllblatt: vorhanden: Blüte: Farbe der Nektarien auf den Hüllblättern** | **Sólo variedades con Flor: nectarios en las bráctea: presentes: Flor: color de los nectarios en las brácteas** |  |  |
| green | | vert | | grün | verde | Lacey | 1 |
| purple | | pourpre | | purpurn | púrpura | OPA7/19 | 2 |
| **21.** |  | **QN** | **MG/MS/VG** |  | **(c), (d)** |  |  |  |  |
|  | | **Flower: length of sepals** | | **Fleur : longueur des sépales** | | **Blüte: Länge der Kelchblätter** | **Flor: longitud de los sépalos** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| short | | courte | | kurz | corta | Lacey | 2 |
| medium | | moyenne | | mittel | media | Misty Gem, Sweetheart | 3 |
| long | | longue | | lang | larga | OPA11/19 | 4 |
| very long | | très longue | | sehr lang | muy larga |  | 5 |
| **22.** |  | **QN** | **MG/MS/VG** |  | **(c), (d)** |  |  |  |  |
|  | | **Flower: width of sepals** | | **Fleur : largeur des sépales** | | **Blüte: Breite der Kelchblätter** | **Flor: anchura de los sépalos** |  |  |
| very narrow | | très étroite | | sehr schmal | muy estrecha |  | 1 |
| narrow | | étroite | | schmal | estrecha | OPA5/19 | 2 |
| medium | | moyenne | | mittel | media | Lacey, Misty Gem | 3 |
| broad | | large | | breit | ancha | OPA11/19 | 4 |
| very broad | | très large | | sehr breit | muy ancha |  | 5 |
| **23.** |  | **QN** | **MG/MS/VG** |  | **(c), (d)** |  |  |  |  |
|  | | **Flower: length of petals** | | **Fleur : longueur des pétales** | | **Blüte: Länge der Blütenblätter** | **Flor: longitud de los pétalos** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| short | | courte | | kurz | corta | OPA5/19 | 2 |
| medium | | moyenne | | mittel | media | Flamenco, Sweetheart | 3 |
| long | | longue | | lang | larga | McGuffies Red, Panama Red | 4 |
| very long | | très longue | | sehr lang | muy larga |  | 5 |
| **24.** |  | **QN** | **MG/MS/VG** |  | **(c), (d)** |  |  |  |  |
|  | | **Flower: width of petals** | | **Fleur : largeur des pétales** | | **Blüte: Breite der Blütenblätter** | **Flor: anchura de los pétalos** |  |  |
| very narrow | | très étroite | | sehr schmal | muy estrecha |  | 1 |
| narrow | | étroite | | schmal | estrecha | Lacey, OPA3/19 | 2 |
| medium | | moyenne | | mittel | media | Flamenco, Sweetheart | 3 |
| broad | | large | | breit | ancha | Toms Special | 4 |
| very broad | | très large | | sehr breit | muy ancha |  | 5 |
| **25.** |  | **QN** | **MG/MS/VG** |  | **(c), (e)** |  |  |  |  |
|  | | **Flower: length of androgynophore** | | **Fleur : longueur de l'androgynophore** | | **Blüte: Länge des Androgynophors** | **Flor: longitud del androginóforo** |  |  |
| very short | | très courte | | sehr kurz | muy corta |  | 1 |
| short | | courte | | kurz | corta | Lacey, Misty Gem | 2 |
| medium | | moyenne | | mittel | media | OPA12/19,  Toms Special | 3 |
| long | | longue | | lang | larga | Flamenco, OPA3/19 | 4 |
| very long | | très longue | | sehr lang | muy larga |  | 5 |
| **26.** |  | **QN** | **VG** | **(+)** | **(c)** |  |  |  |  |
|  | | **Flower: intensity of purple color on inner filaments in throat** | | **Fleur : intensité de la couleur pourpre sur les filaments intérieurs dans la gorge** | | **Blüte: Intensität der Purpurfärbung der Kronenstaubfäden im Schlund** | **Flor: intensidad del color púrpura en los filamentos interiores de la garganta** |  |  |
| absent or light | | absente ou claire | | fehlend oder hell | ausente o clara | Flamenco | 1 |
| medium | | moyenne | | mittel | media | OPA3/19,  Toms Special | 2 |
| dark | | foncée | | dunkel | oscura | OPA12/19 | 3 |
| **27.** |  | **QN** | **MG/MS/VG** |  | **(c), (f)** |  |  |  |  |
|  | | **Flower: diameter of corona including filaments** | | **Fleur : diamètre de la couronne incluant les filaments** | | **Blüte: Durchmesser der Krone einschließlich Staubfäden** | **Flor: diámetro de la corona incluidos los filamentos** |  |  |
| very small | | très petit | | sehr klein | muy pequeño |  | 1 |
| small | | petit | | klein | pequeño | Lacey | 2 |
| medium | | moyen | | mittel | medio | Misty Gem, Sweetheart | 3 |
| large | | grand | | groß | grande | OPA12/19 | 4 |
| very large | | très grand | | sehr groß | muy grande |  | 5 |
| **28.** |  | **QN** | **MG/MS/VG** |  | **(c), (f)** |  |  |  |  |
|  | | **Flower: width of purple rings on corona filaments** | | **Fleur : largeur des anneaux pourpres sur les filaments de la partie supérieure** | | **Blüte: Breite der purpurnen Ringe an den Kronenstaubfäden** | **Flor: anchura de los anillos de color púrpura en los filamentos de la corona** |  |  |
| absent or very narrow | | absente ou très étroite à | | fehlend oder sehr schmal | ausente o muy estrecha |  | 1 |
| narrow | | étroite | | schmal | estrecha | OPA7/19 | 2 |
| medium | | moyenne | | mittel | media | OPA5/19, Sweetheart | 3 |
| broad | | large | | breit | ancha | OPA12/19 | 4 |
| very broad | | très large | | sehr breit | muy ancha |  | 5 |
| **29.** | **(\*)** | **QN** | **VG** |  | **(c)** |  |  |  |  |
|  | | **Flower: intensity of color of purple rings on corona filaments** | | **Fleur : intensité de la couleur des anneaux pourpres sur les filaments de la partie supérieure** | | **Blüte: Intensität der Farbe der purpurnen Ringe an den Kronenstaubfäden** | **Flor: intensidad del color púrpura de los anillos en los filamentos de la corona** |  |  |
| light | | claire | | hell | clara | OPA7/19 | 1 |
| medium | | moyenne | | mittel | media | Lacey, Misty Gem | 2 |
| dark | | foncée | | dunkel | oscura | OPA12/19 | 3 |
| **30.** |  | **QN** | **MG/MS/VG** |  | **(c), (g)** |  |  |  |  |
|  | | **Anther: length** | | **Anthère : longueur** | | **Anthere: Länge** | **Antera: longitud** |  |  |
| short | | courte | | kurz | corta |  | 1 |
| medium | | moyenne | | mittel | media | Flamenco, Misty Gem | 2 |
| long | | longue | | lang | larga | OPA11/19, OPA12/19 | 3 |
| **31.** |  | **QN** | **MG/MS/VG** |  | **(c), (g)** |  |  |  |  |
|  | | **Anther: width** | | **Anthère : largeur** | | **Anthere: Breite** | **Antera: anchura** |  |  |
| narrow | | étroite | | schmal | estrecha |  | 1 |
| medium | | moyenne | | mittel | media | Sweetheart,  Toms Special | 2 |
| broad | | large | | breit | ancha | OPA13/19, OPA4/19 | 3 |
| **32.** |  | **QN** | **MG/MS/VG** |  | **(c), (e)** |  |  |  |  |
|  | | **Ovary: length** | | **Ovaire : longueur** | | **Fruchtknoten: Länge** | **Ovario: longitud** |  |  |
| short | | courte | | kurz | corta | E23 | 1 |
| medium | | moyenne | | mittel | media | Flamenco, Sweetheart | 2 |
| long | | longue | | lang | larga | OPA11/19,  Toms Special | 3 |
| **33.** |  | **QN** | **MG/MS/VG** |  | **(c), (e)** |  |  |  |  |
|  | | **Ovary: width** | | **Ovaire : largeur** | | **Fruchtknoten: Breite** | **Ovario: anchura** |  |  |
| narrow | | étroite | | schmal | estrecha | E23 | 1 |
| medium | | moyenne | | mittel | media | Flamenco, Sweetheart | 2 |
| broad | | large | | breit | ancha | OPA11/19,  Toms Special | 3 |
| **34.** |  | **QN** | **VG** |  | **(c)** |  |  |  |  |
|  | | **Anther: number of anthocyanin spots on filament** | | **Anthère : nombre de plages anthocyaniques sur le filament** | | **Anthere: Anzahl Anthocyanflecken am Staubfaden** | **Antera: número de zonas antociánicas en el filamento** |  |  |
| absent or very few | | absent ou très petit | | fehlend oder sehr gering | ausente o muy bajo |  | 1 |
| few | | petit | | gering | bajo | Flamenco,  Toms Special | 2 |
| medium | | moyen | | mittel | medio | OPA11/19, Sweetheart | 3 |
| many | | élevé | | hoch | alto | Lacey, OPA3/19 | 4 |
| very many | | très élevé | | sehr hoch | muy alto |  | 5 |
| **35.** | **(\*)** | **QN** | **VG** | **(+)** | **(c)** |  |  |  |  |
|  | | **Flower: anthocyanin spots on style** | | **Fleur : plages anthocyaniques sur le style** | | **Blüte: Anthocyanflecken am Griffel** | **Flor: zonas antociánicas en el estilo** |  |  |
| absent or few | | absentes ou peu | | fehlend oder gering | ausentes o pocas | Lacey, OPA11/19 | 1 |
| medium | | moyennes | | mittel | medias | OPA5/19, OPA7/19 | 2 |
| many | | nombreuses | | hoch | abundantes | OPA3/19 | 3 |
| **36.** |  | **QN** | **VG** |  | **(c)** |  |  |  |  |
|  | | **Flower: number of anthocyanin spots on androgynophore** | | **Fleur : nombre de plages anthocyaniques sur l'androgynophore** | | **Blüte: Anzahl Anthocyanflecken am Androgynophor** | **Flor: número de zonas antociánicas en el estilo en el androginóforo** |  |  |
| absent or few | | absent ou petit | | fehlend oder gering | ausente o bajo | Lacey, OPA13/19, OPA3/19 | 1 |
| medium | | moyen | | mittel | medio | OPA4/19, Sweetheart | 2 |
| many | | élevé | | hoch | alto | Flamenco,  Toms Special | 3 |
| **37.** | **(\*)** | **QN** | **MG/MS/VG** |  | **(h), (i)** |  |  |  |  |
|  | | **Fruit: height** | | **Fruit : hauteur** | | **Frucht: Höhe** | **Fruto: altura** |  |  |
| very short | | très basse | | sehr niedrig | muy baja |  | 1 |
| very short to short | | très basse à basse | | sehr niedrig bis niedrig | muy baja a baja |  | 2 |
| short | | basse | | niedrig | baja | E23, Lacey | 3 |
| short to medium | | basse à moyenne | | niedrig bis mittel | baja a media |  | 4 |
| medium | | moyenne | | mittel | media | Flamenco, OPA13/19 | 5 |
| medium to tall | | moyenne à haute | | mittel bis hoch | media a alta |  | 6 |
| tall | | haute | | hoch | alta | McGuffies Red, OPA11/19 | 7 |
| tall to very tall | | haute à très haute | | hoch bis sehr hoch | alta a muy alta |  | 8 |
| very tall | | très haute | | sehr hoch | muy alta | Golden Giant | 9 |
| **38.** |  | **QN** | **MG/MS/VG** |  | **(h), (i)** |  |  |  |  |
|  | | **Fruit: diameter** | | **Fruit : diamètre** | | **Frucht: Durchmesser** | **Fruto: diámetro** |  |  |
| very small | | très petit | | sehr klein | muy pequeño |  | 1 |
| very small to small | | très petit à petit | | sehr klein bis klein | muy pequeño a pequeño |  | 2 |
| small | | petit | | klein | pequeño | E23, Lacey | 3 |
| small to medium | | petit à moyen | | klein bis mittel | pequeño a medio |  | 4 |
| medium | | moyen | | mittel | medio | Flamenco, Pandora | 5 |
| medium to large | | moyen à grand | | mittel bis groß | medio a grande |  | 6 |
| large | | grand | | groß | grande | OPA12/19 | 7 |
| large to very large | | grand à très grand | | groß bis sehr groß | grande a muy grande |  | 8 |
| very large | | très grand | | sehr groß | muy grande | Golden Giant | 9 |
| **39.** |  | **QN** | **MG/MS/VG** |  | **(h)** |  |  |  |  |
|  | | **Fruit: ratio height/diameter** | | **Fruit : rapport hauteur/diamètre** | | **Frucht: Verhältnis Höhe/Durchmesser** | **Fruto: relación altura/diámetro** |  |  |
| very low | | très bas | | sehr klein | muy baja |  | 1 |
| low | | bas | | klein | baja |  | 2 |
| medium | | moyen | | mittel | media | Lacey, OPA3/19 | 3 |
| high | | élevé | | groß | alta | McGuffies Red | 4 |
| very high | | très élevé | | sehr groß | muy alta |  | 5 |
| **40.** |  | **PQ** | **VG** | **(+)** | **(h)** |  |  |  |  |
|  | | **Fruit: shape in longitudinal view** | | **Fruit : forme en vue longitudinale** | | **Frucht:** **Form in Längsansicht** | **Fruto: forma en vista longitudinal** |  |  |
| oblate | | arrondie-aplatie | | breitrund | achatada | BRS GA1 | 1 |
| obtuse ovate | | ovale obtuse | | stumpf eiförmig | oval obtusa | Panama Red | 2 |
| circular | | circulaire | | kreisförmig | circular | Lacey, Misty Gem, OPA3/19 | 3 |
| obovate | | obovale | | verkehrt eiförmig | oboval |  | 4 |
| acute ovate | | aiguë ovale | | spitz eiförmig | oval aguda | Pandora | 5 |
| broad elliptical | | elliptique large | | breit elliptisch | elíptica ancha | McGuffies Red, OPA6/19 | 6 |
| narrow elliptical | | elliptique étroite | | schmal elliptisch | elíptica estrecha |  | 7 |
| **41.** |  | **QN** | **VG** |  | **(h)** |  |  |  |  |
|  | | **Fruit: number of lenticels** | | **Fruit : nombre de lenticelles** | | **Frucht: Anzahl Lentizellen** | **Fruto: número de lenticelas** |  |  |
| absent or very low | | absent ou très bas | | fehlend oder sehr gering | ausente o muy bajo |  | 1 |
| low | | bas | | gering | bajo | McGuffies Red | 2 |
| medium | | moyen | | mittel | medio | OPA6/19 | 3 |
| many | | élevé | | hoch | alto | Pandora | 4 |
| very many | | très élevé | | sehr hoch | muy alto | Misty Gem,  Panama Red | 5 |
| **42.** | **(\*)** | **PQ** | **VG** |  | **(h)** |  |  |  |  |
|  | | **Fruit: color of skin** | | **Fruit : couleur de la peau** | | **Frucht: Farbe der Schale** | **Fruto: color de la piel** |  |  |
| green | | vert | | grün | verde |  | 1 |
| light yellow | | jaune clair | | hellgelb | amarillo claro |  | 2 |
| medium yellow | | jaune moyen | | mittelgelb | amarillo medio | Brazilian Gold,  Inca Gold | 3 |
| dark yellow | | jaune foncé | | dunkelgelb | amarillo oscuro | Panama Gold | 4 |
| reddish orange | | orange rougeâtre | | rötlichorange | naranja rojizo |  | 5 |
| red | | rouge | | rot | rojo | McGuffies Red | 6 |
| reddish purple | | pourpre rougeâtre | | rötlichpurpurn | púrpura rojizo | Sweetheart,  Toms Special | 7 |
| medium purple | | pourpre moyen | | mittelpurpurn | púrpura medio | Misty Gem, Tango | 8 |
| dark purple | | pourpre foncé | | dunkelpurpurn | púrpura oscuro | Nellie Kelly Black | 9 |
| **43.** |  | **QN** | **MG/MS/VG** | **(+)** | **(h)** |  |  |  |  |
|  | | **Fruit: thickness of skin** | | **Fruit : épaisseur de la peau** | | **Frucht: Dicke der Schale** | **Fruto: grosor de la piel** |  |  |
| very thin | | très mince | | sehr dünn | muy delgado |  | 1 |
| very thin to thin | | très mince à mince | | sehr dünn bis dünn | muy delgado a delgado |  | 2 |
| thin | | mince | | dünn | delgado | OPA6/19 | 3 |
| thin to medium | | mince à moyenne | | dünn bis mittel | delgado a medio |  | 4 |
| medium | | moyenne | | mittel | medio | E23, Flamenco,  Misty Gem | 5 |
| medium to thick | | moyenne à épaisse | | mittel bis dick | medio a grueso |  | 6 |
| thick | | épaisse | | dick | grueso | OPA3/19, Pandora | 7 |
| thick to very thick | | épaisse à très épaisse | | dick bis sehr dick | grueso a muy grueso |  | 8 |
| very thick | | très épaisse | | sehr dick | muy grueso | OPA12/19 | 9 |
| **44.** | **(\*)** | **QN** | **MG/MS** | **(+)** | **(h)** |  |  |  |  |
|  | | **Fruit: weight** | | **Fruit : poids** | | **Früchte: Gewicht** | **Fruto: peso** |  |  |
| very low | | très bas | | sehr gering | muy bajo | E23 | 1 |
| very low to low | | très bas à bas | | sehr gering bis gering | muy bajo a bajo |  | 2 |
| low | | bas | | gering | bajo | Lacey, Misty Gem | 3 |
| low to medium | | bas à moyen | | gering bis mittel | bajo a medio |  | 4 |
| medium | | moyen | | mittel | medio | Flamenco, OPA3/19, OPA5/19 | 5 |
| medium to high | | moyen à élevé | | mittel bis hoch | medio a alto |  | 6 |
| high | | élevé | | hoch | alto | McGuffies Red, OPA12/19 | 7 |
| high to very high | | élevé à très élevé | | hoch bis sehr hoch | alto a muy alto |  | 8 |
| very high | | très élevé | | sehr hoch | muy alto | Golden Giant | 9 |
| **45.** | **(\*)** | **PQ** | **VG** |  | **(h)** |  |  |  |  |
|  | | **Fruit: color of pulp** | | **Fruit : couleur de la chair** | | **Frucht: Farbe des Fleisches** | **Fruta: color de la pulpa** |  |  |
| whitish | | blanchâtre | | weißlich | blanquecino |  | 1 |
| greenish yellow | | jaune verdâtre | | grünlichgelb | amarillo verdoso |  | 2 |
| yellow | | jaune | | gelb | amarillo | McGuffies Red,  Misty Gem | 3 |
| yellowish orange | | orange jaunâtre | | gelblichorange | naranja amarillento | E23, Flamenco | 4 |
| orange | | orange | | orange | naranja | OPA3/19 | 5 |
| **46.** | **(\*)** | **QN** | **MG/MS** | **(+)** | **(h)** |  |  |  |  |
|  | | **Fruit: weight of pulp including seeds** | | **Fruit : poids de la chair, incluant les semences** | | **Frucht: Gewicht des Fleisches einschließlich Samen** | **Fruto: peso de la pulpa incluidas las semillas** |  |  |
| very low | | très bas | | sehr gering | muy bajo | E23 | 1 |
| very low to low | | très bas à bas | | sehr gering bis gering | muy bajo a bajo |  | 2 |
| low | | bas | | gering | bajo | Misty Gem | 3 |
| low to medium | | bas à moyen | | gering bis mittel | bajo a medio |  | 4 |
| medium | | moyen | | mittel | medio | Flamenco,  McGuffies Red, Pandora | 5 |
| medium to high | | moyen à élevé | | mittel bis hoch | medio a alto |  | 6 |
| high | | élevé | | hoch | alto | OPA6/19, OPA7/19 | 7 |
| high to very high | | élevé à très élevé | | hoch bis sehr hoch | alto a muy alto |  | 8 |
| very high | | très élevé | | sehr hoch | muy alto |  | 9 |
| **47.** |  | **QN** | **MG/VG** | **(+)** | **(h)** |  |  |  |  |
|  | | **Fruit: sweetness of pulp** | | **Fruit : goût sucré de la chair** | | **Frucht: Süße des Fleisches** | **Frutos: dulzor de la pulpa** |  |  |
| very low | | très faible | | sehr gering | muy bajo |  | 1 |
| very low to low | | très faible à faible | | sehr gering bis gering | muy bajo a bajo |  | 2 |
| low | | faible | | gering | bajo | E23 | 3 |
| low to medium | | faible à moyen | | gering bis mittel | bajo a medio | Panama Red | 4 |
| medium | | moyen | | mittel | medio | Flamenco | 5 |
| medium to high | | moyen à fort | | mittel bis hoch | medio a alto | Misty Gem | 6 |
| high | | fort | | hoch | alto | Pandora, Sweetheart | 7 |
| high to very high | | fort à très fort | | hoch bis sehr hoch | alto a muy alto | McGuffies Red | 8 |
| very high | | très fort | | sehr hoch | muy alto | OPA6/19 | 9 |
| **48.** | **(\*)** | **QL** | **VG** | **(+)** |  |  |  |  |  |
|  | | **Plant: self-incompatibility** | | **Plante : auto-incompatibilité** | | **Pflanze: Selbstinkompatibilität** | **Planta: autoincompatibilidad** |  |  |
| absent | | absente | | fehlend | ausente | Flamenco,  Toms Special | 1 |
| present | | présente | | vorhanden | presente | Panama Red | 9 |

# 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) Leaf blade and petiole: Observations should be made on fully developed leaves from the middle third of vigorous shoots.

(b)

|  |  |
| --- | --- |
| A close-up of a leaf  AI-generated content may be incorrect. | A = Leaf blade: width of the middle lobe B = Leaf blade: length C = Leaf blade: depth of sinus D = Leaf blade: width |

(c) Flower: Observations should be made on fully opened flowers.

(d)

|  |  |
| --- | --- |
| A diagram of a plant  AI-generated content may be incorrect. | A = Length of sepal B = Length of petal C = Length of bract D = Width |

(e)

|  |  |
| --- | --- |
| A close up of a flower  AI-generated content may be incorrect. | A = Ovary length  B = Ovary width  C = Androgynophore length |

(f)

|  |  |
| --- | --- |
| A close-up of a flower  AI-generated content may be incorrect. | A = Width of the purple rings on the corona filaments  B = Diameter of corona including filaments |

(g)

|  |  |
| --- | --- |
| A close-up of a flower  AI-generated content may be incorrect. | A = Length B = Width |

(h) Observations should be made on 10 typical fruits at the time when ≥75% of the fruit skin has changed color.

(i)

|  |  |
| --- | --- |
| A red round fruit with white specks  AI-generated content may be incorrect. | A = Height B = Diameter |

## 8.2 Explanations for individual characteristics

Ad. 1: Plant: vigor

The plant vigor should be considered as the overall abundance of vegetative growth.

Ad. 2: Shoot: color

Observations should be made on vigorous current season’s shoots.

Ad. 11: Leaf blade: shape of base

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
| 1 | 2 | 3 | 4 | 5 |
| acute | obtuse | truncate | weakly cordate | strongly cordate |

Ad. 12: Leaf blade: depth of sinus

Observations should be made on the deepest sinus.

Ad. 15: Petiole: position of nectaries

|  |  |
| --- | --- |
|  |  |
| 1 | 2 |
| adjacent to the base of the leaf blade | distant from the base of the leaf blade |

Ad. 26: Flower: intensity of purple color on inner filaments in throat

|  |
| --- |
| Intensity of purple color on inner filaments in throat |
|  |

Ad. 35: Flower: anthocyanin spots on style

|  |  |  |
| --- | --- | --- |
|  | | |
| 1 | 2 | 3 |
| absent or few | medium | many |

Ad. 40: Fruit: shape in longitudinal view

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | ratio height/diameter | | | | |
|  |  | low | medium | high | | |
|  |  |  |  |  | | |
| ↑  broadest  part    ↓ | below middle |  |  | A drawing of a balloon  AI-generated content may be incorrect.  4  obovate |  |  |
| at middle |  | A drawing of a circle  AI-generated content may be incorrect.  1  oblate | A drawing of a circle  AI-generated content may be incorrect.  3  circular | A drawing of a balloon  AI-generated content may be incorrect.  6  broad elliptical | A drawing of a tree  AI-generated content may be incorrect. 7  narrow  elliptical |
| above middle |  |  | A drawing of a tree  AI-generated content may be incorrect.  2  obtuse ovate | A black and white drawing of an egg  AI-generated content may be incorrect.5  acute ovate |  |

Ad. 43: Fruit: thickness of skin

Thickness of skin



Ad. 44: Fruit: weight

Observations should be made on freshly harvested fruit.

Ad. 46: Fruit: weight of pulp including seeds

This characteristic can be observed by cutting the fruit and scooping out the pulp including seeds and then weighing them on an electronic scale.

Ad. 47: Fruit: sweetness of pulp

The sweetness of pulp should be observed in degrees Brix.

Ad. 48: Plant: self-incompatibility

A variety is self-incompatible when the fertile pollen of its own flower or of other flowers of the same variety is not able to fertilize the ovary.

To observe self-incompatibility, 5 un-opened flowers should be emasculated and bagged. Once the bagged flowers open, they should be hand pollinated using fresh pollen from the same plant or another plant of the same variety and re-bagged. Self-incompatibility is absent in the variety under observation if the ovary of the pollinated flower is swollen and still attached to the plant 72 hours after pollination.

# Literature

Jesus, O.N., Oliveira, E.J., Faleiro, F.G., Soares, T.L.S., and Girardi, E.A., 2017: Illustrated Morpho-agronomic Descriptors for *Passiflora*spp. Embrapa. Brasília, BR

# 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 | | | |
| 1.1.1 Botanical name | *Passiflora edulis* Sims | |  |
|  |  | |  |
| 1.1.2 Common name | Granadilla, Passion fruit | |  |
| 2. Applicant | | | |
| Name |  | |  |
|  |  | |  |
| Address |  | |  |
|  |  | |  |
| Telephone No. |  | |  |
|  |  | |  |
| Fax No. |  | |  |
|  |  | |  |
| E-mail address |  | |  |
|  |  | |  |
| Breeder (if different from  applicant) |  | |  |
|  |  | |  |

|  |  |  |  |
| --- | --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
|  | | | |
| 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 variety)  (…………………..……………..…) x (……………..…………………..…)  female parent male parent  (b) partially known cross [ ]  (please state 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  4.2.2 Vegetative propagation  (a) Cuttings [ ]  (b) In vitro propagation [ ]  (c) Budding and grafting (please specify rootstock) [ ]  (d) 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**  **(35)** | **Flower: anthocyanin spots on style** | |  | |  |
|  | absent or few | | Lacey, OPA11/19 | | 1 [ ] |
|  | medium | | OPA5/19, OPA7/19 | | 2 [ ] |
|  | many | | OPA3/19 | | 3 [ ] |
| **5.2**  **(37)** | **Fruit: height** | |  | |  |
|  | very short | |  | | 1 [ ] |
|  | very short to short | |  | | 2 [ ] |
|  | short | | E23, Lacey | | 3 [ ] |
|  | short to medium | |  | | 4 [ ] |
|  | medium | | Flamenco, OPA13/19 | | 5 [ ] |
|  | medium to tall | |  | | 6 [ ] |
|  | tall | | McGuffies Red, OPA11/19 | | 7 [ ] |
|  | tall to very tall | |  | | 8 [ ] |
|  | very tall | | Golden Giant | | 9 [ ] |
| **5.3**  **(42)** | **Fruit: color of skin** | |  | |  |
|  | green | |  | | 1 [ ] |
|  | light yellow | |  | | 2 [ ] |
|  | medium yellow | | Brazilian Gold, Inca Gold | | 3 [ ] |
|  | dark yellow | | Panama Gold | | 4 [ ] |
|  | reddish orange | |  | | 5 [ ] |
|  | red | | McGuffies Red | | 6 [ ] |
|  | reddish purple | | Sweetheart, Toms Special | | 7 [ ] |
|  | medium purple | | Misty Gem, Tango | | 8 [ ] |
|  | dark purple | | Nellie Kelly Black | | 9 [ ] |
|  |  | |  | |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TECHNICAL QUESTIONNAIRE | | Page {x} of {y} | | Reference Number: | |
|  | |  | |  | |
|  | Characteristics | | Example Varieties | | Note |
| **5.4**  **(44)** | **Fruit: weight** | |  | |  |
|  | very low | | E23 | | 1 [ ] |
|  | very low to low | |  | | 2 [ ] |
|  | low | | Lacey, Misty Gem | | 3 [ ] |
|  | low to medium | |  | | 4 [ ] |
|  | medium | | Flamenco, OPA3/19, OPA5/19 | | 5 [ ] |
|  | medium to high | |  | | 6 [ ] |
|  | high | | McGuffies Red, OPA12/19 | | 7 [ ] |
|  | high to very high | |  | | 8 [ ] |
|  | very high | | Golden Giant | | 9 [ ] |
| **5.5**  **(45)** | **Fruit: color of pulp** | |  | |  |
|  | whitish | |  | | 1 [ ] |
|  | greenish yellow | |  | | 2 [ ] |
|  | yellow | | McGuffies Red, Misty Gem | | 3 [ ] |
|  | yellowish orange | | E23, Flamenco | | 4 [ ] |
|  | orange | | OPA3/19 | | 5 [ ] |
| **5.6**  **(48)** | **Plant: self-incompatibility** | |  | |  |
|  | absent | | Flamenco, Toms Special | | 1 [ ] |
|  | present | | Panama Red | | 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* | *Fruit: 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  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”.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?  Yes [ ]  (please provide details as specified by the Authority)  No [ ] | | | |
| 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] | | |