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| DRAFT | | |

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|  | **BOTTLE GOURD, CALABASH**  UPOV Code: LAGEN\_SIC  *Lagenaria siceraria* (Molina) Standl. | [[1]](#footnote-1)\* |

**GUIDELINES**

**FOR THE CONDUCT OF TESTS**

**FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

prepared by experts from France

to be considered by the

Enlarged Editorial Committee at its meeting

to be held in Geneva, on January 7 and 8, 2015

Disclaimer: this document does not represent UPOV policies or guidance

Alternative Names:\*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Botanical name* | *English* | *French* | *German* | *Spanish* |
| *Lagenaria siceraria* (Molina) Standl., *Lagenaria siceraria* Standley, *Lagenaria vulgaris* Ser. | Bottle Gourd, Calabash,  Calabash Gourd, White-flower Gourd | Calebasse,  Gourde bouteille | Flaschenkürbis, gewöhnlicher Flaschenkürbis, Kalebasse | Acocote, Cajombre, Calabaza,  Guiro amargo |

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| --- |
| 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 *Lagenaria siceraria* (Molina) Standl..

# 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 seeds.

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

200g – 1,500 seeds.

The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority.

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

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

## 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 20 plants, which should be divided between at least 2 replicates.

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.

Further guidance is provided in documents TGP/9 “Examining Distinctness” and TGP/8 “Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability.

### 4.1.2 Consistent Differences

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

### 4.1.3 Clear Differences

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

### 4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observations made on all plants in the test, disregarding any off-type plants.

### 4.1.5 Method of Observation

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

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

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

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

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

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

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

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

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

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

## 4.2 Uniformity

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

4.2.2 The assessment of uniformity for cross-pollinated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction.

4.2.3 For the assessment of uniformity by counting of the number of off‑types, a population standard of 2% for cross-pollinated varieties and of 1% for hybrid varieties with an acceptance probability of at least 95% should be applied. In the case of a sample size of 20 plants, the maximum number of off‑types allowed would be 1 for hybrid varieties whereas for cross-pollinated varieties it would be 2.

4.2.4 For the assessment of uniformity of open-pollinated varieties, relative uniformity standards should be used according to the recommendations in the General Introduction.

## 4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be further examined by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.

# 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:

1. Fruit: shape of the fruit excluding the neck (characteristic 10)
2. Fruit: length (characteristic 11)
3. Fruit: diameter (characteristic 12)
4. Fruit: neck (characteristic 13)
5. Neck: length in relation to total length of fruit (characteristic 15)
6. Fruit: texture of skin (characteristic 21)

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 In the case of qualitative and pseudo‑qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

|  |  |
| --- | --- |
| State | Note |
| small | 3 |
| medium | 5 |
| large | 7 |

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

|  |  |
| --- | --- |
| State | Note |
| very small | 1 |
| very small to small | 2 |
| small | 3 |
| small to medium | 4 |
| medium | 5 |
| medium to large | 6 |
| large | 7 |
| large to very large | 8 |
| very large | 9 |

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

## 6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo‑qualitative) is provided in the General Introduction.

## 6.4 Example Varieties

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

## 6.5 Legend

(\*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3

QN Quantitative characteristic – see Chapter 6.3

PQ Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

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

(+) See Explanations on the Table of Characteristics in Chapter 8.2.

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

|  |  | English | Français | Deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | VG/MS | Seedling: length of cotyledons | Plantule : longueur des cotylédons | Keimpflanze: Länge der Keimblätter | Plántula: longitud de los cotiledones |  |  |
| **QN** |  | small | courts | klein | cortos | Renshi | 1 |
|  |  | medium | moyens | mittel | medios | Shimotsukeshiro | 2 |
|  |  | large | longs | groß | largos | Omarukanpyo | 3 |
| (+) | VG | Plant: length of main stem | Plante : longueur de la tige principale | Pflanze: Länge des Hauptstengels | Planta: longitud del tallo principal |  |  |
| **QN** | **(a)** | short | courte | kurz | corto | Koganeizairai | 3 |
|  |  | medium | moyenne | mittel | medio | Shimotsukeshiro | 5 |
|  |  | long | longue | lang | largo | Aodainaga | 7 |
|  | VG | Leaf blade: size | Limbe : taille | Blattspreite: Größe | Limbo: tamaño |  |  |
| **QN** | **(a)** | small | petit | klein | pequeño | Koganeizairai | 3 |
|  |  | medium | moyen | mittel | mediano | Shimotsukeshiro | 5 |
|  |  | large | grand | groß | grande | Sakigake | 7 |
|  | VG | Leaf blade: intensity of green color | Limbe : intensité de la couleur verte | Blattspreite: Intensität der Grünfärbung | Limbo: intensidad del color verde |  |  |
| **QN** | **(a)** | light | claire | hell | claro | Indo | 3 |
|  |  | medium | moyenne | mittel | medio | Shimotsukeshiro | 5 |
|  |  | dark | foncée | dunkel | oscuro | Don-K | 7 |
| (+) | VG | Leaf blade: incisions | Limbe : incisions | Blattspreite: Einschnitte | Limbo: incisiones |  |  |
| QN | (a) | absent or shallow | absentes ou peu profondes | fehlend oder flach | ausentes o poco profundas | Gigantesque | 1 |
|  |  | weak | faibles | schwach | débiles | Pélerine | 2 |
|  |  | medium | moyennes | mittel | medias | Tarahumara Canteen 3 | 3 |
| (+) | VG | Male flower: diameter of corolla | Fleur mâle : diamètre de la corolle | Männliche Blüte: Durchmesser der Krone | Flor masculina: diámetro de la corola |  |  |
| **QN** | **(b)** | small | petit | klein | pequeño | Mini Bottle | 3 |
|  |  | medium | moyen | mittel | medio | Shimotsukeshiro | 5 |
|  |  | large | grand | groß | grande | Massue Comestible | 7 |
| (+) | VG | Male flower: overlapping of petals | Fleur mâle : chevauchement des pétales | Männliche Blüte: Überlappen der Blütenblätter | Flor masculina: solapamiento de los pétalos |  |  |
| **QN** | **(b)** | free | séparés | frei | libres | Canon Ball, Missionaris | 1 |
|  |  | touching to slightly overlapping | tangents à légèrement chevauchants | sich berührend bis leicht überlappend | en contacto o ligeramente solapados | Bouteille | 2 |
|  |  | strongly overlapping | fortement chevauchants | stark überlappend | muy solapados | FR Strong,  Massue Comestible | 3 |
| **(+)** | **VG** | **Female flower: diameter of corolla** | **Fleur femelle : diamètre de la corolle** | **Weibliche Blüte: Durchmesser der Krone** | **Flor femenina: diámetro de la corola** |  |  |
| **QN** | **(b)** | small | petit | klein | pequeño | Bouteille, Missionaris | 3 |
|  |  | medium | moyen | mittel | medio | Basket Ball Brasil, Shimotsukeshiro | 5 |
|  |  | large | grand | groß | grande | Massue Comestible | 7 |
| **(+)** | **VG** | **Female flower: overlapping of petals** | Fleur femelle : chevauchement des pétales | **Weibliche Blüte: Überlappen der Blütenblätter** | **Flor femenina: solapamiento de los pétalos** |  |  |
| QN | (b) | free | séparés | frei | libres | Canon Ball, Missionaris | 1 |
|  |  | touching to slightly overlapping | tangents à légèrement chevauchants | sich berührend bis leicht überlappend | en contacto o ligeramente solapados | Basket Ball Brasil | 2 |
|  |  | strongly overlapping | fortement chevauchants | stark überlappend | muy solapados | Massue Comestible | 3 |
| (\*) (+) | VG | Fruit: shape of the fruit excluding the neck | Fruit : forme du fruit à l’exclusion du col | Frucht: Form der Frucht ohne Hals | Fruto: forma del fruto excluido el cuello |  |  |
| **PQ** | **(c)** | pyriform | piriforme | birnenförmig | piriforme | Tarahumara canteen | 1 |
|  |  | clavate | claviforme | keulenförmig | claviforme | Mayo Giant Bule | 2 |
|  |  | oblate | arrondi aplati | breitrund | achatado | Plate de Corse | 3 |
|  |  | rounded | arrondi | rund | redondeado | Canon Ball,  Dipper Short Handled Mottled, Kroochneck fr, Medium Thai Bottle fr | 4 |
|  |  | cylindrical | cylindrique | zylindrisch | cilíndrico | Massue Comestible | 5 |
| (\*) (+) | MS/VG | Fruit: length | Fruit : longueur | Frucht: Länge | Fruto: longitud |  |  |
| **QN** | **(c)** | very short | très court | sehr kurz | muy corto | Canon Ball | 1 |
|  |  | short | court | kurz | corto | Basket Ball Brasil | 3 |
|  |  | medium | moyen | mittel | medio | Mayo Giant Bule | 5 |
|  |  | long | long | lang | largo | Zucca | 7 |
|  |  | very long | très long | sehr lang | muy largo | Snake Speckled | 9 |
| (\*) (+) | MS/VG | Fruit: diameter | Fruit : diamètre | Frucht: Durchmesser | Fruto: diámetro |  |  |
| **QN** | **(c)** | very small | très petit | sehr klein | muy pequeño | Mini Nigerian | 1 |
|  |  | small | petit | klein | pequeño | Massue Comestible | 3 |
|  |  | medium | moyen | mittel | medio | Strawberry | 5 |
|  |  | large | grand | groß | grande | Bule Mayo | 7 |
|  |  | very large | très grand | sehr groß | muy grande | Gigantesque | 9 |
| (\*) (+) | VG | Fruit: neck | Fruit : col | Frucht: Hals | Fruto: cuello |  |  |
| **QN** |  | absent or very short | absent ou très court | fehlend oder sehr kurz | ausente o muy corto | Canon Ball,  Plate de Corse | 1 |
|  |  | short | court | kurz | corto | Bule Mayo, Drague | 3 |
|  |  | medium | moyen | mittel | medio | Mayo gooseneck | 5 |
|  |  | long | long | lang | largo | Long Handled Dipper | 7 |
|  |  | very long | très long | sehr lang | muy largo | Extra Long Dipper | 9 |
| (\*) (+) | VG | Fruit: shape of neck | Fruit : forme du col | Frucht: Form des Halses | Fruto: forma del cuello |  |  |
| **PQ** | **(c)** | none | aucun | keiner | ausente | Plate de Corse, Strawberry | 1 |
|  |  | globose | globuleux | kugelförmig | globoso | Medium Thai Bottle fr | 2 |
|  |  | fusiform | fusiforme | spindelförmig | fusiforme | Mayo gooseneck | 3 |
|  |  | cylindrical | cylindrique | zylindrisch | cilíndrico | Dipper Short Handled Mottled, Lagenaria 12 A | 4 |
| **(\*) (+)** | **MS/VG** | **Neck: length in relation to total length of fruit** | **Col : longueur par rapport à la longueur totale du fruit** | **Hals: Länge im Verhältnis zur Gesamtlänge der Frucht** | **Cuello: longitud en relación con la longitud total del fruto** |  |  |
| **QN** | **(c)** | very short | très court | sehr kurz | muy corto | Missionaris | 1 |
|  |  | short | court | kurz | corto | Medium Thai Bottle | 3 |
|  |  | medium | moyen | mittel | medio | Long Handled Dipper | 5 |
|  |  | long | long | lang | largo | Duck Australie fr | 7 |
|  |  | very long | très long | sehr lang | muy largo | Extra Long Dipper | 9 |
| **(+)** | **MS/VG** | **Neck: diameter in relation to the maximum diameter of the fruit** | **Col : diamètre par rapport au diamètre maximal du fruit** | **Hals: Durchmesser im Verhältnis zum maximalen Durchmesser der Frucht** | **Cuello: diámetro en relación con el diámetro máximo del fruto** |  |  |
| **QN** | **(c)** | small | petit | klein | pequeño | Dipper Short Handled Mottled | 3 |
|  |  | medium | moyen | mittel | medio | Froggy | 5 |
|  |  | large | grand | groß | grande | Gigantesque | 7 |
| **(+)** | **VG** | **Neck: creasing at base** | **Col : plissement à la base** | **Hals: Faltung an der Basis** | **Cuello: arrugamiento en la base** |  |  |
| **QN** |  | absent or very weak | absent ou très faible | fehlend oder sehr schwach | ausente o muy débil | Figue, Pélerine | 1 |
|  |  | medium | moyen | mittel | medio | Massue Comestible | 2 |
|  |  | strong | important | stark | fuerte |  | 3 |
|  | **VG** | **Fruit: main color** | **Fruit : couleur principale** | **Frucht: Hauptfarbe** | **Fruto: color principal** |  |  |
| **QN** | **(c)** | very light green | vert très clair | sehr hellgrün | verde muy claro | Bianca, Shimotsukeshiro | 1 |
|  |  | light green | vert clair | hellgrün | verde claro | Pélerine, Plate de Corse | 3 |
|  |  | medium green | vert moyen | mittelgrün | verde medio | Basket Ball Brasil,  Canon Ball | 5 |
|  |  | dark green | vert foncé | dunkelgrün | verde oscuro | Kroochneck fr | 7 |
|  |  | very dark green | vert très foncé | sehr dunkelgrün | verde muy oscuro | Marenka | 9 |
| **(\*) (+)** | **VG** | **Fruit: number of speckles** | **Fruit : nombre de taches** | **Frucht: Anzahl der Flecken** | **Fruto: número de manchas** |  |  |
| **QN** | **(c)** | none or very few | nul ou très petit | keine oder sehr wenige | nulo o muy bajo | Marenka Limegreen, Shimotsukeshiro | 1 |
|  |  | few | petit | wenige | bajo | Basket Ball Brasil | 3 |
|  |  | medium | moyen | mittel | medio | Drague | 5 |
|  |  | many | grand | viele | alto | Froggy | 7 |
|  | **VG** | **Fruit: size of speckles** | **Fruit : taille des taches** | **Frucht: Größe der Flecken** | **Fruto: tamaño de las manchas** |  |  |
| **QN** | **(c)** | small | petite | klein | pequeñas | Basket Ball Brasil | 3 |
|  |  | medium | moyenne | mittel | medias | Chata P. Alegre | 5 |
|  |  | large | grande | groß | grandes | Kroochneck fr | 7 |
| **(\*) (+)** | **VG** | **Fruit: texture of skin** | **Fruit : texture de la peau** | **Frucht: Textur der Schale** | **Fruto: textura de la piel** |  |  |
| **PQ** | **(c)** | smooth | lisse | glatt | lisa | Kroochneck fr | 1 |
|  |  | slightly verrucose | légèrement verruqueuse | leicht warzig | ligeramente verrugosa | Bule Mayo | 2 |
|  |  | moderately verrucose | modérément verruqueuse | mäßig warzig | moderadamente verrugosa | Warthy Australia fr | 3 |
|  |  | strongly verrucose | fortement verruqueuse | stark warzig | muy verrugosa | Verruqueuse Africaine | 4 |
|  |  | slightly corrugated | légèrement plissée | leicht gefurcht | ligeramente corrugada | Tol Fravago | 5 |
|  |  | moderately corrugated | modérément plissée | mäßig gefurcht | moderadamente corrugada | Marenka Limegreen | 6 |
|  |  | strongly corrugated | fortement plissée | stark gefurcht | muy corrugada | Marenka | 7 |
| **(+)** | **VG** | **Fruit: pistil scar** | **Fruit : attache pistillaire** | **Frucht: Griffelnarbe** | **Fruto: cicatriz pistilar** |  |  |
| **QN** |  | small | petite | klein | pequeña | Pélerine | 3 |
|  |  | medium | moyenne | mittel | mediana | Massue Comestible | 5 |
|  |  | large | grande | groß | grande | NKombo fr | 7 |
| **(+)** | **VG** | **Seed: width** | **Graine : largeur** | **Samen: Breite** | **Semilla: anchura** |  |  |
| **QN** | **(d)** | narrow | étroite | schmal | estrecha | Mayo Gooseneck, Suisukanpyo | 3 |
|  |  | medium | moyenne | mittel | media | Mayo Giant Bule, Shimotsukeshiro | 5 |
|  |  | broad | large | breit | ancha | Nkombo fr, Omarukanpyo | 7 |
| **(\*)** | **VG** | **Seed: color** | **Graine : couleur** | **Samen: Farbe** | **Semilla: color** |  |  |
| **PQ** | **(d)** | light brown | marron clair | hellbraun | marrón claro | Lagenaria 12A | 1 |
|  |  | dark brown | marron foncé | dunkelbraun | marrón oscuro | Canon Ball, Nkombo fr, Shimotsukeshiro | 2 |
|  |  | black | noir | schwarz | negro | Bule Mayo | 3 |

# 

# Explanations on the Table of Characteristics

## 8.1 Explanations covering several characteristics

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

1. Observations should be made on fully developed leaves, at beginning of flowering.
2. Observations should be made on flowers at full flowering.
3. Observations should be made on fruits at physiological maturity.
4. Observations should be made on fully developed dry seeds, after washing and drying in the shade.

## 8.2 Explanations for individual characteristics

Ad. 2: Plant: length of the main stem

Plants tend to develop many branches. The length of the main stem is correlated to the volume of the plant, the surface covered by the plant in the field, the growth speed of the. This characteristic could be assessed by comparisons between the plants of the same variety. When plants are spaced between the same distance between plants, it is possible to identify a variety which grows faster than another.

Ad. 5: Leaf blade: incisions

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 1 | 2 | 3 |
| absent or shallow | weak | medium |

Ad. 6: Male flower: diameter of corolla

Ad. 8: Female flower: diameter of corolla

This assessment is based on the widest part of the flower.

Ad. 7: Male flower: overlapping of petals

|  |  |  |
| --- | --- | --- |
| [Lagenaria siceraria Missionaris; fleurs-M](javascript:Affichegrande(%220822364.jpg%22,%22Lagenaria%20siceraria%20Missionaris;%20fleurs-M%22)) | [Lagenaria siceraria Bouteille; fleurs-M](javascript:Affichegrande(%22070950.jpg%22,%22Lagenaria%20siceraria%20Bouteille;%20fleurs-M%22)) | [Lagenaria siceraria Massue comestible; fleurs-M](javascript:Affichegrande(%22061052.jpg%22,%22Lagenaria%20siceraria%20Massue%20comestible;%20fleurs-M%22)) |
| 1 | 2 | 3 |
| free | touching to slightly overlapping | strongly overlapping |

Ad. 9: Female flower: overlapping of petals

|  |  |  |
| --- | --- | --- |
| [Lagenaria siceraria Missionaris; fleurs-F](javascript:Affichegrande(%220822549.jpg%22,%22Lagenaria%20siceraria%20Missionaris;%20fleurs-F%22)) |  | [Lagenaria siceraria Massue comestible; fleurs-F](javascript:Affichegrande(%22061050.jpg%22,%22Lagenaria%20siceraria%20Massue%20comestible;%20fleurs-F%22)) |
| 1 | 2 | 3 |
| free | touching to slightly overlapping | strongly overlapping |

Ad. 10: Fruit: shape of the fruit excluding the neck

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | 🡨 broadest part 🡪 | |
|  |  | below middle | at middle |

|  |  |  |  |
| --- | --- | --- | --- |
| broad (compressed) 🡨 width (ratio length/width) 🡪 narrow (elongated) |  | [Mayo Giant Bule](http://cucurbitophile.fr/var/4068/var.php) | [Massue comestible](http://cucurbitophile.fr/var/4105/var.php) |
|  | 2 | 5 |
|  | clavate | cylindrical |
|  | [Tarahumara canteen](http://cucurbitophile.fr/var/4082/var.php) |  |
|  | 1 |  |
|  | pyriform |  |
|  |  | [Canon ball](http://cucurbitophile.fr/var/4075/var.php)  [Medium Thai Bottle fr](http://cucurbitophile.fr/var/4079/var.php) [Lagenaria 12 A](http://cucurbitophile.fr/var/4037/var.php) [Kroochneck fr](http://cucurbitophile.fr/var/4077/var.php) |
|  |  | 4 |
|  |  | rounded |
|  |  | [Plate de Corse](http://cucurbitophile.fr/var/4020/var.php) |
|  |  | 3 |
|  |  | oblate |

Ad. 11: Fruit: length

Observations of the developed length of the fruit should be made at the time of full development of the fruit.

|  |  |
| --- | --- |
| [Snake speckled](http://cucurbitophile.fr/var/4089/var.php)  Top of the fruit  Base of the fruit | Base of the fruit  Top of the fruit |
| Top of the fruit  Base of the fruit | |

Ad. 12: Fruit: diameter

This assessment is based on the widest part of the fruit, at the time of full development of the fruit.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

Ad. 13: Fruit: neck

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Plate de Corse | [Drague](http://cucurbitophile.fr/var/4007/var.php) | [Medium Thai Bottle fr](http://cucurbitophile.fr/var/4079/var.php) | [Lagenaria siceraria Dipper Short Handled Mottled; fruits](javascript:Affichegrande(%220910998.jpg%22,%22Lagenaria%20siceraria%20Dipper%20Short%20Handled%20Mottled;%20fruits%22)) | [Extra long dipper](http://cucurbitophile.fr/var/4026/var.php) |
| 1 | 3 | 5 | 7 | 9 |
| absent or very short | short | medium | long | very long |

Ad. 14: Fruit: shape of neck

|  |  |  |  |
| --- | --- | --- | --- |
| [Lagenaria siceraria Plate de Corse; fruits](javascript:Affichegrande(%22031939.jpg%22,%22Lagenaria%20siceraria%20Plate%20de%20Corse;%20fruits%22)) | [Medium Thai Bottle fr](http://cucurbitophile.fr/var/4079/var.php) | [Mayo goosneck](http://cucurbitophile.fr/var/4093/var.php) [Kroochneck fr](http://cucurbitophile.fr/var/4077/var.php) | [Lagenaria 12 A](http://cucurbitophile.fr/var/4037/var.php) |
| 1 | 2 | 3 | 4 |
| none | globose | fusiform | cylindrical |

Ad. 15: Neck: length in relation to total length of fruit

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [Missionaris](http://cucurbitophile.fr/var/4031/var.php) | [Mini nigerian](http://cucurbitophile.fr/var/4102/var.php) | [Medium Thai Bottle fr](http://cucurbitophile.fr/var/4079/var.php) | [Duck Australie fr](http://cucurbitophile.fr/var/4044/var.php) | [Extra long dipper](http://cucurbitophile.fr/var/4026/var.php) |
| 1 | 3 | 5 | 7 | 9 |
| very short | short | medium | long | very long |

Ad. 16: Neck: diameter in relation to the maximum diameter of the fruit

|  |  |  |
| --- | --- | --- |
| Top of the fruit  Base of the fruit |  |  |
| neck diameter < ½ fruit diameter | neck diameter = ½ fruit diameter | neck diameter > ½ fruit diameter |
| 3 | 5 | 7 |
| small | medium | large |

Ad. 17: Fruit: creasing at base

|  |  |  |
| --- | --- | --- |
| [Lagenaria siceraria Figue; pedoncules](javascript:Affichegrande(%220811426.jpg%22,%22Lagenaria%20siceraria%20Figue;%20pedoncules%22)) |  |  |
| 1 | 2 | 3 |
| absent or very weak | medium | strong |

Ad. 19: Fruit: number of speckles

|  |  |  |  |
| --- | --- | --- | --- |
| [Marenka Limegreen](http://cucurbitophile.fr/var/4033/var.php) | [Basket Ball Brasil](http://cucurbitophile.fr/var/4035/var.php) | [Drague](http://cucurbitophile.fr/var/4007/var.php) | [Froggy](http://cucurbitophile.fr/var/4240/var.php) |
| 1 | 3 | 5 | 7 |
| none or very few | few | medium | many |

Ad. 20: Fruit: size of speckles

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 3 | 5 | 7 |
| small | medium | large |

Ad. 21: Fruit: texture of skin

|  |  |  |  |
| --- | --- | --- | --- |
| [Kroochneck fr](http://cucurbitophile.fr/var/4077/var.php) | [Bule Mayo](http://cucurbitophile.fr/var/4010/var.php) | [Warthy Australia fr](http://cucurbitophile.fr/var/4042/var.php) | [Verruqueuse Africaine](http://cucurbitophile.fr/var/4022/var.php) |
| 1 | 2 | 3 | 4 |
| smooth | slightly verrucose | moderately verrucose | strongly verrucose |

|  |  |  |
| --- | --- | --- |
| [Lagenaria siceraria Tol Fravago; fruits](javascript:Affichegrande(%220811339.jpg%22,%22Lagenaria%20siceraria%20Tol%20Fravago;%20fruits%22)) | [Marenka Limegreen](http://cucurbitophile.fr/var/4033/var.php) | [Marenka](http://cucurbitophile.fr/var/4018/var.php) |
| 5 | 6 | 7 |
| slightly corrugated | moderately corrugated | strongly corrugated |

Ad. 22: Fruit: pistil scar

|  |  |  |
| --- | --- | --- |
| [Lagenaria siceraria Pélerine; ombilics](javascript:Affichegrande(%220910381.jpg%22,%22Lagenaria%20siceraria%20Pélerine;%20ombilics%22)) | [Lagenaria siceraria Medium Thai Bottle fr; ombilics](javascript:Affichegrande(%220911131.jpg%22,%22Lagenaria%20siceraria%20Medium%20Thai%20Bottle%20fr;%20ombilics%22)) | [Lagenaria siceraria NKombo fr; ombilics](javascript:Affichegrande(%220911248.jpg%22,%22Lagenaria%20siceraria%20NKombo%20fr;%20ombilics%22)) |
| 3 | 5 | 7 |
| small | medium | large |

Ad. 23: Seed: width

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 3 | 5 | 7 |
| narrow | medium | broad |

# Literature

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# 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 | | | | *Lagenaria siceraria* (Molina) Standl. | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| 1.2 Common name | | | | Bottle Gourd, Calabash | | | | | |  | | |
|  | | | |  | | | | | | | |  |
|  | | | |  | | | | | |  | | |
| 2. Applicant | | | | | | | | | | | | |
|  | | | |  | | | | | |  | | |
| Name | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| Address | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| Telephone No. | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| Fax No. | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| E-mail address | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| Breeder (if different from applicant) | | | | | | | | | |  | | |
|  | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| 3. Proposed denomination and breeder’s reference | | | | | | | | | | | | |
|  | | | |  | | | | | |  | | |
| Proposed denomination | | | |  | | | | | |  | | |
| (if available) | | | |  | | | | | |  | | |
| Breeder’s reference | | | |  | | | | | |  | | |
|  | | | |  | | | | | |  | | |
| [[2]](#footnote-2)#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 [ ]  (b) partially known cross [ ]  (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)   |  | | --- | |  | | | | | | | | | | | | | |
| 4.2 Method of propagating the variety  4.2.1 Seed propagated varieties  (a) Self-pollination [ ]  (b) Cross-pollination  (i) population [ ]  (ii) synthetic variety [ ]  (c) Hybrid  (i) single hybrid [ ]  (ii) three-way hybrid [ ]  (d) Other [ ]  (please provide details)   |  | | --- | |  |   4.2.2 Other [ ]  (please provide details)   |  | | --- | |  | | | | | | | | | | | | | |
| 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 (10)** | | **Fruit: shape of the fruit excluding the neck** | | | | | |  | | |  | |
|  | | pyriform | | | | | | Tarahumara canteen | | | 1 [ ] | |
|  | | clavate | | | | | | Mayo Giant Bule | | | 2 [ ] | |
|  | | oblate | | | | | | Plate de Corse | | | 3 [ ] | |
|  | | rounded | | | | | | Canon Ball,  Dipper Short Handled Mottled, Kroochneck fr, Medium Thai Bottle fr | | | 4 [ ] | |
|  | | cylindrical | | | | | | Massue Comestible | | | 5 [ ] | |
| **5.2 (11)** | | **Fruit: length** | | | | | |  | | |  | |
|  | | very short | | | | | | Canon Ball | | | 1 [ ] | |
|  | | very short to short | | | | | |  | | | 2 [ ] | |
|  | | short | | | | | | Basket Ball Brasil | | | 3 [ ] | |
|  | | short to medium | | | | | |  | | | 4 [ ] | |
|  | | medium | | | | | | Mayo Giant Bule | | | 5 [ ] | |
|  | | medium to long | | | | | |  | | | 6 [ ] | |
|  | | long | | | | | | Zucca | | | 7 [ ] | |
|  | | long to very long | | | | | |  | | | 8 [ ] | |
|  | | very long | | | | | | Snake Speckled | | | 9 [ ] | |
| **5.3 (12)** | | **Fruit: diameter** | | | | | |  | | |  | |
|  | | very small | | | | | | Mini Nigerian | | | 1 [ ] | |
|  | | very small to small | | | | | |  | | | 2 [ ] | |
|  | | small | | | | | | Massue Comestible | | | 3 [ ] | |
|  | | small to medium | | | | | |  | | | 4 [ ] | |
|  | | medium | | | | | | Strawberry | | | 5 [ ] | |
|  | | medium to large | | | | | |  | | | 6 [ ] | |
|  | | large | | | | | | Bule Mayo | | | 7 [ ] | |
|  | | large to very large | | | | | |  | | | 8 [ ] | |
|  | | very large | | | | | | Gigantesque | | | 9 [ ] | |
|  | | Characteristics | | | | | | Example Varieties | | | Note | |
| **5.4 (13)** | | **Fruit: neck** | | | | | |  | | |  | |
|  | | absent or very short | | | | | | Canon Ball, Plate de Corse | | | 1 [ ] | |
|  | | very short to short | | | | | |  | | | 2 [ ] | |
|  | | short | | | | | |  | | | 3 [ ] | |
|  | | short to medium | | | | | | Bule Mayo, Drague | | | 4 [ ] | |
|  | | medium | | | | | | Mayo gooseneck | | | 5 [ ] | |
|  | | medium to long | | | | | |  | | | 6 [ ] | |
|  | | long | | | | | | Long Handled Dipper | | | 7 [ ] | |
|  | | long to very long | | | | | |  | | | 8 [ ] | |
|  | | very long | | | | | | Extra Long Dipper | | | 9 [ ] | |
| **5.5 (15)** | | **Neck: length in relation to total length of fruit** | | | | | |  | | |  | |
|  | | very short | | | | | | Missionaris | | | 1 [ ] | |
|  | | very short to short | | | | | |  | | | 2 [ ] | |
|  | | short | | | | | | Medium Thai Bottle | | | 3 [ ] | |
|  | | short to medium | | | | | |  | | | 4 [ ] | |
|  | | medium | | | | | | Long Handled Dipper | | | 5 [ ] | |
|  | | medium to long | | | | | |  | | | 6 [ ] | |
|  | | long | | | | | | Duck Australie fr | | | 7 [ ] | |
|  | | long to very long | | | | | |  | | | 8 [ ] | |
|  | | very long | | | | | | Extra Long Dipper | | | 9 [ ] | |
| **5.6 (19)** | | **Fruit: number of speckles** | | | | | |  | | |  | |
|  | | none or very few | | | | | | Marenka Limegreen, Shimotsukeshiro | | | 1 [ ] | |
|  | | very few to few | | | | | |  | | | 2 [ ] | |
|  | | few | | | | | | Basket Ball Brasil | | | 3 [ ] | |
|  | | few to medium | | | | | |  | | | 4 [ ] | |
|  | | medium | | | | | | Drague | | | 5 [ ] | |
|  | | medium to many | | | | | |  | | | 6 [ ] | |
|  | | many | | | | | | Froggy | | | 7 [ ] | |
|  | | many to very many | | | | | |  | | | 8 [ ] | |
|  | | very many | | | | | |  | | | 9 [ ] | |
|  | | Characteristics | | | | | | Example Varieties | | | Note | |
| **5.7 (21)** | | **Fruit: texture of skin** | | | | | |  | | |  | |
|  | | smooth | | | | | | Kroochneck fr | | | 1 [ ] | |
|  | | slightly verrucose | | | | | | Bule Mayo | | | 2 [ ] | |
|  | | moderately verrucose | | | | | | Warthy Australia fr | | | 3 [ ] | |
|  | | strongly verrucose | | | | | | Verruqueuse Africaine | | | 4 [ ] | |
|  | | slightly corrugated | | | | | | Tol Fravago | | | 5 [ ] | |
|  | | moderately corrugated | | | | | | Marenka Limegreen | | | 6 [ ] | |
|  | | strongly corrugated | | | | | | Marenka | | | 7 [ ] | |
| 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: number of speckles* | | | *few* | | | *medium* | | | |
|  | |  | | |  | | |  | | | |
|  | |  | | |  | | |  | | | |
|  | |  | | |  | | |  | | | |
| Comments: | | | | | | | | | | | |
| [[3]](#footnote-3)#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  Variety use:  (a) vegetable [ ]    (b) rootstock [ ]  (please provide details)   |  | | --- | |  |   (c) other [ ]  (please provide details)   |  | | --- | |  |   A representative color image of the fruit at full development should accompany the Technical Questionnaire. | | | | | | | | | | | |
| 8. Authorization for release  (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?  Yes [ ] No [ ]  (b) Has such authorization been obtained?  Yes [ ] No [ ]  If the answer to (b) is yes, please attach a copy of the authorization. | | | | | | | | | | | |
| 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 the document]

1. \* 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.] [↑](#footnote-ref-1)
2. # Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire. [↑](#footnote-ref-2)
3. # Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire. [↑](#footnote-ref-3)