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# INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

**GLADIOLUS** *

UPOV Code: GLADI

*Gladiolus* L.

**GUIDELINES**

**FOR THE CONDUCT OF TESTS**

**FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

*prepared by an expert from the Netherlands*

*to be considered by the*

*Technical Working Party for Ornamental Plants and Forest Trees*
*at its forty-fifth session, to be held in Jeju, Republic of Korea, from August 6 to 10, 2012*

Alternative Names:*

| *Botanical name* | *English* | *French* | *German* | *Spanish* |
|---|---|---|---|---|
| *Gladiolus* L. | Gladiolus | Glaïeul | Gladiole | Gladiolo |

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

## ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Gladiolus* L..

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of corms of commercial standard, able to show all the characteristics in the first year.

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

20 corms.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

*3.1 Number of Growing Cycles*

The minimum duration of tests should normally be a single growing cycle.

*3.2 Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 “Examining Distinctness”.

*3.3 Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.3.2 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

*3.4 Test Design*

3.4.1 Each test should be designed to result in a total of at least 20 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.

4. Assessment of Distinctness, Uniformity and Stability

*4.1 Distinctness*

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants / Parts of Plants to be Examined

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

*4.3 Stability*

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

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

## 5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

(a) Flower: width of broadest part (characteristic 15)
(b) Flower: main color (characteristic 16) with the following groups:
- Gr. 1: white
- Gr. 2: yellow
- Gr. 3: orange
- Gr. 4: pink orange
- Gr. 5: pink
- Gr. 6: purple
- Gr. 7: red purple
- Gr. 8: blue
- Gr. 9: green

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

## 6. Introduction to the Table of Characteristics

*6.1 Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

*6.2 States of Expression and Corresponding Notes*

6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

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

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

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

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

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

*6.3 Types of Expression*

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

*6.4 Example Varieties*

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

*6.5 Legend*

| | | |
|---|---|---|
| (*) | Asterisked characteristic | – see Chapter 6.1.2 |
| QL | Qualitative characteristic | – see Chapter 6.3 |
| QN | Quantitative characteristic | – see Chapter 6.3 |
| PQ | Pseudo-qualitative characteristic | – see Chapter 6.3 |
| MG, MS, VG, VS | | – see Chapter 4.1.5 |
| (a) | See Explanations on the Table of Characteristics in Chapter 8.1 | |
| (+) | See Explanations on the Table of Characteristics in Chapter 8.2 | |

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

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **1.<br>(*)<br>(+)** | **VG/<br>MG/<br>MS** | **Plant: height** | **Plante: hauteur** | **Pflanze: Höhe** | **Planta: altura** | | |
| **QN** | | short | basse | sehr niedrig | muy baja | Albus, Nymph | 3 |
| | | medium | moyenne | mittel | media | Dainty, Shocking, White Friendship | 5 |
| | | tall | haute | hoch | alta | Traderhorn, Venetië, White Prosperity | 7 |
| **2.<br>(+)** | **VG/<br>MG/<br>MS** | **Foliage: height** | **Feuillage: hauteur** | **Laub: Höhe** | | | |
| **QN** | | short | basse | sehr niedrig | muy baja | Spic and Span | 3 |
| | | medium | moyenne | mittel | media | Caprice, Eurovision, Princess Margaret Rose | 5 |
| | | tall | haute | hoch | alta | Fidelio, Traderhorn | 7 |
| **3.<br>(*)<br>(+)** | **VG/<br>MG/<br>MS** | **Leaf: width** | | | | | |
| **QN** | | narrow | | | | Imperator, Flevo Primo | 3 |
| | | medium | | | | Bono's Memory, Caprice, Traderhorn, White Friendship | 5 |
| | | broad | | | | Sancerre | 7 |
| **4.<br>(*)<br>(+)** | **VG** | **Leaf: curvature of distal half** | | | | | |
| **QN** | | absent or very weak | | | | Jessica | 1 |
| | | weak | | | | | 3 |
| | | medium | | | | Advance | 5 |
| | | strong | | | | | 7 |
| **5.<br>(*)** | **VG** | **Inflorescence: lateral branches** | **Epi: branches latérales** | **Ähre: Seitenzweige** | | | |
| **QL** | | absent | absentes | fehlend | | Pink Event Treasure, Spic and Span | 1 |
| | | present | présentes | vorhanden | | Charm, Elegance, Rose Supreme, White Prosperity | 9 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **6.<br>(*)<br>(+)** | **VG/<br>MG/<br>MS** | **Spike: length of flowering part** | | | | | |
| **QN** | | short | | | | | 3 |
| | | medium | | | | Flevo Laguna, Millenium | 5 |
| | | long | | | | | 7 |
| **7.<br>(*)<br>(+)** | **VG/<br>MG/<br>MS** | **Spike: number of flowers** | **Epi: nombre de fleurs** | **Ähre: Anzahl Blüten** | | | |
| **QN** | | few | petit | gering | | Hawaii, Nymph | 3 |
| | | medium | moyen | mittel | | Little Darling, Picture, White Friendship | 5 |
| | | many | grand | groß | | Traderhorn | 7 |
| **8.<br>(*)<br>(+)** | **VG/<br>MG/<br>MS** | **Spike: number of open flowers** | | | | | |
| **QN** | | few | | | | | 3 |
| | | medium | | | | Aurora, Pink Event | 5 |
| | | many | | | | Eva, Exselsa, Millenium | 7 |
| **9.** | **VG/<br>MG/<br>MS** | **Spike: length of internode** | | | | | |
| **QN** | | short | | | | Jazmina | 1 |
| | | medium | | | | Cartago | 2 |
| | | long | | | | White Prosperity | 3 |
| **10.<br>(*)<br>(+)** | **VG** | **Spike: arrangement of flowers** | **Epi: disposition des fleurs** | **Ähre: Anordnung der Blüten** | | | |
| **PQ** | | one row | un rang | in einer Reihe | | Early Bird,<br>Groene Specht | 1 |
| | | zig-zag | en zigzag | im Zickzack | | Charm, Flevo Laguna, Lady Godiva | 2 |
| | | two rows | deux rangs | in zwei Reihen | | Carqueiranne, Jessica | 3 |
| | | irregular | irrégulier | unregelmäßig | | Albus, Harrogate | 4 |
| **11.<br>(+)** | **VG** | **Bract: shape of apex** | | | | | |
| **PQ** | **(a)** | acute | | | | Flevo Primo, Kalderon | 1 |
| | | acute to obtuse | | | | | 2 |
| | | obtuse | | | | Mexico, Sophie | 3 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **12.<br>(*)** | **VG** | **Bract: anthocyanin coloration** | **Bractée: pigmentation anthocyanique** | **Hochblatt: Anthocyanfärbung** | | | |
| **QN** | | absent or very weak | absente ou très faible | fehlend oder sehr gering | | Charm, Lady Godiva, Nova Lux, White Friendship | 1 |
| | | weak | faible | gering | | Carqueiranne, Jessica, Spic and Span | 3 |
| | | medium | moyenne | mittel | | Eva, Helvetia, Treasure, Venetië | 5 |
| | | strong | forte | stark | | Firebird, Harrogate, Oscar, Flevo Junior | 7 |
| | | very strong | très forte | sehr stark | | Caprice | 9 |
| **13.<br>(*)<br>(+)** | **VG** | **Flower: shape of upper part in front view** | | | | | |
| **PQ** | | triangular | | | | Beijing, Charm, Early Bird, Flevo Laguna, Lady Godiva | 1 |
| | | star-shaped | | | | Albus, Beauty of Holland | 2 |
| | | round | | | | Caprice, Orlando, Pegasus | 3 |
| **14.<br>(*)<br>(+)** | **VG** | **Flower: attitude** | | | | | |
| **QN** | | upright | | | | Princess Summer Yellow | 1 |
| | | semi-upright | | | | Flevo Laguna | 2 |
| | | horizontal | | | | | 3 |
| **15.<br>(*)<br>(+)** | **VG/<br>MG** | **Flower: width of broadest part** | | | | | |
| **QN** | | narrow | | | | Dainty, Flevo Laguna, Flevo Primo, Jackpot | 3 |
| | | medium | | | | Groene Specht, Joyeuse Entrée, Shocking | 5 |
| | | broad | | | | Traderhorn, White Friendship | 7 |
| **16.<br>(*)<br>(+)** | **VG/<br>MG/<br>MS** | **Flower: main color** | **Fleur: couleur principale** | **Blüte: Hauptfarbe** | | | |
| **PQ** | **(a)** | RHS Colour Chart (indicate reference number) | Code RHS des couleurs (indiquer le numéro de référence) | RHS-Farbkarte (Nummer angeben) | | | |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **17.** | **VG** | **Flower: shading of main color (excluding multicolored varieties)** | | | | | |
| **PQ** | **(a)** | none | | | | | 1 |
| | | lighter towards the base | | | | | 2 |
| | | evenly shaded | | | | | |
| | | lighter towards the apex | | | | | 3 |
| **18.** | **VG/ MG/ MS** | **Perianth tube: length** | | | | | |
| **QN** | | short | | | | Eva, Picture | 1 |
| | | medium | | | | Anitra, Flevo Laguna, Harrogate, Millenium | 2 |
| | | long | | | | Elegance, Zigeunerbaron | 3 |
| **19. (*)** | **VG/ MS** | **Perianth tube: number of spots on inner side** | | | | | |
| **QN** | | absent or very few | | | | Flevo Laguna, Lady Godiva, Leonore | 1 |
| | | few | | | | Elegance, Fire Bird, Zigeunerbaron | 3 |
| | | medium | | | | Bonaire, Eva, Nymph | 5 |
| | | many | | | | Costa Mary Hously, Little Darling | 7 |
| | | very many | | | | Groene Specht, Jessica | 9 |
| **20. (*) (+)** | **VG** | **Perianth tube: distribution of spots on inner side** | | | | | |
| **PQ** | | irregular | | | | Elegance, Libelle, Princess Margaret Rose, Treasure | 1 |
| | | in an interrupted band | | | | Nymph, Picure, Sancerre | 2 |
| | | in an uninterrupted band | | | | Groene Specht, Helvetia, Morning Kiss, Zigeunerbaron, | 3 |
| **21. (*)** | **VG** | **Perianth throat: spots on outer side** | | | | | |
| **QL** | | absent | | | | | 1 |
| | | present | | | | Millenium, Flevo Laguna | 9 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **22.**<br>**(*)** | **VG** | **Perianth throat: color of spots on outer side** | | | | | |
| **PQ** | | orange | | | | Aurora | 1 |
| | | pink | | | | White Prosperity | 2 |
| | | medium red | | | | Bonaire, Helvetia, Nymph | 3 |
| | | dark red | | | | Elegance, Groene Specht, Jessica | 4 |
| | | violet | | | | Peter Pears, Zigeunerbaron | 5 |
| **23.**<br>**(+)** | **VG** | **Outer tepal: shape of blade** | | | | | |
| **PQ** | | ovate | | | | Elegance, Millenium | 1 |
| | | elliptic | | | | Helvetia, Speranta | 2 |
| | | obovate | | | | Candida Ali | 3 |
| **24.** | **VG** | **Outer tepal: undulation of margin** | | | | | |
| **QN** | | absent or very weak | | | | Albus, Ben Trovato, Caprice, Lady Godiva, Lustige Witwe | 1 |
| | | weak | | | | Jessica, Maestro, Spic and Span, Traderhorn | 3 |
| | | medium | | | | Groene Specht, White Friendship, Zigeunerbaron | 5 |
| | | strong | | | | Alice, Flevo Primo, June | 7 |
| | | very strong | | | | | 9 |
| **25.** | **VG** | **Inner tepal: undulation of margin** | | | | | |
| **QN** | | absent or very weak | | | | | 1 |
| | | weak | | | | | 3 |
| | | medium | | | | | 5 |
| | | strong | | | | | 7 |
| | | very strong | | | | | 9 |
| **26.**<br>**(*)** | **VG** | **Inner tepal: stripe** | | | | | |
| **PQ** | | absent | | | | Elegance | 1 |
| | | present | | | | Advance, Alice Caprice | 9 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **27.** | **VG** | **Inner tepal: length of stripe** | | | | | |
| **QN** | | short | | | | | 1 |
| | | medium | | | | Fidelio, Pink Event, Venetië | 2 |
| | | long | | | | Eva, Flevo Party, Millenium | 3 |
| **28.** | **VG** | **Inner tepal: width of stripe** | | | | | |
| **QN** | | narrow | | | | Costa | 1 |
| | | medium | | | | Flevo Party, Flevo Primo, Spic and Span | 2 |
| | | broad | | | | Flevo Salsa | 3 |
| **29. (*)** | **VG** | **Inner tepal: color of stripe** | | | | | |
| **PQ** | | white | | | | Bono's Memory, Millenium | 1 |
| | | cream | | | | Fire Bird, Perseus | 2 |
| | | yellow | | | | Bonaire, Charm | 3 |
| | | orange | | | | | 4 |
| | | pink | | | | | 5 |
| | | red | | | | Treasure | 6 |
| | | purple red | | | | Flevo Primo, Pegasus, Pink Event | 7 |
| | | violet blue | | | | Costa | 8 |
| | | dark purple | | | | | 9 |
| **30. (*)** | **VG** | **Inner tepal: macule** | | | | | |
| **QL** | | absent | | | | Charm, Flevo Laguna | 1 |
| | | present | | | | Elegance, Hypnose, Millenium | 9 |
| **31. (*) (+)** | **VG** | **Inner tepal: position of macule** | | | | | |
| **QL** | | at base | | | | Flevo Sunset, Home Coming | 1 |
| | | between base and centre | | | | | 2 |
| | | central | | | | Traderhorn | 3 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **32.** | **VG** | **Inner tepal: size of macule in relation to inner tepal** | | | | | |
| **QN** | | small | | | | Elegance, Victor Borge | 3 |
| | | medium | | | | | 5 |
| | | large | | | | Jazmine, Velvet Eyes | 7 |
| **33.**<br>**(*)**<br>**(+)** | **VG** | **Inner tepal: shape of macule** | | | | | |
| **PQ** | | type 1 | | | | | 1 |
| | | type 2 | | | | Costa | 2 |
| | | type 3 | | | | Helvetia, Millenium | 3 |
| | | type 4 | | | | Elegance, Pink Event, Zigeunerbaron | 4 |
| **34.**<br>**(*)**<br>**(+)** | **VG** | **Inner tepal: main color of macule** | | | | | |
| **PQ** | | RHS colour chart (indicate reference number) | | | | | |
| **35.**<br>**(+)** | **VG** | **Inner tepal: secondary color of macule** | | | | | |
| **PQ** | | RHS colour chart (indicate reference number) | Code RHS des couleurs (indiquer le numéro de référence) | RHS-Farbkarte (Nummer angeben) | Tabla de colores RHS (indíquese el número de referencia) | | |
| **36.**<br>**(+)** | **VG** | **Inner tepal: margin of macule** | | | | | |
| **QN** | | regular or slightly irregular | | | | Hypnose, Jazmine | 1 |
| | | moderately irregular | | | | Helvetia, Traderhorn | 2 |
| | | strongly irregular | | | | | 3 |
| **37.**<br>**(*)** | **VG** | **Inner tepal: different color marginal zone** | | | | | |
| **QL** | | absent | | | | | 1 |
| | | present | | | | Priscilla, Nymph | 9 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **38.**<br>**(+)** | **VG** | **Inner tepal: width of marginal zone** | | | | | |
| **QN** | | narrow | | | | Flevo Junior, Millenium, Pink Event | 1 |
| | | medium | | | | | 2 |
| | | broad | | | | Priscilla | 3 |
| **39.**<br>**(+)** | **VG** | **Inner tepal: border of marginal zone** | | | | | |
| **QN** | | slightly irregular | | | | | 1 |
| | | moderately irregular | | | | Priscilla | 2 |
| | | very irregular | | | | | 3 |
| **40.**<br>**(*)** | **VG** | **Inner tepal: color of marginal zone** | | | | | |
| **PQ** | | RHS Colour Chart (indicate reference number) | Code RHS des couleurs (indiquer le numéro de référence) | RHS-Farbkarte (Nummer angeben) | Tabla de colores RHS (indíquese el número de referencia) | | |
| **41.** | **VG** | **Median inner tepal: attitude** | | | | | |
| **QN** | | semi-erect | | | | Charm, Jessica | 1 |
| | | semi-erect to horizontal | | | | | 2 |
| | | horizontal | | | | Bonaire, Lady Godiva, Nymph | 3 |
| **42.**<br>**(+)** | **VG** | **Only varieties with flowers: shape of upper part in front view: triangular:**<br>**Median inner tepal: attitude of apex** | | | | | |
| **PQ** | | moderately hooded | | | | Candy, Lady Godiva | 1 |
| | | straight | | | | Praha, White Prosperity | 2 |
| | | moderately reflexed | | | | Charm, Nymph, Zoe | 3 |
| | | strongly reflexed | | | | Little Darling | 4 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **43.<br>(*)** | **VG** | **Filament: main color** | | | | | |
| **PQ** | **(a)** | white | | | | Bonaire, Nymph,<br>White Friendship | 1 |
| | | light yellow | | | | Corona | 2 |
| | | light pink | | | | Peter Pears,<br>Spic and Span,<br>Traderhorn | 3 |
| | | medium pink | | | | Bono's Memory | 4 |
| | | light red | | | | Jessica, Zigeunerbaron | 5 |
| **44.<br>(*)** | **VG** | **Filament: small spots at base** | **Filet: petites taches sur la base** | **Staubfaden: kleine Punkte an der Basis** | | | |
| **QL** | | absent | absentes | fehlend | | Charm, Zigeunerbaron | 1 |
| | | present | présentes | vorhanden | | Jessica, Nymph,<br>Traderhorn | 9 |
| **45.** | **VG** | **Filament: color of apex compared to main color** | | | | | |
| **QN** | **(a)** | same color | | | | Treasure,<br>White Friendship,<br>White Prosperity | 1 |
| | | slightly different color | | | | | 2 |
| | | different color | | | | Charm, Nymph,<br>Traderhorn | 3 |
| **46.<br>(+)** | **VG** | **Anther: color of connective tissue** | **Anthère: couleur du connectif** | **Staubblatt: Farbe des Konnektivs** | | | |
| **PQ** | | white | blanc | weiß | | White Friendship,<br>White Prosperity,<br>Zigeunerbaron | 1 |
| | | yellow white | blanc jaune | gelbweiß | | Charm, Lady Godiva | 2 |
| | | light yellow | jaune clair | hellgelb | | Mykonos | 3 |
| | | pink | rose | rosa | | Fire Bird, Helvetia,<br>Peter Pears | 4 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **47.** | **VG** | **Anther: color of stomium** | **Anthère: couleur de la fente de déhiscence** | **Staubblatt: Farbe des Stomiums** | | | |
| **PQ** | | white | blanche | weiß | | Nymph,<br>White Friendship | 1 |
| | | yellow | jaune | gelb | | Costa | 2 |
| | | orange | orange | orange | | | 3 |
| | | red | rouge | rot | | Denisa | 4 |
| | | pink purple | pourpre rose | rosapurpur | | Jessica,<br>Princess Margaret Rose,<br>White Friendship | 5 |
| | | blue purple | pourpre bleu | blaupurpur | | Bonaire, Charm,<br>Elegance | 6 |
| | | violet | | | | | 7 |
| **48.**<br>**(*)**<br>**(+)** | **VG** | **Style: main color (excluding base)** | **Style: couleur principale** | **Griffel: Hauptfarbe** | | | |
| **PQ** | **(a)** | white | blanc | weiß | | Eva, Nymph, Treasure | 1 |
| | | yellow | jaune | gelb | | Elegance, Flevo Laguna,<br>Mykonos, Pegasus | 2 |
| | | yellow pink | rose jaune | gelbrosa | | Jessica, Peter Pears | 3 |
| | | red | rouge | rot | | Zigeunerbaron | 4 |
| | | violet | violet | violett | | | 5 |
| **49.** | **VG** | **Style: color of base** | | | | | |
| **(+)** | | | | | | | |
| **PQ** | | white | | | | Flevo Primo, Pegasus,<br>Treasure,<br>White Goddess | 1 |
| | | yellow white | | | | Bonaire, Traderhorn,<br>White Friendship,<br>Zigeunerbaron | 2 |
| | | yellow green | | | | Nymph, White Prosperity | 3 |
| | | pink | | | | Excelsa | 4 |

| | | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|---|
| **50.** | **VG** | **Style: color of branches** | | | | | |
| **PQ** | | white | | | | Bonaire, Flevo Laguna, Lady Godiva, White Friendship | 1 |
| | | light yellow | | | | Mykonos, Pegasus | 2 |
| | | light pink | | | | Groene Specht, Treasure | 3 |
| | | medium pink | | | | Charm, Elegance, Zigeunerbaron | 4 |
| | | red | | | | Princess Margaret Rose, Venetië | 5 |
| | | violet | | | | | 6 |
| **51. (*)** | **VG** | **Corm: color of flesh (in cross-section)** | **Corme: couleur de la chair (en section transversale)** | **Knolle: Farbe des Fleisches (im Querschnitt)** | | | |
| **PQ** | | RHS Colour Chart (indicate reference number) | Code RHS des couleurs (indiquer le numéro de référence) | RHS-Farbkarte (Nummer angeben) | | | |
| **52.** | **VG/ MG** | **Time of beginning of flowering** | **Epoque de début de la floraison** | **Zeitpunkt des Blühbeginns** | | | |
| **QN** | | very early | très précoce | sehr früh | | Charm, Jackpot, Leonore | 1 |
| | | early | précoce | früh | | Fidelio, Groene Specht, Pegasus, Pink Event | 3 |
| | | medium | moyenne | mittel | | Jessica, Nymph, Peter Pears | 5 |
| | | late | tardive | spät | | Evening Sun, Princess Margaret Rose, White Prosperity | 7 |
| | | very late | très tardive | sehr spät | | Carqueianne, Prelude | 9 |

8. Explanations on the Table of Characteristics

*8.1 Explanations covering several characteristics*

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

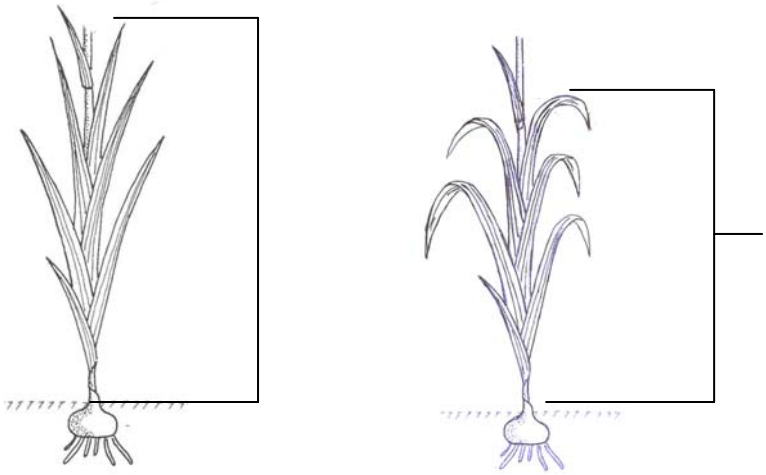
(a) All observations should be made when the first flower is fading.

*8.2 Explanations for individual characteristics*

Ad. 1: Plant: height

Observations on plant height should be made including inflorescence

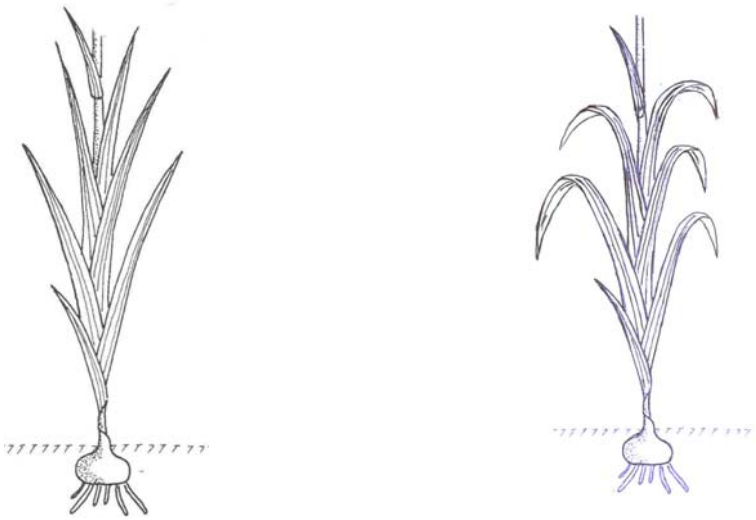
Ad. 2: Foliage: height



Ad. 3: Leaf: width

Observations on leaf width should be made from the second to last leaf.

Ad. 4: Leaf: curvature of distal half



1
absent or very weak

7
strong

Ad. 6: Spike: length of flowering part

Length of flowering part

Ad. 7: Spike: number of flowers

All flowers including the closed buds.

Ad. 8: Spike: number of open flowers

The number of open flowers is assessed on all flowers which are fully open at the same time, including the first flower.

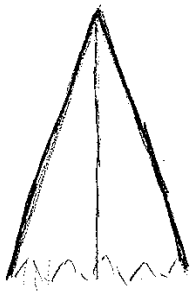
Ad. 10: Spike: arrangement of flowers

1
one row

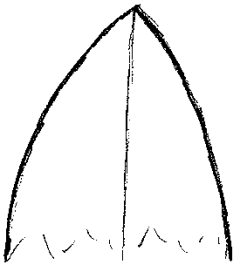
2
zig zag

3
two rows

Ad.11: Bract: shape of apex



1
acute

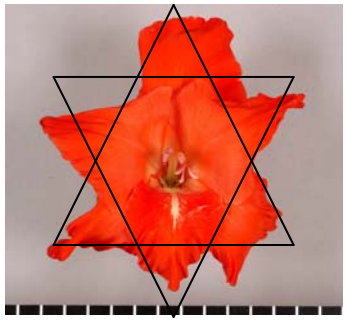


2
acute to obtuse

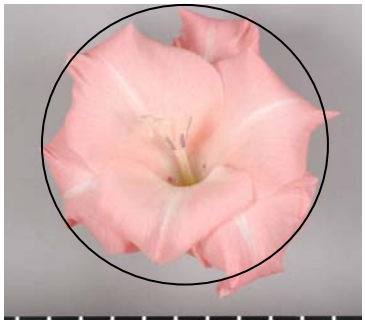
3
obtuse

Ad. 13: Flower: shape of upper part in front view

1
triangular



2
star-shaped



3
round

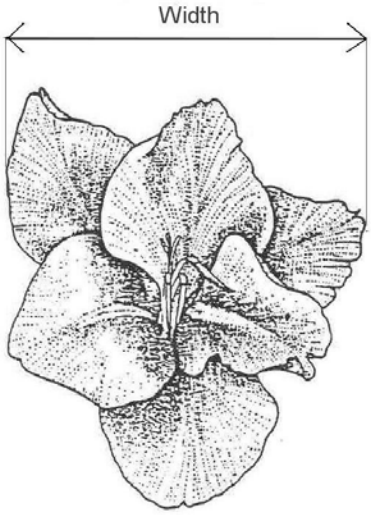
Ad. 14: Flower: attitude

1
upright

2
semi-upright

3
horizontal

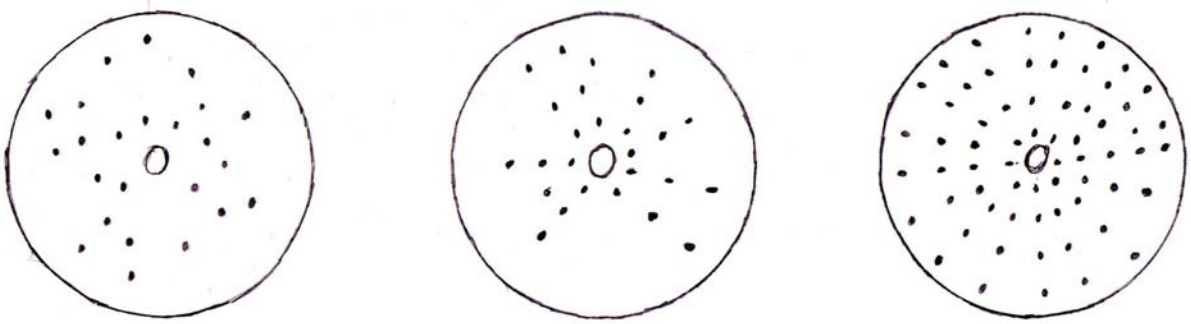
Ad. 15: Flower: width of broadest part




Ad. 16: Flower: main color
Ad. 34: Inner tepal: main color of macule
Ad. 35: Inner tepals: secondary color of macule
Ad. 48: Style: main color (excluding base)

The main color is the color with the largest total surface area, the secondary color (if present) is the color with the second largest total surface area. In case of when none of the colors is clearly predominant then the lightest color will be the main color.

Ad. 20: Perianth tube: distribution of spots on inner side



1 irregular

2 in an interrupted band

3 in an uninterrupted band

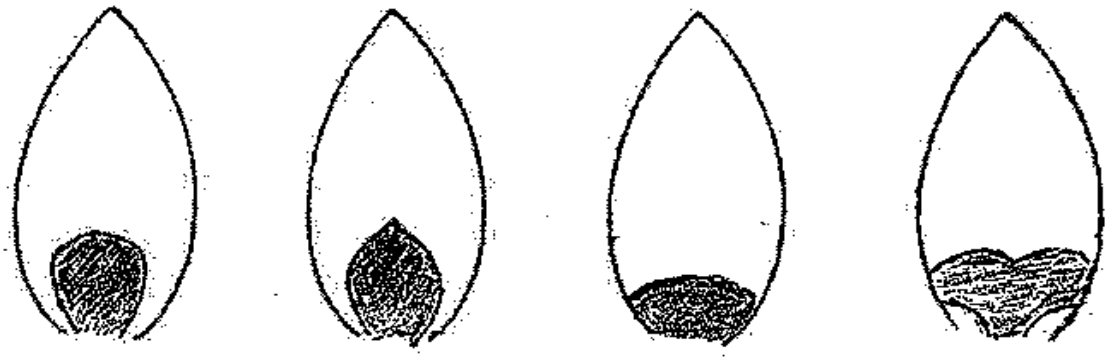
Ad. 23: Outer tepal: shape of blade

ovate

elliptic

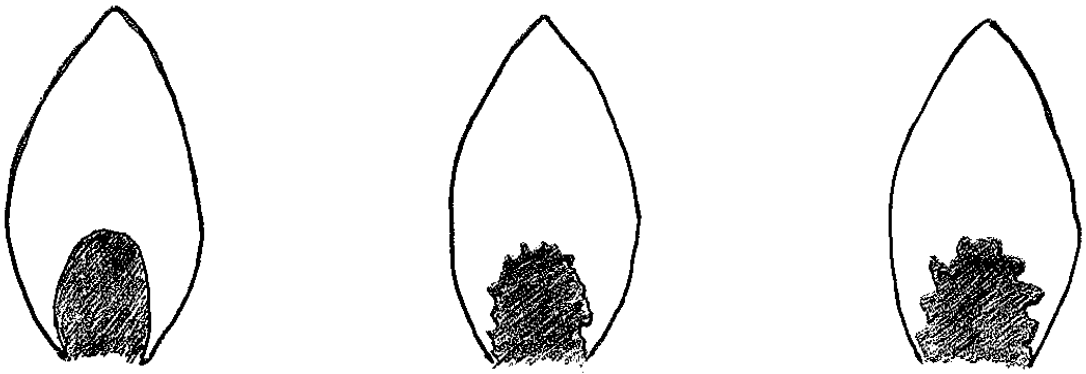
obovate

Ad: 33: Inner tepal: shape of macule



type 1 type 2 type 3 type 4

Ad. 36: Inner tepal: margin of macule

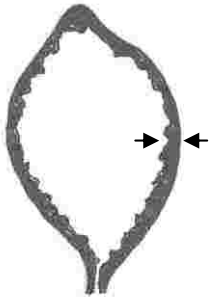


1
regular or slightly irregular

2
moderately irregular

3
strongly irregular

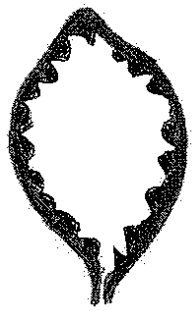
Ad. 38: Inner tepal: width of marginal zone



Ad. 39: Inner tepal: border of marginal zone

1
slightly irregular

2
moderately irregular



3
very irregular

Ad. 42: Only varieties with flowers: shape of upper part in front view: triangular: Median inner tepal: attitude of apex

1
moderately hooded

2
straight

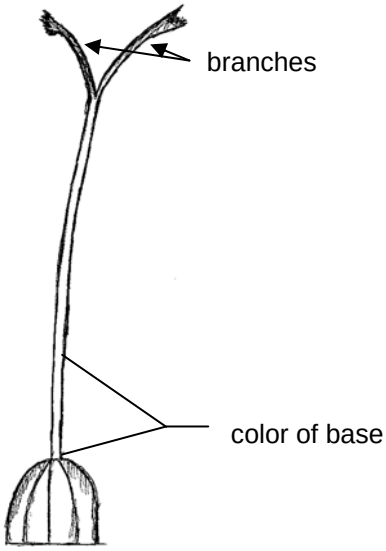
3
moderately reflexed

4
strongly reflexed

Ad. 46: Anther: color of connective tissue

In this case: connective: the tissue connecting the two separated rows of anthers (stomium).

Ad. 49: Style: color of base
Ad. 50: Style: color of branches



## 9. Literature

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Hamilton, A.P., 1976: "The European Gladioli," Quart. Bull. Alp. Gard. Soc. 44(2), Wallington, UK

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## 10. Technical Questionnaire

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

| | Application date:<br>(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 | *Gladiolus* L. |
| 1.2 Common name | Gladiolus |

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<br>(if available) | |
| Breeder's reference | |

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

[#]4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross [ ]
(please state parent varieties)

(……..……..) x (……..……..)
female parent male parent

(b) partially known cross [ ]
(please state known parent variety(ies))

(……..……..) x (……..……..)
female parent male parent

(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

4.1.3 Discovery and development [ ]
(please state where and when discovered and how developed)

4.1.4 Other [ ]
(please provide details)

[#] Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

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

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

4.2.2 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 (15)** | **Flower: width of broadest part** | | |
| | very narrow | | 1[ ] |
| | very narrow to narrow | | 2[ ] |
| | narrow | Dainty, Flevo Laguna, Flevo Primo, Jackpot | 3[ ] |
| | narrow to medium | | 4[ ] |
| | medium | Groene Specht, Joyeuse Entrée, Shocking | 5[ ] |
| | medium to broad | | 6[ ] |
| | broad | Traderhorn, White Friendship | 7[ ] |
| | broad to very broad | | 8[ ] |
| | very broad | | 9[ ] |
| **5.2i (16)** | **Flower: main color** | | |
| | RHS Colour Chart (indicate reference number) | | |
| **5.2ii (16)** | **Flower: main color** | | |
| | white | | 1[ ] |
| | yellow | | 2[ ] |
| | orange | | 3[ ] |
| | pink orange | | 4[ ] |
| | pink | | 5[ ] |
| | purple | | 6[ ] |
| | red purple | | 7[ ] |
| | blue | | 8[ ] |
| | green | | 9[ ] |

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

6. Similar varieties and differences from these varieties

*Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.*

| Denomination(s) of variety(ies) similar to your candidate variety | Characteristic(s) in which your candidate variety differs from the similar variety(ies) | Describe the expression of the characteristic(s) for the **similar** variety(ies) | Describe the expression of the characteristic(s) for **your** candidate variety |
|---|---|---|---|
| *Example* | *Plant: height* | *short* | *medium* |
| | | | |
| | | | |
| | | | |

Comments:

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

[#]7. Additional information which may help in the examination of the variety

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

Yes [ ] No [ ]

(If yes, please provide details)

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

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

7.3.1 Main use

(a) garden plant [ ]
(b) pot plant [ ]
(c) cut-flower [ ]
(d) other [ ]
(please provide details)

7.3.2 A representative color image of the variety should accompany the Technical Questionnaire.

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

[#] Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

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

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

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

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

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

Please provide details for where you have indicated “yes”.

……

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

Applicant’s name

Signature Date

[End of document]