

UPOV

TG/AGAPA(proj.3)

ORIGINAL: English

DATE: 2010-11-11

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

AFRICAN LILY

UPOV Code: AGAPA

Agapanthus L'Hér.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from South Africa

to be considered by

*the Enlarged Editorial Committee at its meeting
to be held in Geneva, Switzerland, on January 6, 2011*

Alternative Names: *

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Agapanthus</i> L'Hér.	African lily; Agapanthus; Blue lily; Lily of the Nile	Agapanthe; Fleur d'amour	Agapanthus; Schmucklilie	Agapanto; Estrella de mar

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.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles	3
3.2 Testing Place	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design	4
3.5 Additional Tests	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	4
4.1 Distinctness	4
4.2 Uniformity.....	5
4.3 Stability	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	6
6.1 Categories of Characteristics.....	6
6.2 States of Expression and Corresponding Notes.....	7
6.3 Types of Expression.....	7
6.4 Example Varieties	7
6.5 Legend.....	8
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	9
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS	19
8.1 Explanations covering several characteristics	19
8.2 Explanations for individual characteristics	20
9. LITERATURE	26
10. TECHNICAL QUESTIONNAIRE	27

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Agapanthus* L'Héritier.

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 plants capable of expressing all relevant characteristics of the variety during the first growing cycle.

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

10 plants

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

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

3. Method of Examination

3.1 *Number of Growing Cycles*

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

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

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

3.3.2 *Observation of color by eye*

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 10 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, all observations for the purposes of distinctness should be made on 5 plants or parts taken from each of 5 plants, 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, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 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) Plant: type (characteristic 1)
- (b) Leaf: variegation (characteristic 7)
- (c) Inflorescence bract: opening (characteristic 14)
- (d) Inflorescence: number of flowers (characteristic 19)
- (e) Flower bud: main color (characteristic 22) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow green
 - Gr. 3: violet
 - Gr. 4: violet blue
 - Gr. 5: blue
- (f) Flower: type (characteristic 29)
- (g) Anther: color (characteristic 43)

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)-(g) 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/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. VG Plant: type (* (+)		Plante : type	Pflanze: Typ	Planta: tipo		
QL	deciduous	caduc	laubabwerfend	caduca	Deep Blue	1
	evergreen	persistant	immergrün	perenne	Cloudy Skies	2
2. VG Plant: density of foliage (*		Plante : densité du feuillage	Pflanze: Dichte des Laubes	Planta: densidad del follaje		
QN (a)	sparse	faible	locker	escasa	Baby Pete	3
	medium	moyenne	mittel	media	Snow Cloud	5
	dense	dense	dicht	densa	Snowstorm	7
3. MG Plant: number of leaves per shoot (+)		Plante : nombre de feuilles par pousse	Pflanze: Anzahl Blätter pro Trieb	Planta: número de hojas por rama		
QN (a)	few	faible	gering	bajo	Lapis	1
	medium	moyen	mittel	medio	Regal Beauty	2
	many	élevé	hoch	alto	Snow Cloud	3
4. VG/ Leaf: length MS		Feuille : longueur	Blatt: Länge	Hoja: longitud		
QN (a)	short	courte	kurz	corta	Tinkerbelle	3
(b)	medium	moyenne	mittel	media	Everblue	5
	long	longue	lang	larga	Deep Blue	7
5. VG/ Leaf: width (* MS		Feuille : largeur	Blatt: Breite	Hoja: anchura		
QN (a)	narrow	étroite	schmal	estrecha	Deep Blue	3
(b)	medium	moyenne	mittel	media	Buddy Blue	5
	broad	large	breit	ancha	Glen Avon	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6. VG Leaf: curvature		Feuille : courbure	Blatt: Biegung	Hoja: curvatura		
QN (a)	absent or slightly recurved	absente ou légèrement incurvée	fehlend oder leicht gebogen	ausente o débilmente curvada	Tinkerbelle	1
(b)	moderately recurved	modérément incurvée	mäßig gebogen	moderadamente curvada	Aureovittatus	2
	strongly recurved	fortement incurvée	stark gebogen	muy curvada	Summer Gold	3
7. VG Leaf: variegation (*)		Feuille : panachure	Blatt: Panaschierung	Hoja: variegación		
QL (a)	absent	absente	fehlend	ausente	Blue Velvet	1
(c)	present	présente	vorhanden	presente	Tinkerbelle	9
8. VG Leaf: disappearance of variegation with development (+)		Feuille : disparition de la panachure avec le développement	Blatt: Verschwinden der Panaschierung mit dem Wachstum	Hoja: desaparición de la variegación con el desarrollo		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Tinkerbelle	1
	medium	moyenne	mittel	media		2
	strong	marquée	stark	fuerte	Lemon & Lime	3
9. VG Leaf: green color of upper side (excluding variegation) (*)		Feuille : couleur verte de la face supérieure (à l'exclusion de la panachure)	Blatt: Grünfärbung der Oberseite (ohne Panaschierung)	Hoja: color verde del haz (excluida la variegación)		
PQ (a)	yellow green	vert-jaune	gelbgrün	verde amarillento		1
(b)	light green	vert clair	hellgrün	verde claro	Sybil Martin	2
(d)	medium green	vert moyen	mittelgrün	verde medio	Snowstorm	3
	dark green	vert foncé	dunkelgrün	verde oscuro	Blue Horizons	4
	grey green	vert-gris	graugrün	verde grisáceo	Goldstrike	5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10. VG	Leaf: color of variegation of upper side	Feuille : couleur de la panachure de la face supérieure	Blütenblatt: Farbe der Panaschierung der Oberseite	Hoja: color de la variegación del haz		
(*)						
PQ	(a) white	blanche	weiß	blanco	Tinkerbelle	1
	(c) yellow white	blanc-jaune	gelbweiß	blanco amarillento	Silver Star	2
	(d) yellow	jaune	gelb	amarillo	Goldstrike, Summer Gold	3
	yellow green	vert-jaune	gelbgrün	verde amarillento	Sybil Martin	4
11. VG	Leaf: anthocyanin coloration at base	Feuille : pigmentation anthocyanique à la base	Blatt: Anthocyanfärbung an der Basis	Hoja: pigmentación antocianica en la base		
(*)						
(+)						
QL	(a) absent	absente	fehlend	ausente	Blue Velvet	1
	present	présente	vorhanden	presente	Wiley J	9
12. VG	Inflorescence bract: length of tip relative to total length of bract	Bractée à inflorescence : longueur de l'extrémité par rapport à la longueur totale de la bractée	Deckblatt des Blütenstands: Länge der aufgesetzten Spitze im Verhältnis zur Gesamtlänge des Deckblatts	Bráctea de la inflorescencia: longitud del extremo en comparación con la longitud total de la bráctea		
(+)						
QN	(a) very short	très courte	sehr kurz	muy corta	Wiley J	1
	short	courte	kurz	corta	Lilac Beauty	3
	medium	moyenne	mittel	media	Nana Blue	5
	long	longue	lang	larga	Smurfy Blue	7
	very long	très longue	sehr lang	muy larga	Hartenbos White	9
13. VG	Inflorescence bract: anthocyanin coloration	Bractée à inflorescence : pigmentation anthocyanique	Deckblatt des Blütenstands: Anthocyanfärbung	Bráctea de la inflorescencia: pigmentación antocianica		
(*)						
QN	(a) absent or weak	absente ou faible	fehlend oder gering	ausente o débil	ATlblu	1
	medium	moyenne	mittel	media	Peter Pan	2
	strong	forte	stark	fuerte	Victoria Bay	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
14. VG	Inflorescence bract: opening	Bractée à inflorescence : ouverture	Deckblatt des Blütenstands: Öffnung	Bráctea de la inflorescencia: en apertura		
(*)						
(+)						
QL	one side	un bord	einseitig	un lado	Wiley J	1
	both sides	les deux bords	beidseitig	ambos lados	Double Diamond	2
15. VG/ MS	Peduncle: length	Pédoncule : longueur	Blütenstiel: Länge	Pedúnculo: longitud		
(*)						
QN	very short	très courte	sehr kurz	muy corto	Double Diamond	1
	short	courte	kurz	corto	Princess Margaret	3
	medium	moyenne	mittel	medio	Shinkai	5
	long	longue	lang	largo	Ivory Bells	7
	very long	très longue	sehr lang	muy largo	Purple Cloud	9
16. VG	Peduncle: thickness	Pédoncule : épaisseur	Blütenstiel: Dicke	Pedúnculo: grosor		
(*)						
QN	(e) thin	fine	dünn	delgado	Everblue	3
	medium	moyenne	mittel	medio	Buddy Blue	5
	thick	épaisse	dick	grueso	Cloudy Skies	7
17. VG	Peduncle: shape in cross section	Pédoncule : forme en section transversale	Blütenstiel: Form im Querschnitt	Pedúnculo: forma en sección transversal		
(*)						
(+)						
PQ	(e) circular	circulaire	kreisförmig	circular	Peter Pan	1
	elliptic	elliptique	elliptisch	elíptica	Wiley J	2
	oblong	oblongue	rechteckig	oblonga	Blue Velvet	3
18. VG	Peduncle: anthocyanin coloration	Pédoncule : pigmentation anthocyanique	Blütenstiel: Anthocyanfärbung	Pedúnculo: pigmentación antocianica		
(*)						
QN	(e) absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Peter Pan	1
	medium	moyenne	mittel	media	Midnight Blue	2
	strong	forte	stark	fuerte	Black Beauty	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. MG	Inflorescence: (*) /MS number of flowers (+)	Inflorescence : nombre de fleurs	Blütenstand: Anzahl der Blüten	Inflorescencia: número de flores		
QN	very few	très petit	sehr gering	muy bajo	Peter Pan	1
	few	petit	gering	bajo	Bright Eyes	3
	medium	moyen	mittel	medio	Blue Velvet	5
	many	élevé	groß	alto	Magnifico	7
	very many	très élevé	sehr groß	muy alto	Maximus	9
20. VG	Inflorescence: (*) MS diameter (+)	Inflorescence : diamètre	Blütenstand: Durchmesser	Inflorescencia: diámetro		
QN	very small	très petit	sehr klein	muy pequeño	Franni	1
	small	petit	klein	pequeño	Adonis	3
	medium	moyen	mittel	mediano	Atlas	5
	large	grand	groß	grande	Colossus	7
	very large	très grand	sehr groß	muy grande	Trudy	9
21. VG	Inflorescence: shape (*) in lateral view (+)	Inflorescence : forme en vue latérale	Blütenstand: Form in Seitenansicht	Inflorescencia: forma en perspectiva lateral		
PQ	elliptic	elliptique	elliptisch	elíptica	Tall Boy	1
	circular	circulaire	kreisförmig	circular	Pinchbeck	2
	narrow oblate	aplatie étroite	schmal breitrund	achatada estrecha	Deep Blue	3
	broad oblate	aplatie large	breit breitrund	achatada ancha	Loch Hope	4
22. VG	Flower bud: main (*) color	Bouton : couleur principale	Blütenknospe: Hauptfarbe	Botón floral: color principal		
PQ	(d) RHS Colour Chart (f) (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
23. VG	Flower bud: secondary color	Bouton : couleur secondaire	Blütenknospe: Sekundärfarbe	Yema floral: color secundario		
PQ	(d) RHS Colour Chart (f) (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
24. VG Flower bud: (*) distribution of secondary color	Bouton : répartition de la couleur secondaire	Blütenknospe: Verteilung der Sekundärfarbe	Yema floral: distribución del color secundario		
PQ (d) none	aucune	keine	ninguna	Double Diamond	1
(f) towards base	vers la base	zur Basis hin	hacia la base	Cloudy Skies	2
towards apex	vers le sommet	zur Spitze hin	hacia el ápice	White Beauty	3
25. VG/ Pedicel: length MS	Pédicelle : longueur	Blütenstiel: Länge	Pedicelo: longitud		
QN (f) short	courte	kurz	corto	Deep Blue	3
medium	moyenne	mittel	medio	Blue Velvet	5
long	longue	lang	largo	Cloudy Skies	7
26. VG Pedicel: anthocyanin coloration	Pédicelle : pigmentation anthocyanique	Blütenstiel: Anthocyanfärbung	Pedicelo: pigmentación antociánica		
QN (f) absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Stéphanie Charm	1
medium	moyenne	mittel	media	Silver Jubilee	2
strong	forte	stark	fuerte	Black Beauty	3
27. VG Pedicel: distribution (+) of anthocyanin coloration	Pédicelle : répartition de la pigmentation anthocyanique	Blütenstiel: Verteilung der Anthocyanfärbung	Pedicelo: distribución de la pigmentación antociánica		
PQ (f) only on middle third	uniquement sur le tiers médian	nur am mittleren Drittel	únicamente en el tercio medio	Everblue	1
entire	entière	überall	en todo el pedicelo	Black Beauty	2
only on upper and lower third	uniquement sur le tiers supérieur et le tiers inférieur	nur am oberen und unteren Drittel	únicamente en el tercio superior e inferior	Victoria Bay	3
28. VG Flower: shape (* (+)	Fleur : forme	Blüte: Form	Flor: forma		
PQ (g) globose	globuleuse	kugelförmig	globosa	Buddy Blue	1
tubular	tubuleuse	röhrenförmig	tubular	Graskop	2
funnel	en entonnoir	trichterförmig	de embudo	Amethyst	3
campanulate	campanulée	glockenförmig	acampanada	Blue Stars	4

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
29. MG Flower: type (* (+)	Fleur : type	Blüte: Typ	Flor: tipo		
QL (g) single	simple	einfach	individual	Blue Velvet	1
semi-double	demi-double	halbgefüllt	semidoble	Double Diamond	2
30. VG/ Perianth: length (* (+) MS	Périanthe : longueur	Blütenhülle: Länge	Periantio: longitud		
QN (g) short	courte	kurz	corto	Lilliput	3
medium	moyenne	mittel	medio	Blue Velvet	5
long	longue	lang	largo	Graskop	7
31. VG/ Perianth: diameter (* (+) MS	Périanthe : diamètre	Blütenhülle: Durchmesser	Periantio: diámetro		
QN (g) small	petit	klein	pequeño	Graskop	3
medium	moyen	mittel	medio	Amethyst	5
large	grand	groß	grande	Atlantic Ocean	7
32. VG Perianth: overlapping of tepal lobes (+)	Périanthe : chevauchement des lobes des tépalas	Blütenhülle: Überlappen der Perigonlappen	Periantio: superposición de los lóbulos de los tépalos		
QN (g) absent	absent	fehlend	ausente	Goliath	1
incomplete	incomplet	unvollständig	incompleta	Amethyst	2
complete	complet	vollständig	completa	Graskop	3
33. VG/ Perianth tube: length (* (+) MS	Tube du périanthe : longueur	Perianthröhre: Länge	Tubo del periantio: longitud		
QN (g) short	courte	kurz	corto	Peter Pan	3
medium	moyenne	mittel	medio	Goliath	5
long	longue	lang	largo	Graskop	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
34. VG Perianth tube: main color of outer side (*)	Tube du périanthe : couleur principale de la face externe	Perianthröhre: Hauptfarbe der Außenseite	Tubo del periantio: color principal de la cara externa		
PQ (d) RHS Colour Chart (indicate reference number) (g)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
35. VG Tepal lobe: ratio length/width (+)	Lobe des tépales : rapport longueur/largeur	Perigonlappen: Verhältnis Länge/Breite	Lóbulo de los tépalos: relación longitud/anchura		
QN (g) slightly elongated	légèrement allongé	leicht langgezogen	ligeramente elongado	Blue Globe	1
moderately elongated	modérément allongé	mäßig langgezogen	moderadamente elongado	Elisabeth	2
strongly elongated	fortement allongé	stark langgezogen	muy elongado	Atlantic Ocean	3
36. VG Tepal lobe: color of marginal zone of inner side (*)	Lobe des tépales : couleur de la zone marginale de la face interne	Perigonlappen: Farbe der Randzone der Innenseite	Lóbulo de los tépalos: color del borde de la cara interna		
PQ (g) RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
37. VG Tepal lobe: color of midrib zone of inner side (*)	Lobe des tépales : couleur de la zone autour de la nervure centrale de la face interne	Perigonlappen: Farbe der Mittelrippenzone der Innenseite	Lóbulo de los tépalos: color del nervio central de la cara interna		
PQ (g) RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
38. VG Tepal lobe: transparency of midrib zone of inner side	Lobe des tépales : transparence de la zone autour de la nervure centrale de la face interne	Perigonlappen: Transparenz der Mittelrippenzone der Innenseite	Lóbulo de los tépalos: transparencia del nervio central de la cara interna		
QN (g) absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Amethyst	1
medium	moyenne	mittel	media	Cloudy Skies	2
strong	forte	stark	fuerte	Windsor Grey	3

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
39. VG Tepal lobe: undulation of margin	Lobe des tépales : ondulation du bord	Perigonlappen: Randwellung	Lóbulo de los tépalos: ondulación del borde		
QN (g) weak	légère	gering	débil	Amethyst	1
medium	moyenne	mittel	media	Blue Heaven	2
strong	forte	stark	fuerte	Blue Stars	3
40. VG Flower: tepal-like (* staminodes and (+) pistillodes	Fleur : staminodes et pistillodes en forme de tépale	Blüte: Tepalienartige Staminodien und Pistillodien	Flor: pistilodios y estaminoides en forma de tépalos		
QL (g) absent	absents	fehlend	ausente	Blue Velvet	1
present	présents	vorhanden	presente	Flore Pleno	9
41. VG Flower: extrusion of (* stamens (+) pistillodes	Fleur : extrusion des étamines	Blüte: Hervortreten der Staubgefäße	Flor: extrusión de los estambres		
QN (g) absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Kama	1
medium	moyenne	mittel	media	Blue Velvet	2
strong	forte	stark	fuerte	Blue Stars	3
42. VG Filament: color (*	Filament : couleur	Staubfaden: Farbe	Filamento: color		
PQ (g) white	blanc	weiß	blanco	Blue Moon	1
violet	violet	violett	violeta	Wiley J	2
violet blue	bleu violacé	violettblau	azul violeta	Black Pantha	3

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
43. VG Anther: color (* (+)	Anthère : couleur	Anthere: Farbe	Antera: color		
PQ white	blanche	weiß	blanco	Lavender Haze	1
green	verte	grün	verde	Blue Brush	2
blue green	vert-bleu	blaugrün	verde azulado	Glen Avon	3
light yellow	jaune clair	hellgelb	amarillo claro	Ossato Snow	4
medium yellow	jaune moyen	mittelgelb	amarillo medio	Polar Ice	5
purple	pourpre	purpurn	púrpura	Corinne	6
brown	brune	braun	marrón	Umbellatus Albus	7
blue grey	gris-bleu	blaugrau	gris azulado	Sarah	8
black	noire	schwarz	negro	Aberdeen	9
44. VG Style: color (* (+)	Style : couleur	Griffel: Farbe	Estilo: color		
PQ (g) white	blanc	weiß	blanco	Blue Moon	1
violet	violet	violett	violeta	Wiley J	2
violet blue	bleu violacé	violettblau	azul violeta	Glen Avon	3
45. MG Time of beginning of flowering (* (+)	Époque de début de floraison	Zeitpunkt des Blühbeginns	Época del comienzo de la floración		
QN early	précoce	früh	temprana	ATIblu	3
medium	moyenne	mittel	intermedia	Blue Velvet	5
late	tardive	spät	tardía	New Blue	7

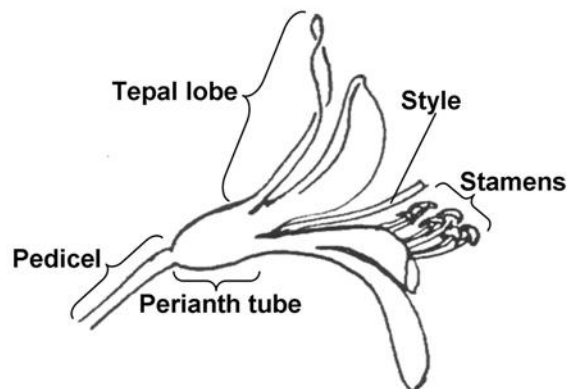
8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Unless otherwise indicated, all characteristics should be observed at the time when at least 50% of all flowers have opened.

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

- (a) To be observed when the first flower bud starts to protrude from the inflorescence bract.
 - (b) Observations should be made on fully developed leaves.
 - (c) Observations on leaf variegation should be made on young leaves.
 - (d) The main color is the color of the largest surface area. In cases where it is difficult to determine the largest surface area, the darkest color is considered to be the main color. The secondary color is the color of the second largest surface area.
 - (e) To be observed in the middle third of the peduncle.
 - (f) Observations should be made when the flower bud is fully expanded, just prior to reflexing of the tepals.
 - (g) Observations should be made on fresh fully open flowers.
- Diagram of flower parts:



8.2 *Explanations for individual characteristics*

Ad. 1: Plant: type

Observations should be made during winter and spring.

Ad. 3: Plant: number of leaves per shoot



Ad. 8: Leaf: disappearance of variegation with development

Observations should be made by comparing variegation of young leaves with variegation of mature leaves. Disappearance of variegation is present when mature leaves have less variegation than young leaves.

Ad. 11: Leaf: anthocyanin coloration at base



1
absent



9
present

Ad. 12: Inflorescence bract: length of tip relative to total length of bract

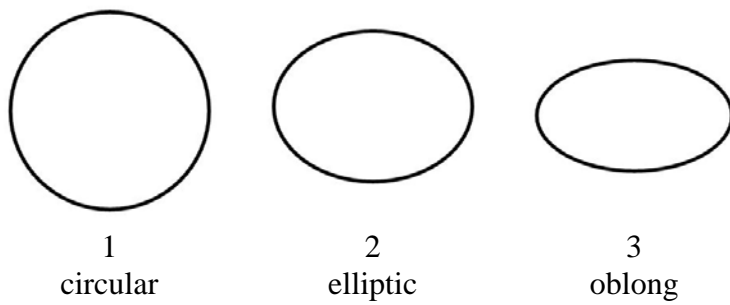


Ad. 14: Inflorescence bract: opening

To be observed when most of the flower buds have protruded.



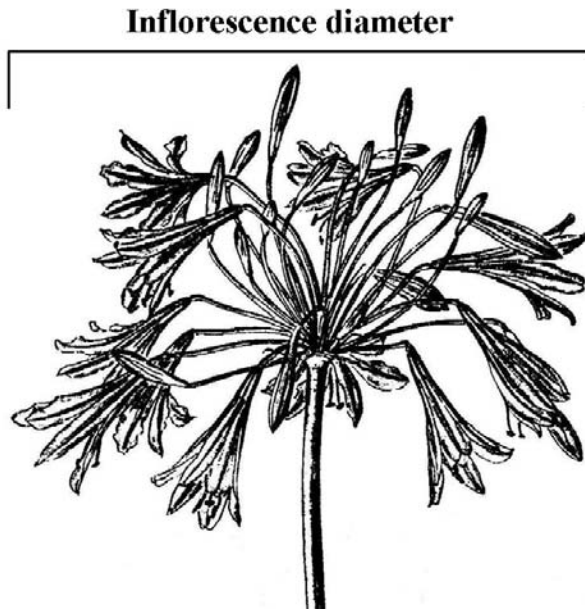
Ad. 17: Peduncle: shape in cross section



Ad. 19: Inflorescence: number of flowers

The total number of flowers should be assessed, including flower buds, open flowers, and faded flowers.

Ad. 20: Inflorescence: diameter



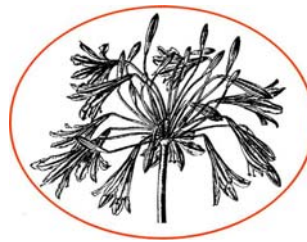
Ad. 21: Inflorescence: shape in lateral view



1
elliptic



2
circular

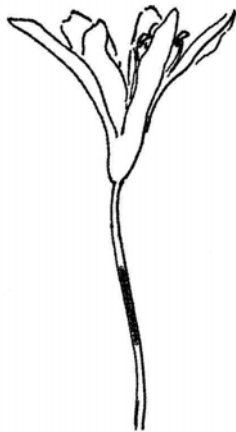


3
narrow oblate



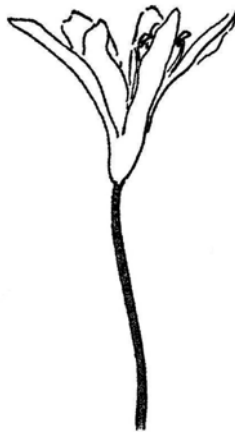
4
broad oblate

Ad. 27: Pedicel: distribution of anthocyanin coloration



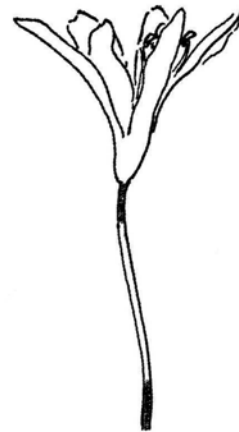
1

only on middle third



2

entire



3

only on upper and lower third

Ad. 28: Flower: shape



1

globose



2

tubular



3

funnel



4

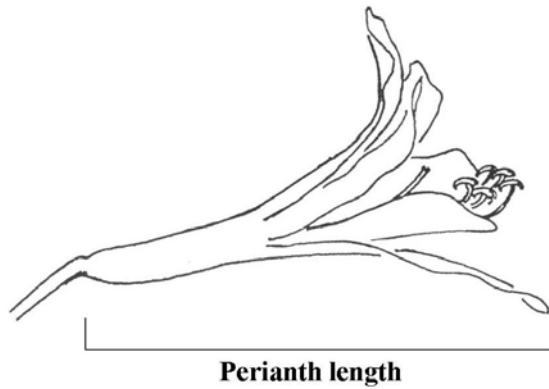
campanulate

Ad. 29: Flower: type

Single type flowers have six tepals.

Semi-double type flowers have more than six tepals.

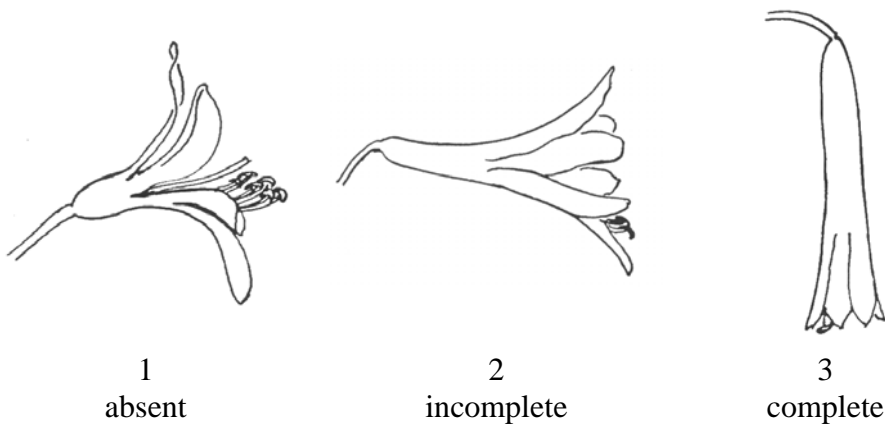
Ad. 30: Perianth: length



Ad. 31: Perianth: diameter

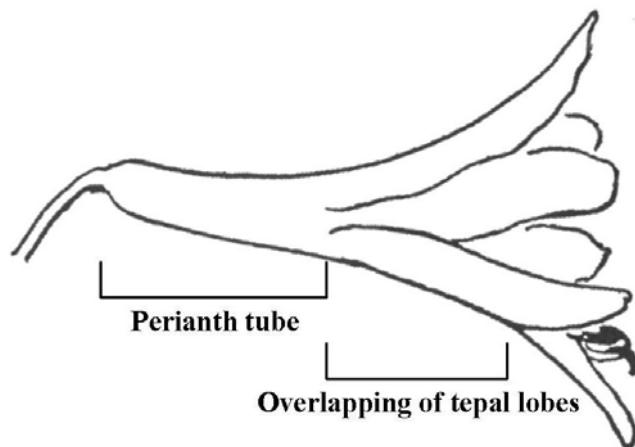
The maximum natural diameter should be assessed.

Ad. 32: Perianth: overlapping of tepal lobes



Ad. 32: Perianth: overlapping of tepal lobes

Ad. 33: Perianth tube: length



Ad. 35: Tepal lobe: ratio length/width

The tepal lobe is the part of the tepal that does not form part of the perianth tube.

Ad. 40: Flower: tepal-like staminodes and pistilodes



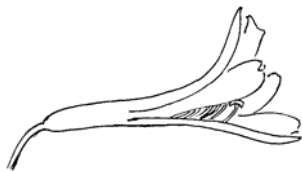
1
absent



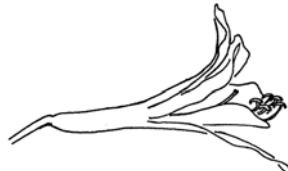
9
present

Ad. 41: Flower: extrusion of stamens

The extrusion of stamens is observed as the protrusion of the stamens in relation to the apex of the tepal lobes.



1
absent or weak



2
medium



3
strong

Ad. 43: Anther: color

The color of the anthers should be observed just before dehiscence.

Ad. 45: Time of beginning of flowering

Time of beginning of flowering is when 50% of plants have at least one flower fully open.

9. Literature

Duncan, G.D., 1998: Kirstenbosch Gardening Series: Grow Agapanthus: a guide to the species, cultivation and propagation of the genus Agapanthus. National Botanical Institute, Kirstenbosch, Cape Town, ZA, 32 pp.

Germishuizen, G., Meyer, N.L., Steenkamp, Y., Keith, M., 2006: A checklist of South African plants. Southern African Botanical Diversity Network Report No. 41, SABONET, Pretoria, ZA

Hattatt, L., 2001: Encyclopedia of garden plants and flowers. Parragon, Bath, UK, 256 pp.

Leighton, F.M., 1965: The genus *Agapanthus* L'Heritier. Journal of South African Botany, Supplementary Volume No. IV, ZA, 50 pp.

Perry, F. (ed.), 1980: The Macdonald encyclopedia of plants & flowers. Macdonald General Books, London, UK

Snoeijer, W., 2004: *Agapanthus*: a revision of the genus. Timber Press, Inc., Portland, Oregon, US, 320 pp.

Zonneveld, B.J.M., Duncan, G.D., 2003: Taxonomic implications of genome size and pollen colour and vitality for species of *Agapanthus* L'Heritier (Agapanthaceae). Plant Syst. Evol. 241: 115-123

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Genus		
1.1.1 Botanical name	<input type="text" value="Agapanthus L'Hér."/>	
1.1.2 Common name	<input type="text" value="African lily; Agapanthus"/>	
1.2 Species / Group (please complete)	<input type="text"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	

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 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 Plant: type (1)		
deciduous	Deep Blue	1[]
evergreen	Cloudy Skies	2[]
5.2 Leaf: variegation (7)		
absent	Blue Velvet	1[]
present	Tinkerbelle	9[]
5.4 Inflorescence bract: opening (14)		
one side	Wiley J	1[]
both sides	Double Diamond	2[]
5.5 Inflorescence: number of flowers (19)		
very few	Peter Pan	1[]
very few to few		2[]
few	Bright Eyes	3[]
few to medium		4[]
medium	Blue Velvet	5[]
medium to many		6[]
many	Magnifico	7[]
many to very many		8[]
very many	Maximus	9[]

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

Characteristics	Example Varieties	Note
5.6(i) Flower bud: main color (22)		
RHS Colour Chart		
(indicate reference number)		
5.6(ii) Flower bud: main color (22)		
white	Double Diamond	1[]
yellow green		2[]
violet	Amethyst	3[]
violet blue	Blue Velvet	4[]
blue		5[]
5.7 Flower: type (29)		
single	Blue Velvet	1[]
semi-double	Double Diamond	2[]
5.8 Anther: color (43)		
white	Lavender Haze	1[]
green	Blue Brush	2[]
blue green	Glen Avon	3[]
light yellow	Ossato Snow	4[]
medium yellow	Polar Ice	5[]
purple	Corinne	6[]
brown	Umbellatus Albus	7[]
blue grey	Sarah	8[]
black	Aberdeen	9[]

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

6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
---	---	--	--

<i>Example</i>	<i>Plant: type</i>	<i>deciduous</i>	<i>evergreen</i>
----------------	--------------------	------------------	------------------

--	--	--	--

--	--	--	--

--	--	--	--

Comments:

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

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

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

Yes [] No []

(If yes, please provide details)

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

Yes [] No []

(If yes, please provide details)

7.3 Other information

A representative color 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]