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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

FREESIA

UPOV Code(s): FREES

Freesia Eckl. ex Klatt

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from the Netherlands
to be considered by the
Enlarged Editorial Committee
at its meeting, to be held in Geneva,
from 2017-01-11 to 2017-01-12

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Freesia Eckl. ex Klatt	Freesia	Freesia	Freesie	Freesia

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.]

TABLE OF CONTENTS PAGE

1. SUBJECT OF THESE TEST GUIDELINES 4
2. MATERIAL REQUIRED 4
3. METHOD OF EXAMINATION 5
3.1 Number of Growing Cycles 5
3.2 Testing Place 5
3.3 Conditions for Conducting the Examination 5
3.4 Test Design 5
3.5 Additional Tests 5
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY 6
4.1 Distinctness 6
4.2 Uniformity 7
4.3 Stability 7
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL 8
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS 10
6.1 Categories of Characteristics 10
6.2 States of Expression and Corresponding Notes 10
6.3 Types of Expression 10
6.4 Example Varieties 11
6.5 Legend 12
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES 13
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS 26
8.1 Explanations covering several characteristics 26
8.2 Explanations for individual characteristics 28
9. LITERATURE 28
10. TECHNICAL QUESTIONNAIRE 41

1. Subject of these Test Guidelines

1.1 These Test Guidelines apply to all varieties of *Freesia* Eckl. ex Klatt.

1.2 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 'Guidance for new types and species' should be followed.

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 able to produce plants to show all the characteristics in the first year of examination.

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

30 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 or 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 of plants 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, 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) Plant: height (characteristic 1)
(b) Spike: length (characteristic 11)
(c) Flower: type (characteristic 19)
(d) Perianth: main color of inner side of outer segments (characteristic 35)
with the following groups
Gr. 1: white
Gr. 2: yellow
Gr. 3: yellow orange
Gr. 4: orange
Gr. 5: pink
Gr. 6: red
Gr. 7: violet
Gr. 8: blue violet
Gr. 9: blue
(e) Perianth: main color of inner side of inner segment (characteristic 43)
with the following groups
Gr. 1: white

Gr. 2: yellow
Gr. 3: yellow orange
Gr. 4: orange
Gr. 5: pink
Gr. 6: red
Gr. 7: violet
Gr. 8: blue violet
Gr. 9: blue

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1 2	**3 4**	**5 6**	**7**			
	Name of characteristics in English	**Nom du caractère en français**	**Name des Merkmals auf Deutsch**	**Nombre del carácter en español**		
	states of expression	types d’expression	Ausprägungsstufen	tipos de expresión		

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression
QL Qualitative characteristic – see Chapter 6.3
QN Quantitative characteristic – see Chapter 6.3
PQ Pseudo-qualitative characteristic – see Chapter 6.3

4 Method of observation (and type of plot, if applicable)
MG, MS, VG, VS – see Chapter 4.1.5

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

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

7 Not applicable

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	**(*)**	**QN MG/MS/VG**	**(+) (a)**				
		Plant: height					
		short	basse	niedrig	baja	Fragrant Sunburst	3
		medium	moyenne	mittel	media	Golden Passion	5
		tall	haute	hoch	alta	Algarve	7
2.	**(*)**	**QN MG/MS/VG**	**(a), (b)**				
		Leaf: length					
		short				Grumpy	3
		medium				Anouk	5
		long				Pink Devotion	7
3.		**QN MG/MS/VG**	**(a), (b)**				
		Leaf: width					
		narrow				Lovely Lake	3
		medium				Golden Passion	5
		broad				Clementine	7
4.		**QN VG**	**(a), (b)**				
		Leaf: intensity of green color					
		light					1
		medium				Pink Passion	2
		dark				White Pearl	3
5.	**(*)**	**QN VG**	**(a), (b)**				
		Leaf: attitude of distal part					
		erect				Golden Passion	1
		horizontal				Red Passion	2
		drooping				Hofuni	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	**(*)**	**QN MG/MS/VG**	**(+) (a)**				
		Peduncle: length					
		short	courte	kurz	corta	Vapogom	3
		medium	moyenne	mittel	media	Golden Passion	5
		long	longue	lang	larga	Red Mountain	7
7.		**QN MG/MS/VG**	**(+) (a)**				
		Peduncle: thickness					
		thin	mince	dünn	fino	Vapogom	1
		medium	moyenne	mittel	medio	Golden Passion	2
		thick	épaisse	dick	grueso	Moon River	3
8.	**(*)**	**QN MG/MS/VG**	**(+) (a)**				
		Peduncle: number of branches					
		few					1
		medium					2
		many					3
9.		**QN VG**		**(a)**			
		Peduncle: rugosity					
		absent or weak				Corvette	1
		medium				Zafretweet	2
		strong				Lovely Romance	3
10.	**(*)**	**QN VG**	**(+) (a)**				
		Spike: angle with peduncle					
		small					3
		medium				Yellow Passion	5
		large				Corvette	7
11.	**(*)**	**QN MG/MS/VG**	**(+) (a)**				
		Spike: length					
		short					3
		medium				Yellow Passion	5
		long				Clementine	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	**(*)**	**QN MG/MS/VG**	**(a)**				
		Spike: number of flowers and buds					
		few					3
		medium				Golden Passion	5
		many				Zantrechat	7
13.	**(*)**	**QN MG/VG**	**(+) (a)**				
		Spike: length of rachis between first and second flower					
		short				Fragrant Sunburst	1
		medium				Golden Passion	2
		long				Pink Attraction	3
14.		**QN MG/VG**	**(+) (a)**				
		Spike: length of rachis between second and third flower					
		short				Fragrant Sunburst	1
		medium				Golden Passion	2
		long				Clementine	3
15.	**(*)**	**QN VG**	**(+) (a)**				
		Spike: zig-zag					
		weak				Sunsett River	1
		medium				Clementine	2
		strong				Zafretweet	3
16.	**(*)**	**QN VG**	**(+) (a)**				
		Spike: curvature at distal part					
		absent or weak				Zafretweet	1
		medium				Lovely River	2
		strong					3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17.		**QN VG**	**(+) (a)**				
		Spike: angle between the rows of flowers					
		absent or small				Clementine	1
		medium				Zafretweet	2
		large				White Floret	3
18.	**(*)**	**QN MG/VG**	**(+)**				
		Flower bud: ratio length/width					
		low				Lovely Romance	1
		medium				Lovely River	2
		high				Purple Velvet	3
19.	**(*)**	**QN VG**	**(+) (a), (c)**				
		Flower: type					
		single				Golden Passion	1
		semi-double				Clementine	2
		double				Zafrevil	3
20.		**QN VG**	**(a)**				
		Flower: fragrance					
		absent or weak				Delta River	1
		medium				Gold River	2
		strong				Belleville	3
21.		**QN MG/MS/VG**	**(a), (c), (f)**				
		Bract: length					
		short				Moon River	1
		medium				Gold River	2
		long					3
22.		**QN VG**	**(a), (c), (f)**				
		Bract: intensity of green color					
		light					1
		medium					2
		dark					3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23.		**QN VG**	**(a), (c), (f)**				
		Bract: anthocyanin coloration					
		absent or weak					1
		medium					2
		strong					3
24.	**(*)**	**QN MG/MS/VG**	**(a), (c), (f)**				
		Perianth tube: length					
		short	court	kurz	corto		1
		medium	moyen	mittel	medio	Lovely River	2
		long	long	lang	largo	Golden Passion	3
25.	**(*)**	**PQ VG**	**(a), (c), (f)**				
		Perianth tube: main color					
		RHS Colour Chart (indicate reference number)					
26.	**(*)**	**QN MG/MS/VG**	**(a), (c), (f)**				
		Perianth throat: length					
		short				Anouk	1
		medium				Zapogrum	2
		long				White River	3
27.	**(*)**	**QN MG/VG**	**(a), (c), (f)**				
		Perianth throat: width of distal part					
		narrow				Zafretweet	1
		medium				Corvette	2
		broad				Clementine	3
28.		**PQ VG**	**(a), (c), (f)**				
		Perianth throat: main color of outer side					
		RHS Colour Chart (indicate reference number)					
29.	**(*)**	**PQ VG**	**(a), (c), (f)**				
		Perianth throat: main color of inner side					
		RHS Colour Chart (indicate reference number)					

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
30.	**(*)**	**QN**	**VG**	**(+)**	**(a), (c), (f)**				
		Perianth throat: number of stripes on the ventral part of inner side							
		few						Sunsett River	3
		medium						Red Passion	5
		many						Clementine	7
31.	**(*)**	**QN**	**MG/VG**		**(a), (c), (d), (f)**				
		Perianth: length of outer segment							
		short						Red Passion	3
		medium						Golden Passion	5
		long						Hofuni	7
32.	**(*)**	**QN**	**MG/VG**		**(a), (c), (d), (f)**				
		Perianth: width of outer segment							
		narrow						Fragrant Sunburst	3
		medium						Golden Passion	5
		broad						Zafremijou	7
33.		**QN**	**MG/VG**	**(+)**	**(a), (c), (d), (f)**				
		Perianth: ratio length/width of outer segments							
		low							1
		medium							2
		high							3
34.	**(*)**	**QN**	**VG**		**(a), (c), (d), (f)**				
		Perianth: position of broadest part of outer segments							
		towards base							1
		at middle						Lovely Lake	2
		towards apex						Boulevard	3

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35.	**(*)**	**PQ**	**VG**		**(a), (c), (d), (e)**				
		Perianth: main color of inner side of outer segments							
		RHS colour chart (indicate reference number)							
36.	**(*)**	**PQ**	**VG**		**(a), (c), (d), (e), (f)**				
		Perianth: secondary color of inner side of outer segments (if present)							
		RHS Colour Chart (indicate reference number)							
37.	**(*)**	**PQ**	**VG**	**(+)**	**(a), (c), (d), (f)**				
		Perianth: distribution of secondary color of inner side of outer segment							
		at base						Lovely Lake	1
		flushed						Boulevard	2
		along veins						Zafremijou	3
38.	**(*)**	**QN**	**MG/VG**		**(a), (c), (d), (f)**				
		Perianth: length of inner segment							
		short						Port Salut	3
		medium						Lovely Romance	5
		long						Red Mountain	7
39.	**(*)**	**QN**	**MG/VG**		**(a), (c), (d), (f)**				
		Perianth: width of inner segment							
		narrow						Festival	3
		medium						Zapogrum	5
		broad						Zafrebini	7

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
40.	**(*)**	**QN**	**MG/VG**	**(+)**	**(a), (c), (d), (f)**				
		Perianth: ratio length/width of inner segment							
		low							1
		medium							2
		high							3
41.	**(*)**	**QN**	**VG**		**(a), (c), (d), (f)**				
		Perianth: position of broadest part of inner segment							
		towards base						Lovely Lake	1
		at middle						Zafrevil	2
		towards apex							3
42.	**(*)**	**QN**	**VG**	**(+)**	**(a), (c), (d), (f)**				
		Perianth: attitude of inner segment							
		semi-erect						Lovely White	1
		horizontal						Golden Passion	2
		reflexed							3
43.	**(*)**	**PQ**	**VG**		**(a), (c), (d), (e), (f)**				
		Perianth: main color of inner side of inner segment							
		RHS Colour Chart (indicate reference number)							
44.	**(*)**	**PQ**	**VG**		**(a), (c), (d), (e), (f)**				
		Perianth: secondary color of inner side of inner segment							
		RHS Colour Chart (indicate reference number)							

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
45.	**(*)**	**PQ**	**VG**	**(+)**	**(a), (c), (d), (f)**				
		Perianth: distribution of secondary color of inner side of inner segment							
		at base						Lovely Lake	1
		flushed						Pink Attraction	2
		along veins						Zafrepapil	3
46.		**QN**	**VG**	**(+)**	**(a), (c), (d), (f)**				
		Perianth: area of secondary color at base of inner side of inner segment							
		small							3
		medium							5
		large							7
47.	**(*)**	**PQ**	**VG**		**(a), (c), (f), (g)**				
		Filament: main color							
		white						Clementine	1
		yellow						Yellow Passion	2
		blue							3
48.	**(*)**	**QL**	**VG**	**(+)**	**(a), (c), (f), (g)**				
		Anther: main color							
		white						Golden Passion	1
		violet						Red Passion	2
49.	**(*)**	**PQ**	**VG**		**(a), (c), (e), (f), (g)**				
		Style: main color							
		white						Golden Passion	1
		yellow						Vancouver	2
		blue						Purple Velvet	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
50.		**QN** **VG**	**(+)** **(a), (c), (f), (g)**				
		Stigma: position in relation to anthers					
		below				Clementine	1
		same level				Golden Passion	2
		above				Red Passion	3
51.	**(*)**	**QN** **MG/VG**	**(+)** **(a), (c), (f), (g)**				
		Stigma: length of lobes					
		short					1
		medium				Vancouver	2
		long				Clementine	3
52.		**QN** **VG**	**(+)** **(a), (c), (f), (g)**				
		Stigma: appearance of lobes					
		fine				Pink Devotion	1
		medium				Clementine	2
		coarse					3
53.		**QN** **VG**	**(+)** **(a), (c), (f), (g)**				
		Stigma: color in relation to upper part of style					
		lighter				Fragrant Sunburst	1
		same				Golden Passion	2
		darker				Red Passion	3

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) Observations on plant, leaf, peduncle, spike and flower should be made when 50% of the flowers on a spike have opened.

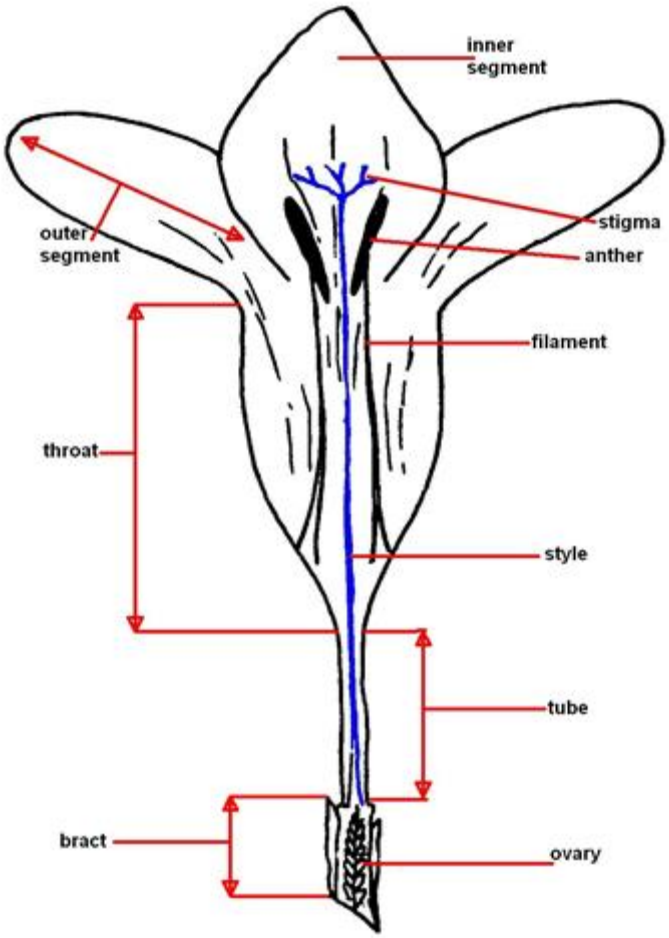
(b) Observations on leaves should be made on the longest fully expanded leaves.

(c) Observations on bracts and flower should be made on fully open flowers of the main spike.

(d) Observations on the inner and outer segments should be made on the largest segment of the flowers of the main spike.

(e) The main color is the color with the largest surface area. In cases where the areas of the main and secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color. In cases where the areas of the secondary and tertiary color are approximately the same, the darker color is considered to be the secondary color.

(f)



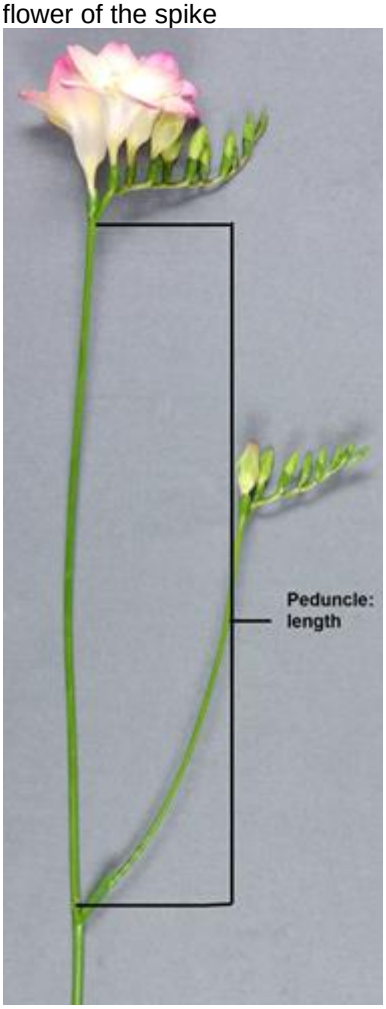
(g) Observations on filament, anther, style and stigma should be made on single and semi-double flowers.

8.2 Explanations for individual characteristics

Ad. 1: Plant: height

Ad. 6: Peduncle: length

Peduncle length should be observed from the point of attachment of the upper lateral branch to the first flower of the spike



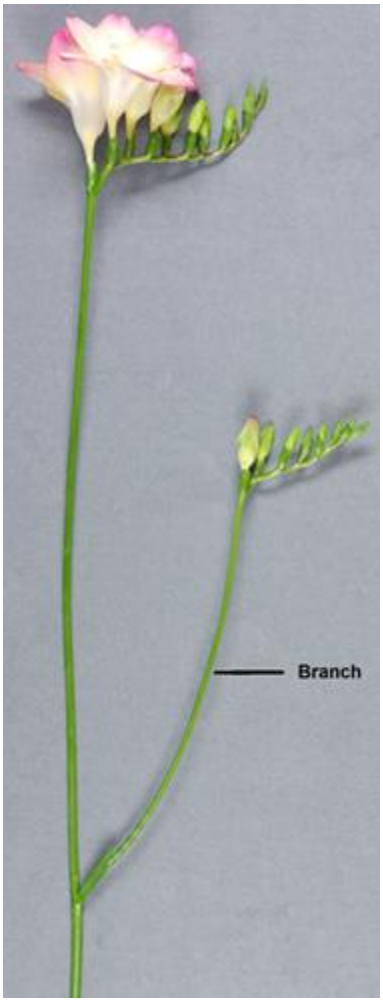
Ad. 7: Peduncle: thickness

Peduncle thickness should be observed at the middle third of the peduncle

Ad. 8: Peduncle: number of branches

The total number of branches of the peduncle should be observed.

Note 1 (few): < 3 branches
Note 2 (medium): 3 – 5 branches
Note 3 (many): > 5 branches



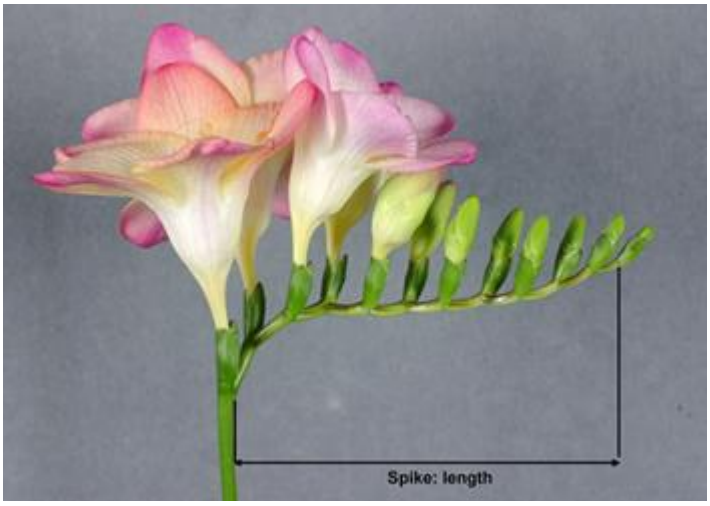
Ad. 10: Spike: angle with peduncle

3
small

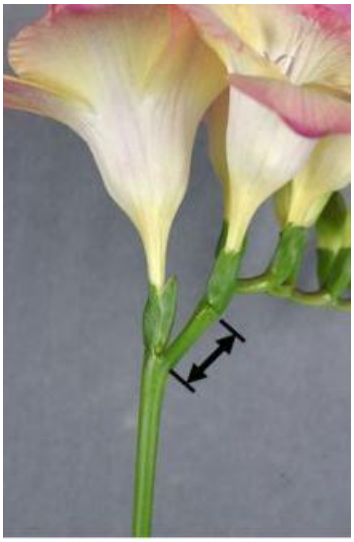
5
medium

7
large

Ad. 11: Spike: length



Ad. 13: Spike: length of rachis between first and second flower



Ad. 14: Spike: length of rachis between second and third flower

Ad. 15: Spike: zig-zag

1
weak

2
medium

3
strong

Ad. 16: Spike: curvature at distal part

1
absent or weak

2
medium

3
strong

Ad. 17: Spike: angle between the rows of flowers

1
absent or small

2
medium

3
large

Ad. 18: Flower bud: ratio length/width

Observations on bud should be made on the first flower of the main spike just before opening of the bud.

1
low

2
medium

3
high

Ad. 19: Flower: type

Semi-double flowers have between 7 and 9 tepals. Double flowers have more than 9 tepals.

1
single

2
semi-double

3
double

Ad. 30: Perianth throat: number of stripes on the ventral part of inner side

Ad. 33: Perianth: ratio length/width of outer segments

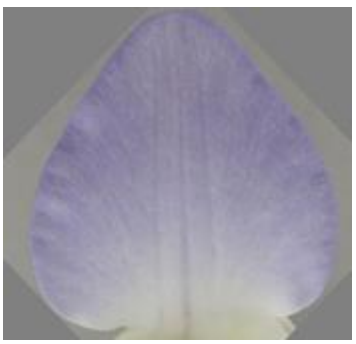
1
low

2
medium

3
high

Ad. 37: Perianth: distribution of secondary color of inner side of outer segment

1
at base



2
flushed

3
along veins

Ad. 40: Perianth: ratio length/width of inner segment

1
low

2
medium

3
high

Ad. 42: Perianth: attitude of inner segment

1
semi-erect

2
horizontal

3
reflexed

Ad. 45: Perianth: distribution of secondary color of inner side of inner segment

1
at base

2
flushed

3
along veins

Ad. 46: Perianth: area of secondary color at base of inner side of inner segment

3
small

5
medium

7
large

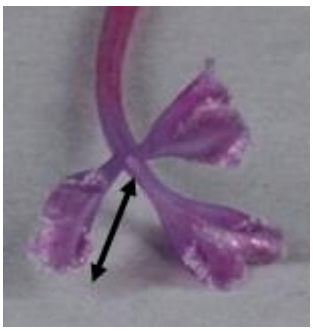
Ad. 48: Anther: main color

Observations on the color should be made just before dehiscence of the anther.

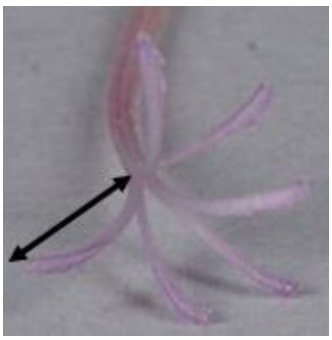
Ad. 50: Stigma: position in relation to anthers

Observations on the position of the style should be made just before dehiscence of the anthers.

Ad. 51: Stigma: length of lobes



1
short



2
medium

3
long

Ad. 52: Stigma: appearance of lobes

1
fine

2
medium

3
coarse

Ad. 53: Stigma: color in relation to upper part of style

Observation on color of upper part of style should be made just before dehiscence of the anthers.

9. Literature

Bryan, John. E., 2002: Bulbs. Timber Press. Portland, Oregon, US, page 233 to page 235

Synge, Patrick M., 1961: Collins Guide to Bulbs. R & R Clark LTD, Edinburgh, UK, page 126 to page 127

Chittenden, Fred J., 1977: Dictionary of Gardening. Clarendon Press, Oxford, UK, page 836 to page 837

10. Technical Questionnaire

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

	Application date: (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

1.1	Botanical name	*Freesia* Eckl. ex Klatt
1.2	Common name	Freesia

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	

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 Seed-propagated varieties

(a) Self-pollination [ ]
(b) Hybrid [ ]
(c) Other (please provide details) [ ]

4.2.2 Vegetative propagation

(a) Corms [ ]

(b) Other (state method) [ ]

4.2.3 Other [ ]
(Please provide details)

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

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

	Characteristics	Example Varieties	Note
5.1 (1)	**Plant: height**		
	very short		1 [ ]
	very short to short		2 [ ]
	short	Fragrant Sunburst	3 [ ]
	short to medium		4 [ ]
	medium	Golden Passion	5 [ ]
	medium to tall		6 [ ]
	tall	Algarve	7 [ ]
	tall to very tall		8 [ ]
	very tall		9 [ ]
5.2 (11)	**Spike: length**		
	very short		1 [ ]
	very short to short		2 [ ]
	short		3 [ ]
	short to medium		4 [ ]
	medium	Yellow Passion	5 [ ]
	medium to long		6 [ ]
	long	Clementine	7 [ ]
	long to very long		8 [ ]
	very long		9 [ ]
5.3 (19)	**Flower: type**		
	single	Golden Passion	1 [ ]
	semi-double	Clementine	2 [ ]
	double	Zafrevil	3 [ ]

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

	Characteristics	Example Varieties	Note
5.4 (35)	**Perianth: main color of inner side of outer segments**		
	RHS colour chart (indicate reference number)		
	white		1 [ ]
	yellow		2 [ ]
	yellow orange		3 [ ]
	orange		4 [ ]
	pink		5 [ ]
	red		6 [ ]
	violet		7 [ ]
	blue violet		8 [ ]
	blue		9 [ ]
5.5 (43)	**Perianth: main color of inner side of inner segment**		
	RHS Colour Chart (indicate reference number)		
	white		1 [ ]
	yellow		2 [ ]
	yellow orange		3 [ ]
	orange		4 [ ]
	pink		5 [ ]
	red		6 [ ]
	violet		7 [ ]
	blue violet		8 [ ]
	blue		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

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)"

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (http://www.upov.int/tgp/en/).

[The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

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:

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

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

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

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

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

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

.....

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

Applicant’s name

Signature Date

[End of document]