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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

GAZANIA *

UPOV Code(s): GAZAN

Gazania Gaertn.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from South Africa
to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its fiftieth session, to be held in Victoria, British Columbia, Canada
from 2017-09-11 to 2017-09-15

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Gazania Gaertn.	Gazania, Treasure Flower	Gazania	Gazania	Gazania

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 *Gazania* Gaertn.

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 seed or 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:

Vegetatively propagated varieties: 10 plants
Seed-propagated varieties: sufficient seed to produce 40 plants

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

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

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

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 10 plants for vegetatively propagated varieties, and 40 plants for seed-propagated varieties.

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

In the case of vegetatively propagated varieties, unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 9 plants or parts taken from each of 9 plants and any other observation made on all plants in the test, disregarding any off-type plants.

In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 1.

In the case of seed-propagated varieties, unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observation made on all plants in the test, disregarding any off-type plants.

In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 1.

4.1.5 Method of Observation

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

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

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

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

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

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

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

4.2 Uniformity

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

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

4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed. For the assessment of uniformity of seed-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 40 plants, 2 off-types are allowed.

4.3 Stability

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

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

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: growth habit (characteristic 1)
(b) Plant: leaf lobing (characteristic 4)
(c) Leaf: secondary color of upper side (characteristic 8)
(d) Flower head: disc type (characteristic 15)
(e) Ray floret: basal spot eye-marking (characteristic 32)
(f) Ray floret: color of basal spot eye-marking (characteristic 33)
(g) Ray floret: color covering the greatest surface area of upper side, with the following groups:
Gr. 1: whitish
Gr. 2: yellow
Gr. 3: orange
Gr. 4: pink
Gr. 5: red

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

7 Growth stage key See Explanations on the Table of Characteristics in Chapter 8

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	**(*)**	**PQ VG**	**(+)**				
		Plant: growth habit					
		upright					1
		semi-upright					2
		spreading				Malan's Variegata	3
2.		**QN MG/VG**					
		Plant: height					
		very short					1
		short				Malpin	3
		medium					5
		tall				Flogazsun	7
		very tall					9
3.		**QN MG/VG**					
		Plant: width					
		very narrow					1
		narrow					3
		medium					5
		broad					7
		very broad					9
4.	**(*)**	**QN VG**	**(+)**				
		Plant: leaf lobing					
		absent or weak				Sunhara	1
		medium				Flogazsun	3
		strong				Malpin, Suga602	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.		**QN MG/MS/VG**	**(+) (a)**				
		Leaf: length					
		very short					1
		short				Gazte	3
		medium				G414	5
		long				Suga602	7
		very long					9
6.		**QN MG/MS/VG**	**(+) (a)**				
		Leaf: width					
		very narrow				Suga415	1
		narrow				Gazte	3
		medium				NPN13	5
		broad				G414	7
		very broad					9
7.	**(*)**	**PQ VG**	**(+) (a), (b)**				
		Leaf: main color of upper side					
		light green					1
		medium green				Suga602	2
		dark green				G414	3
		greyish green				Suga813	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
8.	**(*)**	**PQ** **VG**	**(a), (b)**				
		Leaf: secondary color of upper side					
		none				G414	1
		white					2
		yellowish white				Gazte	3
		yellow				Malan's Variegata	4
9.		**PQ** **VG**	**(a), (b)**				
		Leaf: distribution of secondary color of upper side					
		marginal				Gazte	1
		central					2
		irregular					3
10.		**QN** **VG**	**(a)**				
		Leaf: glossiness of upper side					
		absent or weak				Suga602	1
		medium				Malpin	3
		strong				Flogazsun	5
11.	**(*)**	**QN** **VG**	**(a)**				
		Leaf: pubescence of upper side					
		absent or weak				Flogazsun	1
		medium				Malpin, Suga602	3
		strong				Suga813	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	**(*)**	**QN MG/VG**					
		Peduncle: length					
		short				Malpin	3
		medium				G414	5
		long				Flogazsun	7
13.		**QN VG**	**(+)**				
		Peduncle: anthocyanin coloration					
		absent or weak				Sunhara	1
		medium					3
		strong					5
14.	**(*)**	**QN MG/MS/VG**	**(+)** **(c)**				
		Flower head:diameter					
		very small					1
		small				Malpin	3
		medium				Flogazsun	5
		large				Suga415	7
		very large					9
15.	**(*)**	**QL VG**	**(+)** **(c)**				
		Flower head: disc type					
		daisy				Malpin	1
		anemone				Suga407	2

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16.		**QN VG**	**(+) (c)**				
		Flower head: size of disc in relation to flower head					
		small				Suga813	1
		medium				Malan's Variegata	3
		large				G414	5
17.		**QN MG/MS/VG**	**(c)**				
		Flower head: number of ray florets					
		few				Gazte	1
		medium				Suga407	3
		many				G414	5
18.	**(*)**	**QN MG/MS/VG**	**(+) (c), (d)**				
		Ray floret: length					
		short				Suga813	1
		medium				G414	3
		long				Suga407	5
19.	**(*)**	**QN MG/MS/VG**	**(+) (c), (d)**				
		Ray floret: width					
		narrow				Suga813	1
		medium				Sugajale	3
		broad				NPN13	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
20.	**(*)**	**QN VG**	**(+) (c), (d)**				
		Ray floret: ratio length/width					
		low				G414	1
		medium				Sugaja	3
		high				Sugamo	5
21.	**(*)**	**PQ VG**	**(c), (d), (e)**				
		Ray floret: color one					
		(indicate reference number)					
		RHS Colour Chart					
22.	**(*)**	**PQ VG**	**(+) (c), (d), (e)**				
		Ray floret: distribution of color one					
		at base					1
		basal 1/3					2
		basal 2/3					3
		middle 1/3					4
		distal 2/3					5
		distal 1/3					6
		at apex					7
		central stripe basal 1/3					8
		central stripe basal 2/3					9
		central stripe middle 1/3					10
		central stripe distal 2/3					11
		central stripe distal 1/3					12
		central stripe throughout					13
		basal spot					14
		lateral zone basal 1/3					15
		lateral zone basal 2/3					16
		lateral zone distal 2/3					17
		lateral zone distal 1/3					18
		lateral zone					19
		throughout					20

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23.	**PQ VG**	**(c), (d), (e)**				
	Ray floret: color two (if present)					
	(indicate reference number)					
	RHS Colour Chart					
24.	**PQ VG**	**(+) (c), (d), (e)**				
	Ray floret: distribution of color two					
	at base					1
	basal 1/3					2
	basal 2/3					3
	middle 1/3					4
	distal 2/3					5
	distal 1/3					6
	at apex					7
	central stripe basal 1/3					8
	central stripe basal 2/3					9
	central stripe middle 1/3					10
	central stripe distal 2/3					11
	central stripe distal 1/3					12
	central stripe throughout					13
	basal spot					14
	lateral zone basal 1/3					15
	lateral zone basal 2/3					16
	lateral zone distal 2/3					17
	lateral zone distal 1/3					18
	lateral zone					19

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25.	**PQ VG**	**(c), (d), (e)**				
	Ray floret: color three (if present)					
	(indicate reference number)					
	RHS Colour Chart					
26.	**PQ VG**	**(+) (c), (d), (e)**				
	Ray floret: distribution of color three					
	at base					1
	basal 1/3					2
	basal 2/3					3
	middle 1/3					4
	distal 2/3					5
	distal 1/3					6
	at apex					7
	central stripe basal 1/3					8
	central stripe basal 2/3					9
	central stripe middle 1/3					10
	central stripe distal 2/3					11
	central stripe distal 1/3					12
	central stripe throughout					13
	basal spot					14
	lateral zone basal 1/3					15
	lateral zone basal 2/3					16
	lateral zone distal 2/3					17
	lateral zone distal 1/3					18
	lateral zone					19

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27.	**PQ VG**	**(c), (d), (e)**				
	Ray floret: color four (if present)					
	(indicate reference number)					
	RHS Colour Chart					
28.	**PQ VG**	**(+) (c), (d), (e)**				
	Ray floret: distribution of color four					
	at base					1
	basal 1/3					2
	basal 2/3					3
	middle 1/3					4
	distal 2/3					5
	distal 1/3					6
	at apex					7
	central stripe basal 1/3					8
	central stripe basal 2/3					9
	central stripe middle 1/3					10
	central stripe distal 2/3					11
	central stripe distal 1/3					12
	central stripe throughout					13
	basal spot					14
	lateral zone basal 1/3					15
	lateral zone basal 2/3					16
	lateral zone distal 2/3					17
	lateral zone distal 1/3					18
	lateral zone					19

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29.		**QN**	**VG**	**(+)**	**(c), (d)**				
		Ray floret: cross section at mid point							
		concave						G414	1
		flat							3
		convex						NPN13	5
30.	**(*)**	**QN**	**VG**	**(+)**	**(c), (d)**				
		Ray floret: curvature of longitudinal axis							
		moderately incurving							1
		weakly incurving						NPN13	2
		straight						G414	3
		weakly recurving						Malpin, Suga407	4
		moderately recurving							5
31.	**(*)**	**PQ**	**VG**	**(+)**	**(c), (d)**				
		Ray floret: shape of apex							
		acuminate						G414	1
		acute						Suga407	2
		obtuse						NPN13	3
		rounded						Suga813	4
32.	**(*)**	**QL**	**VG**						
		Ray floret: basal spot eye-marking							
		absent						G414	1
		present						Flogazsun	9

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33.	**(*)**	**PQ**	**VG**		**(c), (d)**				
		Ray floret: color of basal spot eye-marking							
		white						Flogazhip	1
		yellow						Flogazsun	2
34.	**(*)**	**PQ**	**VG**	**(+)**	**(c)**				
		<u>Only daisy type varieties:</u> Disc: color							
		yellow						Flogazsun	1
		orange						NPN13	2
		red brown							3
		purple black							4
35.	**(*)**	**QN**	**VG**		**(c)**				
		<u>Only anemone type varieties:</u> Disc floret: length							
		short						Suga415	1
		medium						G414	3
		long						Suga407	5
36.	**(*)**	**PQ**	**VG**						
		<u>Only anemone type varieties:</u> Disc floret: type							
		predominantly funnel shaped						Vesuvius	1
		equally funnel shaped and petaloid						Sunhara, G414	2
		predominantly petaloid						Suga407	3
37.	**(*)**	**PQ**	**VG**		**(b), (c)**				
		<u>Only anemone type varieties:</u> Disc floret: main color							
		(indicate reference number)							
		RHS Colour Chart							

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:

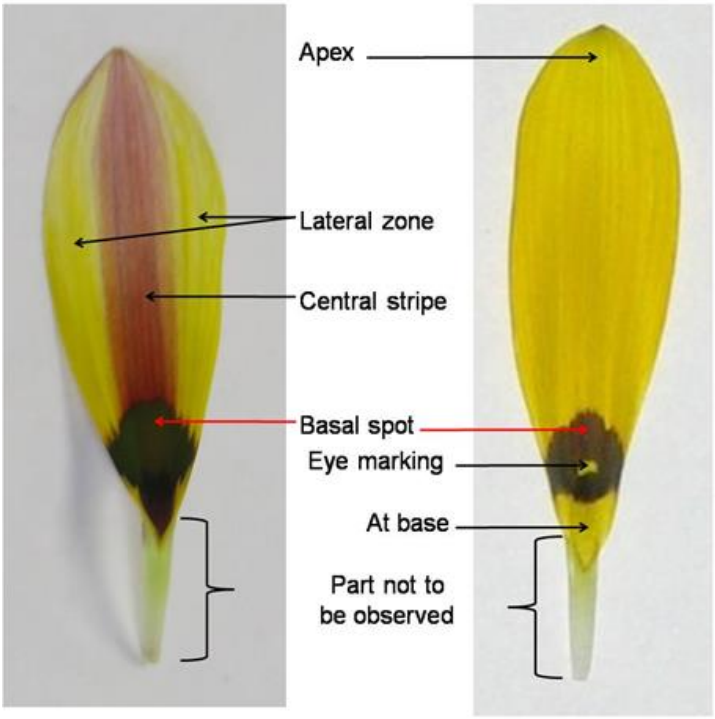
(a) Observations on the leaf should be made on fully developed typical leaves from the middle part of the plant. If there are only rosette leaves, fully developed typical rosette leaves should be observed.

(b) The main color is the color with the largest surface area. The secondary color is the color with the second largest surface area. In cases where the area 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.

(c) Observations on the flower head and flower head parts should be made on a fresh, fully open flower head.

(d) Observations on the ray floret should be made on a ray floret from the outer whorl.

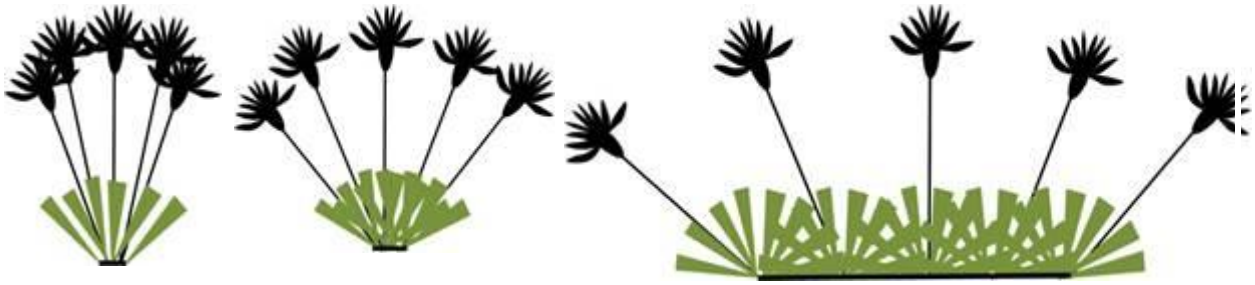
Ray floret parts



(e) This Guideline makes provision for four colors; if there are more, the color[s] with the smallest surface area[s] should be discounted. The basal spot eye-marking should also be excluded. Where the characteristic refers to colors as "one", "two" etc., they are to be recorded in the order that they appear on the RHS chart, i.e. color one is the one with the lowest number, color two with the second lowest and so on. If two colors are on the same leaf of the chart, for example Green 137A and Green 137D, 137A is regarded as the lower numbered color. It should be noted that under this system, ranking is independent of surface area, so the color covering the greatest surface area may be classified as color three or four.

8.2 Explanations for individual characteristics

Ad. 1: Plant: growth habit



upright
1

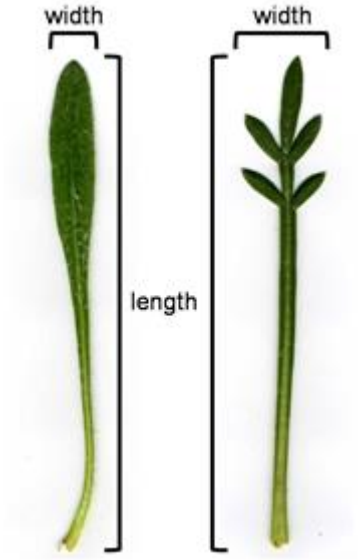
semi-upright
2

spreading
3

Ad. 4: Plant: leaf lobing

Leaf lobing might be absent in some leaves, and present in other leaves of the same plant. In such cases, the predominant leaf type should be observed.

Ad. 5: Leaf: length



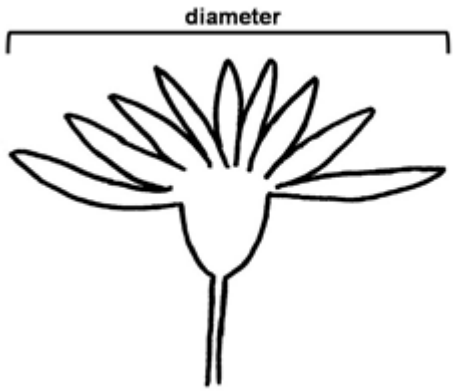
Ad. 6: Leaf: width

See Ad. 5

Ad. 13: Peduncle: anthocyanin coloration

To be observed on the middle third of the peduncle.

Ad. 14: Flower head: diameter



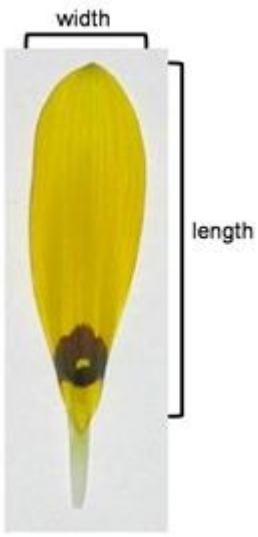
Ad. 15: Flower head: disc type

1. daisy: flower heads with a clearly defined central disc.
2. anemone: flower heads with a central "cushion" “(disc)” of petaloid disc florets.

Ad. 16: Flower head: size of disc in relation to flower head

small	medium	large
1	3	5

Ad. 18: Ray floret: length



Ad. 19: Ray floret: width

See Ad. 18

Ad. 20: Ray floret: ratio length/width

low
1

medium
3

high
5

Ad. 22: Ray floret: distribution of color one


at base
1


basal 1/3
2


basal 2/3
3


middle 1/3
4


distal 2/3
5


distal 1/3
6


at apex
7


central stripe
basal 1/3
8


central stripe
basal 2/3
9


central stripe
middle 1/3
10


central stripe
distal 2/3
11


central stripe
distal 1/3
12


central stripe
throughout
13


basal spot
14


lateral zone
basal 1/3
15


lateral zone
basal 2/3
16


lateral zone
distal 2/3
17


lateral zone
distal 1/3
18


lateral zone
19


throughout
20

Ad. 24: Ray floret: distribution of color two


at base
1


basal 1/3
2


basal 2/3
3


middle 1/3
4


distal 2/3
5


distal 1/3
6


at apex
7


central stripe
basal 1/3
8


central stripe
basal 2/3
9


central stripe
middle 1/3
10


central stripe
distal 2/3
11


central stripe
distal 1/3
12


central stripe
throughout
13


basal spot
14


lateral zone
basal 1/3
15


lateral zone
basal 2/3
16


lateral zone
distal 2/3
17


lateral zone
distal 1/3
18


lateral zone
19

Ad. 26: Ray floret: distribution of color three

See Ad. 24

Ad. 28: Ray floret: distribution of color four

See Ad. 24

Ad. 29: Ray floret: cross section at mid point

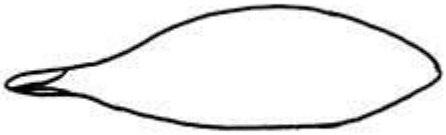
concave
1

flat
3

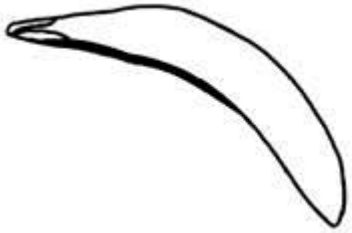
convex
5

Ad. 30: Ray floret: curvature of longitudinal axis

moderately incurving
1



straight
3



moderately recurving
5

Ad. 31: Ray floret: shape of apex

acute
2

obtuse
3

rounded
4

Ad. 34: Only daisy type varieties: Disc: color

Observations should be made when the anthers in the outer 2 to 3 rows of disc florets have dehisced.

8.3 Unless otherwise indicated, observations should be made at the time of full flowering.

9. Literature

Leistner, O.A. (ed.), 2000: Seed plants of southern Africa: families and genera. Strelitzia 10. National Botanical Institute. Pretoria, Gauteng, South Africa, p. 139.

Magee, A.R., Boatwright, J.S., Mucina, L., 2011: *Gazania lanata* and *G. splendidissima*: Two new species of Asteraceae (tribe Arctotideae) from the Greater Capensis, with an updated key for the genus. South African Journal of Botany, 77, pp. 86 to 93.

Trinder-Smith, T.H., 2003: The Levyns Guide to the Plant Genera of the Southwestern Cape. Contributions from the Bolus Herbarium Number 21. Red Roof Design cc, Cape Town, South Africa, p. 311.

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	*Gazania* Gaertn.
1.2	Common name	Gazania, Treasure Flower
1.3	Species:	

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) Cross-pollination [ ]
(b) Other (please provide details) [ ]

4.2.2 Vegetative propagation

(a) Cuttings [ ]
(b) *In vitro* propagation [ ]
(c) 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: growth habit**		
	upright		1 [ ]
	semi-upright		2 [ ]
	spreading	Malan's Variegata	3 [ ]
5.2 (4)	**Plant: leaf lobing**		
	absent or weak	Sunhara	1 [ ]
	medium	Flogazsun	3 [ ]
	strong	Malpin, Suga602	5 [ ]
5.3 (8)	**Leaf: secondary color of upper side**		
	none	G414	1 [ ]
	white		2 [ ]
	yellowish white	Gazte	3 [ ]
	yellow	Malan's Variegata	4 [ ]
5.4 (15)	**Flower head: disc type**		
	daisy	Malpin	1 [ ]
	anemone	Suga407	2 [ ]
5.5 (32)	**Ray floret: basal spot eye-marking**		
	absent	G414	1 [ ]
	present	Flogazsun	9 [ ]
5.6 (33)	**Ray floret: color of basal spot eye-marking**		
	white	Flogazhip	1 [ ]
	yellow	Flogazsun	2 [ ]

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	*Leaf: length*	*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.]

Ray floret: color covering the greatest surface area of upper side, with the following groups:
Gr. 1: whitish
Gr. 2: yellow
Gr. 3: orange
Gr. 4: pink
Gr. 5: red

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”.

.....

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes [ ]

(please provide details as specified by the Authority)

No [ ]

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

Applicant’s name

Signature Date

[End of document]