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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

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DRAFT

ANTHURIUM

UPOV Code(s): ANTHU

Anthurium Schott

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by experts from Japan
to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its fifty-second session, to be held in Roelofarendsveen, Netherlands,
from 2020-06-08 to 2020-06-12*

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Anthurium</i> Schott	Anthurium	Anthurium	Flamingoblume	Anthurium

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 *Anthurium* Schott.

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 young plants.

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

6 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*

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

3.1.2 The testing of a variety may be conducted when the competent authority can determine with certainty the outcome of the test.

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 6 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 5 plants or parts of plants taken from each of 5 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 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 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" Section 4.5 "Testing Uniformity" should be followed.
- 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 6 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) Flower: number of spathes (characteristic 18)
 - (c) Spathe: length (characteristic 19)
 - (d) Spathe: main color of upper side (characteristic 28)
 - Gr. 1: white
 - Gr. 2: green
 - Gr. 3: yellow
 - Gr. 4: orange
 - Gr. 5: pink
 - Gr. 6: red
 - Gr. 7: purple
 - Gr. 8: brown
 - (e) Spathe: secondary color of upper side (characteristic 29)
 - Gr. 1: white
 - Gr. 2: green
 - Gr. 3: yellow
 - Gr. 4: orange
 - Gr. 5: pink
 - Gr. 6: red
 - Gr. 7: purple
 - Gr. 8: brown
 - (f) Spathe: distribution of secondary color of upper side (characteristic 30)
 - (g) Spadix: main color of basal part (characteristic 43)
 - (h) Spadix: main color of distal part (characteristic 44)

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)-(c) 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	MS	(+)				
	Plant: height						
	short					ANTHDOSDOH	3
	medium					ANTHCAPBUK	5
	tall					ANTHARYSIA	7
2. (*)	QN	MS	(+)	(a)			
	Leaf blade: length						
	short					ANTHEPEDI	3
	medium					ANTHCAPBUK	5
	long					ANTHARYSIA	7
3. (*)	QN	MS	(+)	(a)			
	Leaf blade: width						
	narrow					RYN2009006	3
	medium					ANTHCAPBUK	5
	broad					ANTHAQUIRE	7
4. (*)	QN	MS	(+)	(a)			
	Leaf blade: ratio length/width						
	low					RIJN200565	3
	medium					ANTHCAMZIP	5
	high					ANTHDUBAQ	7
5. (*)	QL	VG	(+)	(a)			
	Leaf blade: lobes at base						
	absent					ANTHDOSDOH	1
	present					ANTHBNZL	9

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	PQ	VG	(+)	(a)				
	Leaf blade: relative position of lobes at base							
	separated by obtuse angle							1
	separated by acute angle							2
	incurved but not touching							3
	touching							4
	overlapping							5
	adpressed							6
7.	PQ	VG	(+)	(a)				
	Leaf blade: angle of distal part							
	acute							1
	approximately right angle							2
	obtuse							3
8. (*)	QL	VG		(a)				
	Leaf blade: tip at apex							
	absent							1
	present							9
9.	QN	VG	(+)	(a)				
	Leaf blade: width of tip at apex							
	narrow							1
	medium							2
	wide							3
10.	QN	VG		(a)				
	Leaf blade: intensity of green color of <u>upper</u> side							
	light						ANTHDOSDOH	3
	medium						ANTHBNZL	5
	dark						ANTHARYSIA	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. (*)	QN VG	(+) (a)				
	Leaf blade: conspicuousness of veins of <u>upper</u> side					
	absent or weak					1
	strong				A. clarinervium	2
12.	QN VG	(a)				
	Leaf blade: blistering of <u>upper</u> side					
	absent or very weak				ANTHDOSDOH	1
	weak				ANTHCIMWI	2
	medium				ANTHCAPBUK	3
	strong				ANTHAHOTO	4
	very strong					5
13.	QN MS	(a)				
	Petiole: length					
	short				ANTHEBENEX	3
	medium				ANTHBNZL	5
	long				ANTHAQUIRE	7
14. (*)	QN MS	(b)				
	Peduncle: length					
	short				ANTHEPEDI	3
	medium				ANTHCAPBUK	5
	long				ANTHAQUIRE	7
15.	QN MS	(+) (b)				
	Peduncle: thickness					
	very thin					1
	thin				ANTHEPEDI	2
	medium				ANTHCAPBUK	3
	thick				ANTHAQUIRE	4
	very thick					5

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16.	QN	VG		(b)				
	Peduncle: anthocyanin coloration							
	absent or very weak						ANTHCAPBUK	1
	weak						ANTHBNZL	3
	medium							5
	strong						ANTHEBENEX	7
	very strong							9
17. (*)	QN	VG	(+)	(b)				
	Flower: position in relation to foliage							
	slightly below							1
	same level						ANTHBNEK	2
	slightly above						ANTHEPEDI	3
	above						ANTHEBENEX	4
18. (*)	QL	VG	(+)	(b)				
	Flower: number of spathes							
	one						ANTHBNZL	1
	two						KURIN HEART	2
19. (*)	QN	MS	(+)	(b)				
	Spathe: length							
	short						ANTHEBENEX	3
	medium						ANTHEPEDI	5
	long						ANTHARYSIA	7
20. (*)	QN	MS	(+)	(b)				
	Spathe: width							
	narrow						RIJN200332	3
	medium						ANTHEPEDI	5
	wide						ANTHAQUIRE	7
21.	QN	MS	(+)	(b)				
	Spathe: ratio length/width							
	low						ANTHCAPBUK	3
	medium						ANTHAQUIRE	5
	high						ANTHEQIWIK	7

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22. (*)	QN	VG	(+)	(b)				
	Spathe: position of broadest part							
	toward base							1
	at middle							2
23. (*)	QL	VG	(+)	(b)				
	Spathe: lobes at base							
	absent						ANTHDOSDOH	1
	present						ANTHBNZL	9
24.	PQ	VG	(+)	(b)				
	Spathe: relative position of lobes at base							
	separated by obtuse angle							1
	separated by acute angle							2
	incurved but not touching							3
	touching							4
	overlapping							5
	adpressed							6
25.	PQ	VG	(+)	(b)				
	Spathe: shape of apex							
	acute							1
	obtuse							2
	rounded							3
26. (*)	QL	VG		(b)				
	Spathe: tip at apex							
	absent							1
	present							9
27.	QN	VG	(+)	(b)				
	Spathe: width of tip at apex							
	narrow							1
	medium							2
	wide							3

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28. (*)	PQ	VG	(b), (c)				
	Spathe: main color of <u>upper</u> side						
	RHS Colour Chart (indicate reference number)						
29. (*)	PQ	VG	(b), (c)				
	Spathe: secondary color of <u>upper</u> side						
	RHS Colour Chart (indicate reference number)						
30. (*)	PQ	VG	(+)	(b), (c)			
	Spathe: distribution of secondary color of <u>upper</u> side						
	at basal zone						1
	at central zone						2
	at top						3
	at marginal zone						4
	along veins						5
	spotted						6
	irregular						7
31.	PQ	VG	(b), (c)				
	Spathe: tertiary color of <u>upper</u> side						
	RHS Colour Chart (indicate reference number)						
32.	PQ	VG	(+)	(b), (c)			
	Spathe: distribution of tertiary color of <u>upper</u> side						
	at basal zone						1
	at center						2
	at top						3
	at marginal zone						4
	along veins						5
	spotted						6
	irregular						7

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33.	PQ	VG	(b), (c)				
	Spathe: main color of lower side						
	RHS Colour Chart (indicate reference number)						
34.	QN	VG	(b)				
	Spathe: glossiness						
	absent or very weak					ARINOS	1
	weak					KURIN HEART	2
	medium					ANTHARYSIA	3
	strong					ANTHBNZL	4
	very strong						5
35. (*)	QN	VG	(b)				
	Spathe: blistering						
	absent or very weak					ANTHDOSDOH	1
	weak					ANTHCAPBUK	3
	medium					ANTHEPEDI	5
	strong					ANTHBNZL	7
	very strong						9
36.	QN	VG	(+)	(b)			
	Spathe: shape in cross section of middle zone						
	concave						1
	straight						2
	convex						3

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37.	QN	VG	(+)	(b)				
	Spathe: angle of distal part to peduncle							
	acute							1
	approximately right angle							2
	obtuse							3
38. (*)	QN	MS	(+)	(b)				
	Spadix: length							
	short						ANTHEPEDI	3
	medium						ANTHBNZL	5
	long						ANTHAQUIRE	7
39.	QN	MS	(+)	(b)				
	Spadix: width							
	very narrow							1
	narrow						RYN2009006	2
	medium						ANTHBNZL	3
	broad							4
	very broad						ANTHBAQEP	5
40. (*)	QL	VG	(+)	(b)				
	Spadix: rolling							
	absent						ANTHBNZL	1
	present						ARINOS	9
41. (*)	QN	VG	(+)	(b)				
	Excluding varieties with Spadix: rolling: present: Spadix: curvature of longitudinal axis							
	strongly incurved							1
	weakly incurved							2
	straight							3
	weakly recurved							4
	strongly recurved							5

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
42.	QN	VG	(+)	(b)				
	Spadix: tapering towards the top							
	very weak							1
	weak							2
	medium							3
	strong							4
	very strong							5
43. (*)	PQ	VG	(+)	(b), (c)				
	Spadix: main color of basal part							
	white to cream							1
	green							2
	yellow							3
	orange							4
	pink							5
	red							6
	red purple							7
	purple							8
	brown							9
44. (*)	PQ	VG	(+)	(b), (c)				
	Spadix: main color of distal part							
	white							1
	green							2
	yellow							3
	orange							4
	pink							5
	red							6
	red purple							7
	purple							8
	brown							9

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
45.	PQ	VG	(+)	(b), (c)				
	Spadix: main color of middle part (only if different from basal and distal part)							
	white							1
	green							2
	yellow							3
	orange							4
	pink							5
	red							6
	red purple							7
	purple							8
	brown							9

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

All observations should be made on full grown plants with fully developed flowers.

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

- (a) Observations should be made on longest leaf which is fully developed.
- (b) Observations should be made when basal 1/3 - 2/3 of flowers on spadix are developed and feel rough.



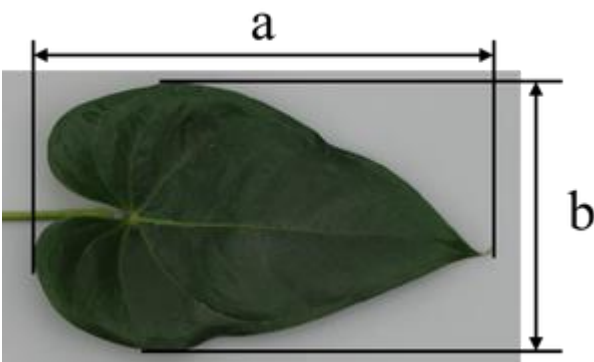
- (c) The main color is the color with the largest surface area, the secondary color is the color with the second largest surface area, and the tertiary color is the color with the third largest surface area. In cases where the area of the main and secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color. In cases where the area of the secondary and tertiary color are too similar to reliably decide which color has the second largest area, the darker color is considered to be the secondary color.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: height



Ad. 2: Leaf blade: length

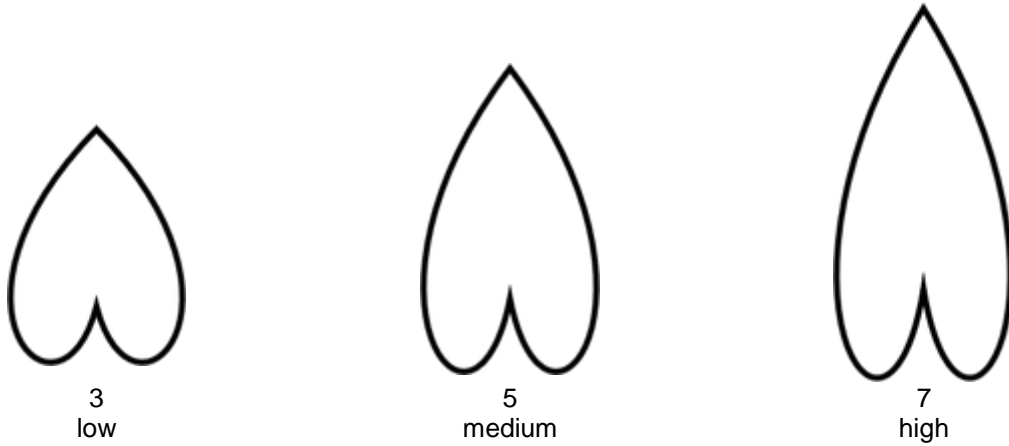


a= Leaf blade: length
b= Leaf blade: width

Ad. 3: Leaf blade: width

See Ad. 2

Ad. 4: Leaf blade: ratio length/width



Ad. 5: Leaf blade: lobes at base

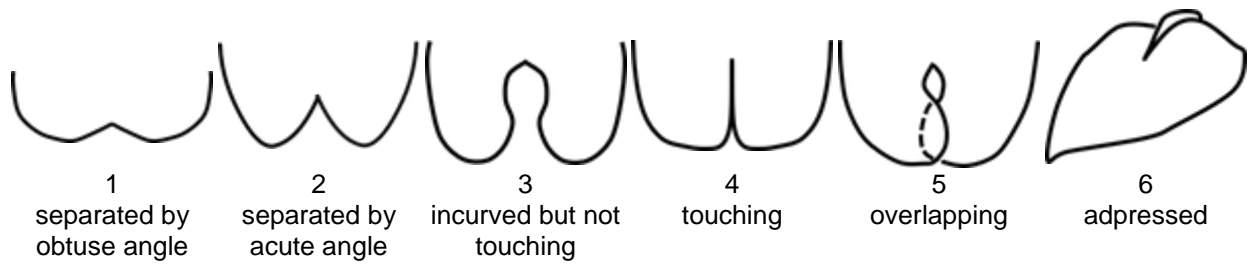


1
absent



9
present

Ad. 6: Leaf blade: relative position of lobes at base



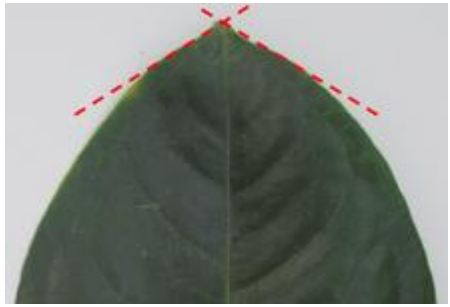
Ad. 7: Leaf blade: angle of distal part



1
acute



2
approximately right angle



3
obtuse

Ad. 9: Leaf blade: width of tip at apex



1
narrow



2
medium



3
wide

Ad. 11: Leaf blade: conspicuousness of veins of upper side



1
absent or weak



2
strong

Ad. 15: Peduncle: thickness

Observation should be made at the middle of the peduncle.

Ad. 17: Flower: position in relation to foliage



1
slightly below



2
same level



3
slightly above



4
above

Ad. 18: Flower: number of spathes

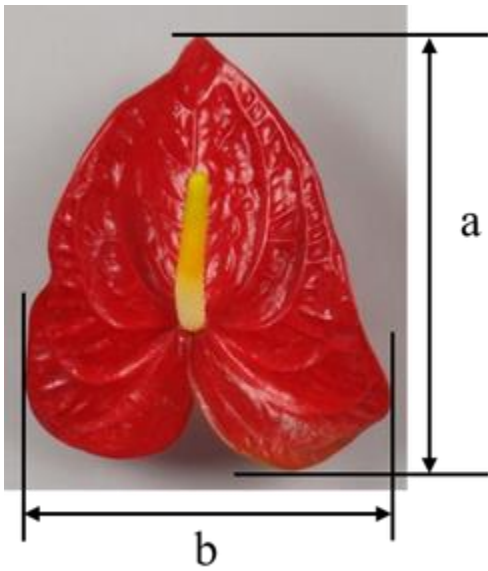


1
one



2
two

Ad. 19: Spathe: length



a= Spathe: length
b= Spathe: width

Ad. 20: Spathe: width

See Ad. 19

Ad. 21: Spathe: ratio length/width



3
low



5
medium



7
high

Ad. 22: Spathe: position of broadest part



1
toward base



2
at middle

Ad. 23: Spathe: lobes at base



1
absent



9
present

Ad. 24: Spathe: relative position of lobes at base

See Ad. 6

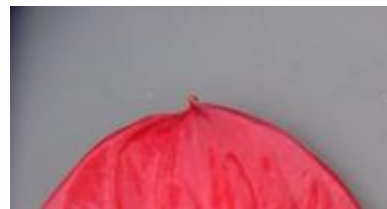
Ad. 25: Spathe: shape of apex



1
acute



2
obtuse



3
rounded

Ad. 27: Spathe: width of tip at apex



1
narrow

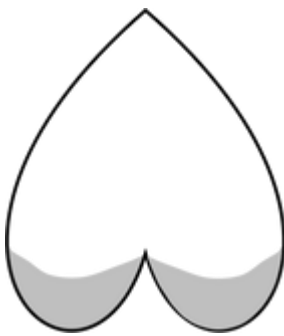


2
medium

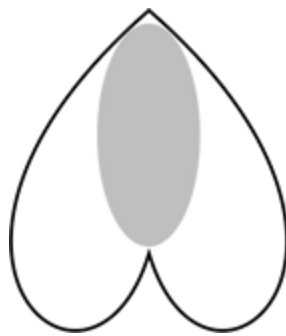


3
wide

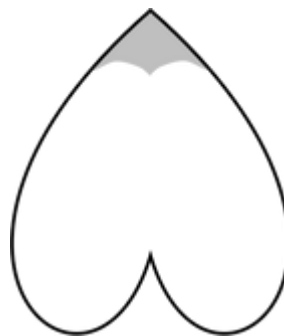
Ad. 30: Spathe: distribution of secondary color of upper side



1
at basal zone



2
at central zone



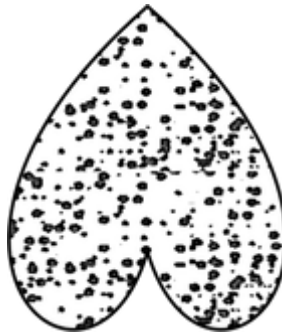
3
at top



4
at marginal zone



5
along veins



6
spotted



7
irregular

Ad. 32: Spathe: distribution of tertiary color of upper side

See Ad. 30

Ad. 36: Spathe: shape in cross section of middle zone



1
concave



2
straight



3
convex

Ad. 37: Spathe: angle of distal part to peduncle



1
acute

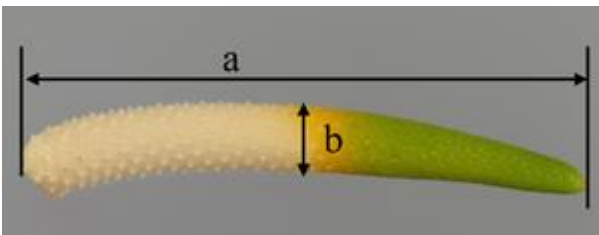


2
approximately right angle



3
obtuse

Ad. 38: Spadix: length



a= Spadix: length
b= Spadix: width

Ad. 39: Spadix: width

See Ad. 38
Observation should be made at the middle of the spadix.

Ad. 40: Spadix: rolling



1
absent



9
present

Ad. 41: Excluding varieties with Spadix: rolling: present: Spadix: curvature of longitudinal axis



1
strongly incurved



2
weakly incurved



3
straight



4
weakly recurved

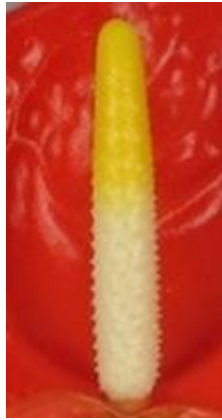


5
strongly recurved

Ad. 42: Spadix: tapering towards the top



1
very weak



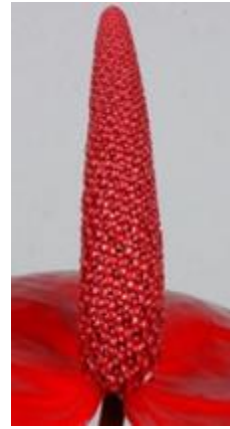
2
weak



3
medium

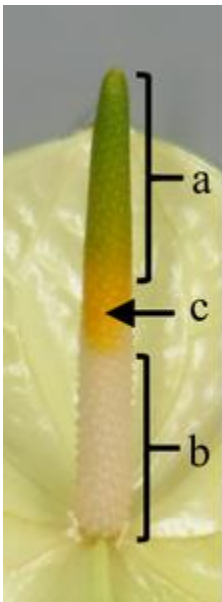


4
strong



5
very strong

Ad. 43: Spadix: main color of basal part



a= Spadix: main color of distal part (Char.43)

b= Spadix: main color of basal part (Char.44)

c= Spadix: main color of middle part (only if different from basal part and distal part) (Char.45)

Ad. 44: Spadix: main color of distal part

See Ad. 43

Ad. 45: Spadix: main color of middle part (only if different from basal and distal part)

See Ad. 43

9. Literature

- Tsukamoto, Y., 1994: The Grand Dictionary of Horticulture (Volume 1), Shogakukan Inc., Chiyoda-ku, Tokyo, JP, pp. 187-192
- Brickel, C., 2003: A to Z Encyclopedia of Garden Plants, Seibundo Shinkosha Publishing Co. Ltd., Bunkyo-ku, Tokyo, JP, pp. 123, translated by Yokoi M et al.

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	<input type="text" value="Anthurium Schott"/>
1.2	Common name	<input type="text" value="Anthurium"/>
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"/>
3. Proposed denomination and breeder's reference		
	Proposed denomination (if available)	<input type="text"/>
	Breeder's reference	<input type="text"/>

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

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:
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4.2	Method of propagating the variety	
4.2.1	Vegetative propagation	
(a)	<i>In vitro</i> propagation	[]
(b)	Other (state method)	[]
	<input type="text"/>	
4.2.2	Other (Please provide details)	[]
	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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: height (1)		
very short		1 []
very short to short		2 []
short	ANTHDOSDOH	3 []
short to medium		4 []
medium	ANTHCAPBUK	5 []
medium to tall		6 []
tall	ANTHARYSIA	7 []
tall to very tall		8 []
very tall		9 []
5.2 Leaf blade: length (2)		
very short		1 []
very short to short		2 []
short	ANTHEPEDI	3 []
short to medium		4 []
medium	ANTHCAPBUK	5 []
medium to long		6 []
long	ANTHARYSIA	7 []
long to very long		8 []
very long		9 []
5.3 Flower: number of spathes (18)		
one	ANTHBNZL	1 []
two	KURIN HEART	2 []

Characteristics	Example Varieties	Note
5.4 Spathe: length (19)		
very short		1 []
very short to short		2 []
short	ANTHEBENEX	3 []
short to medium		4 []
medium	ANTHEPEDI	5 []
medium to long		6 []
long	ANTHARYSIA	7 []
long to very long		8 []
very long		9 []
5.5 Spathe: width (20)		
very narrow		1 []
very narrow to narrow		2 []
narrow	RIJN200332	3 []
narrow to medium		4 []
medium	ANTHEPEDI	5 []
medium to wide		6 []
wide	ANTHAQUIRE	7 []
wide to very wide		8 []
very wide		9 []
5.6(i) Spathe: main color of <u>upper</u> side (28)		
RHS Colour Chart (indicate reference number)		
5.6(ii) Spathe: main color of <u>upper</u> side (28)		
white		1 []
green		2 []
yellow		3 []
orange		4 []
pink		5 []
red		6 []
purple		7 []
brown		8 []

Characteristics	Example Varieties	Note
5.7(i) Spathe: secondary color of <u>upper</u> side (29) RHS Colour Chart (indicate reference number)		
5.7(ii) Spathe: secondary color of <u>upper</u> side (29) white green yellow orange pink red purple brown		1 [] 2 [] 3 [] 4 [] 5 [] 6 [] 7 [] 8 []
5.8 Spathe: distribution of secondary color of <u>upper</u> side (30) at basal zone at central zone at top at marginal zone along veins spotted irregular		1 [] 2 [] 3 [] 4 [] 5 [] 6 [] 7 []
5.9 Spadix: main color of <u>basal</u> part (43) white to cream green yellow orange pink red red purple purple brown		1 [] 2 [] 3 [] 4 [] 5 [] 6 [] 7 [] 8 [] 9 []

Characteristics	Example Varieties	Note
5.10 Spadix: main color of <u>distal</u> part (44)		
white		1 []
green		2 []
yellow		3 []
orange		4 []
pink		5 []
red		6 []
red purple		7 []
purple		8 []
brown		9 []

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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	Characteristic(s) in which your candidate variety differs	Describe the expression of the characteristic(s) for the	Describe the expression of the characteristic(s) for your
<i>Example</i>	<i>Plant: height</i>	<i>high</i>	<i>medium</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#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.]

- Resistance to pests and diseases
- (i) Use of variety/utilisation de la variété/Verwendung der Sorte
 - cut flower
 - pot plant
- (ii) Other conditions

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