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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

AGLAONEMA

UPOV Code: AGLAO

Aglaonema 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 forty-fourth session, to be held in Fukuyama, Hiroshima Prefecture, Japan,
from November 7 to 11, 2011

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Aglaonema Schott				

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 *Aglaonema* 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 plants capable of producing the required number of leaves over the growing period.

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

10 plants

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

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

3. Method of Examination

3.1 Number of Growing Cycles

The minimum duration of tests should normally be a single growing cycle, which should be sufficient to allow the plants to have 15 fully expanded (leaves).

3.2 Testing Place

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

3.3 Conditions for Conducting the Examination

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

3.3.2 Observation of color by eye

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

made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 10 plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle."

3.5 Additional Tests

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, 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 observations made on all plants in the test, disregarding any off-type plants

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of

Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

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

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

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

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

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

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

4.2 Uniformity

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

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

4.3 Stability

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

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

5. Grouping of Varieties and Organization of the Growing Trial

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

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

5.3 The following have been agreed as useful grouping characteristics:

(a) Plant: plant growth habit (characteristic 1)
(b) Leaf blade: shape (characteristic 8)
(c) Leaf blade: main color of upper side: (characteristic 11)
(d) Leaf blade: secondary color of upper side: (characteristic 12)
(e) Leaf blade: secondary color of upper side: along midrib: (characteristic 13)
(f) Leaf blade: secondary color of upper side: marginal zone : (characteristic 15)
(g) Leaf blade: secondary color of upper side: between midrib and margin: (characteristic 17)
(h) Leaf blade: secondary color of upper side: along primary veins : (characteristic 18)
(i) Leaf blade: secondary color of upper side: between primary veins: (characteristic 19)
(j) Leaf blade: secondary color of upper side: irregular spots: (characteristic 20)
(k) Leaf blade: tertiary color of upper side: (characteristic 24)

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

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 States of Expression and Corresponding Notes

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

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

State	Note
small	3
medium	5
large	7

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

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

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

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

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(*)** **(+)**	**VG**	**Plant: growth habit**					
PQ	**(a)**	erect				Katharngen	1
		semi-erect				Chaowang	2
		horizontal				Chalit's Pride	3
2.	**VG/ MS**	**Plant: height**					
QN	**(a)**	short				Subrungrueng	3
		medium medium				Chalit's Pride	5
		Tall				Thep Ranjuan	7
3.	**MG/ MS**	**Plant : number of suckers**					
QN	**(a)**	absent or very few				Black Aglaonema	1
		few					3
		medium					5
		Many				Chaowang	7
4. **(*)** **(+)**	**VG/ MS**	**Leaf blade: length**					
QN	**(b)**	short				Black Beauty	3
		medium				Tiara	5
		long				Thep Ranjuan	7
5. **(*)** **(+)**	**VG/ MS**	**Leaf blade: width**					
QN	**(b)**	narrow				Thep Ranjuan	3
		medium				Katharngen	5
		broad				Wold Heritage	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	**VG/ MS**	**Leaf blade: ratio length/width**					
QN	**(b)**	complessed					3
		medium					5
		elongated					7
7.	**VG**	**Leaf blade: symmetry**					
QL	**(b)**	asymmetric				Russamithong	1
		symmetric				Katharngen	2
8. **(*)** **(+)**	**VG**	**Leaf blade: shape**					
PQ	**(b)**	linear				Thep Runjuan	1
		lanceolate				Saisamorn	2
		ovate				Black Beauty	3
		elliptic				Pride of Sumatra	4
		obovate				Ik Q san	5
9. **(+)**	**VG**	**Leaf blade: shape of apex**					
PQ	**(b)**	cuspidate					1
		acuminate				Saisamorn	2
		acute				Chalit' s Pride	3
10. **(+)**	**VG**	**Leaf blade: shape of base**					
PQ	**(b)**	attenuate					1
		acute					2
		obtuse				Chalit' s Pride	3
		truncate					4
		cordate				Wold Heritage	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. **(*)**	**VG**	**Leaf blade: main color of upper side**					
PQ	**(b)**	RHS colour chart (indicate reference number)					
12.	**VG**	**Leaf blade: secondary color of upper side**					
PQ	**(b)**	RHS colour chart (indicate reference number)					
13. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: along midrib**					
QL	**(b)**	absent				Black Beauty	1
		present				Kwakngen	9
14. **(+)**	**VG**	**Leaf blade: secondary color of upper side: width of along midrib**					
QN	**(b)**	narrow					1
		medium					2
		broad					3
15. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: marginal zone**					
QL	**(b)**	absent				Black Beauty	1
		present				Manilomphet	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: width of marginal zone**					
QN	**(b)**	narrow				Yok Karnjana	1
		medium				Siam aurora	2
		broad				Russamithong	3
17. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: between midrib and margin**					
QL	**(b)**	absent				Black Beauty	1
		present				Siargao	9
18. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: along primary veins**					
QL	**(b)**	absent				Black Beauty	1
		present				Pride of Philippine	9
19. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: between primary veins**					
QL	**(b)**	absent				Black Beauty	1
		present				D color	9
20. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: irregular spots**					
QL	**(b)**	absent				Black Beauty	1
		present				Chalit' s Pride	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: dot**					
QL	**(b)**	absent				Black Beauty	1
		present				Saisamorn	9
22. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: patch**					
QL	**(b)**	absent				Black Beauty	1
		present				Chalit' s Pride	9
23. **(+)**	**VG**	**Leaf blade: distribution of secondary color of upper side: blotch**					
QL	**(b)**	absent				Black Beauty	1
		present				Rubngen Rubthong	9
24.	**VG**	**Leaf blade: tertiary color of upper side**					
PQ	**(b)**	RHS colour chart (indicate reference number)					
25. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: along midrib**					
QL	**(b)**	absent				Russamithong	1
		present				Banlangthewa	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: width of along midrib**					
QN	**(b)**	narrow					1
		medium					2
		broad					3
27. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: marginal zone**					
QL	**(b)**	absent				Russamithong	1
		present				Mung korn yok	9
28. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: width of marginal zone**					
QN	**(b)**	narrow				D color	1
		medium				Daeng Design	2
		broad					3
29. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: between midrib and margin**					
QL	**(b)**	absent				Russamithong	1
		present					9
30.	**VG**	**Leaf blade: distribution of tertiary color of upper side: along primary veins**					
QL	**(b)**	absent				Russamithong	1
		present				Ying Yai	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: between primary veins**					
QL	**(b)**	absent				Russamithong	1
		present					9
32. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: irregular spots**					
QL	**(b)**	absent				Russamithong	1
		present				Treasure of Siam	9
33. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: dot**					
QL	**(b)**	absent				Russamithong	1
		present				Rattanawadi	9
34. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: patch**					
QL	**(b)**	absent				Russamithong	1
		present				Treasure of Siam	9
35. **(+)**	**VG**	**Leaf blade: distribution of tertiary color of upper side: blotch**					
QL	**(b)**	absent				Russamithong	1
		present				Kinnari	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
36.	**VG**	**Leaf blade: quartenary color of upper side**					
PQ	**(b)**	RHS color chart (indicate reference number)					
37. (*)	**VG**	**Leaf blade: main color of lower side**					
PQ	**(b)**	RHS color chart (indicate reference number)					
38. (+)	**VG**	**Leaf blade: distribution of secondary color of lower side: along midrib**					
QL	**(b)**	absent				Black Beauty	1
		present				Russamithong	9
39. (+)	**VG**	**Leaf blade: secondary color of lower side: width of along midrib**					
QN	**(b)**	narrow					1
		medium					2
		Broad					3
40. (+)	**VG**	**Leaf blade: distribution of secondary color of lower side: marginal zone**					
QL	**(b)**	absent				Black Beauty	1
		present				Yok Karnjana	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
41. **(+)**	**VG**	**Leaf blade: secondary color of lower side: width of marginal zone**					
QN	**(b)**	narrow				Yok Karnjana	1
		medium					2
		Broad					3
42. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: between midrib and margin**					
QL	**(b)**	absent					1
		present					9
43. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: along primary veins**					
QL	**(b)**	absent				Black Beauty	1
		present				Treasure of Siam	9
44. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: between primary veins**					
QL	**(b)**	absent					1
		present					9
45. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: irregular spots**					
QL	**(b)**	absent				Black Beauty	1
		present				Chalit' s Pride	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
46. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: dot**					
QL	**(b)**	absent				Black Beauty	1
		present				Saisamorn	9
47. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: patch**					
QL	**(b)**	absent				Black Beauty	1
		present				Chalit's Pride	9
48. **(+)**	**VG**	**Leaf blade: distribution of secondary color of lower side: blotch**					
QL	**(b)**	absent				Black Beauty	1
		present				Rubngen Rubthong	9
49. **(+)**	**VG**	**Leaf blade: lower side: tertiary color**					
PQ	**(b)**	RHS colour chart (indicate reference number)					
50. **(*)**	**VG**	**Leaf blade upper side: glossiness**					
QL	**(b)**	absent				Katharngen	1
		present				Black Beauty	9
51. **(*)**	**VG**	**Leaf blade: blistering**					
QN	**(b)**	absent or very weak				Katharngen	1
		weak				World Heritage	2
		medium				Tiara	3
		strong				Sithiporn Aglaonema	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
52. **(*)**	**VG**	**Leaf blade: undulation of margin**					
QN	**(b)**	absent or very weak				Chalit' s Pride	1
		weak				Katharngen	2
		medium				Saisamorn	3
		strong				Black Beauty	4
53.	**VG**	**Leaf blade: profile in cross section**					
QN	**(b)**	flat				Katharngen	1
		slightly concave					
		moderately concave				Russamithong	2
54. **(*)**	**VG**	**Leaf blade: midrib: profile**					
QN	**(b)**	raised				Lagazy	1
		flat				Katharngen	2
		sunken				Russamithong	3
55.	**VG**	**Leaf blade: number of vein pairs**					
QN	**(b)**	Few				Black Beauty	3
		medium				Russamithong	5
		Many				Kwakngen	7
56. **(+)**	**VG**	**Petiole: length**					
QN	**(b)**	Short				Red Aglaonema	3
		medium				Chalit' s Pride	5
		Long				Katharngen	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
57. **(*)**	**VG**	**Petiole: main color**					
PQ	**(b)**	RHS colour chart (indicate reference number)					
58. **(*)**	**VG**	**Petiole: presence of secondary color**					
QL	**(b)**	absent				Katharngen	1
		present				Chalit' s Pride	9
59. **(*)**	**VG**	**Petiole: secondary color**					
PQ	**(b)**	RHS colour chart (indicate reference number)					
60. **(*)**	**VG**	**Leaf sheath**					
QL	**(b)**	absent				World Heritage	1
		present				Katharngen	9
61. **(*)**	**VG/** **MS**	**Leaf sheath: length**					
QN	**(b)**	Short				Bebadary	3
(+)		medium				Pritty	5
		Long				Katharngen	7
62. **(+)**	**VG**	**Leaf sheath: shape of apex**					
PQ	**(b)**	Type I				Saisamorn	1
		Type II				Supmongkon	2
		Type III				Katharngen	3
63. **(*)**	**VG**	**Leaf sheath: main color of outer side**					
PQ	**(b)**	RHS color chart (indicate reference number)					

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
64. (*)	**VG**	**Leaf sheath: secondary color of outer side**					
QL	**(b)**	Absent				Katharngen	1
		Present				Chalit' s Pride	9

ANNEX

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

(a) Plant should be observed at the stage of fully developed growth.
(b) Leaf should be observed on the forth-sixth fully grown leaves from the top of plant.

8.1.2 Definitions of main color, secondary color, tertiary color

Main color: the color occupies the largest surface area.

If anthocyanin and non-anthocyanin occupy the same amount of area, the non-anthocyanin is considered to be the main color. If only non-anthocyanin is present, the darker is the main color. (non –anthocyanin are green, white and yellow)

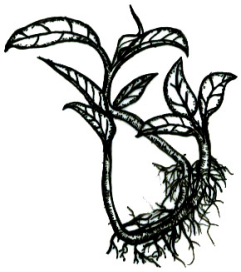
Secondary color: the color occupies the second largest surface area. If anthocyanin and non-anthocyanin occupy the same amount of area, the non-anthocyanin is considered to be the secondary color. If only non-anthocyanin is present, the darker is the secondary color.

Tertiary color: the color occupies the third largest surface area.If anthocyanin and non-anthocyanin occupy the same amount of area, the non- anthocyanin is considered to be the tertiary color. If only non-anthocyanin is present, the darker is the tertiary color.

8.2 Explanations for individual characteristics

Ad 1: Plant : growth habit

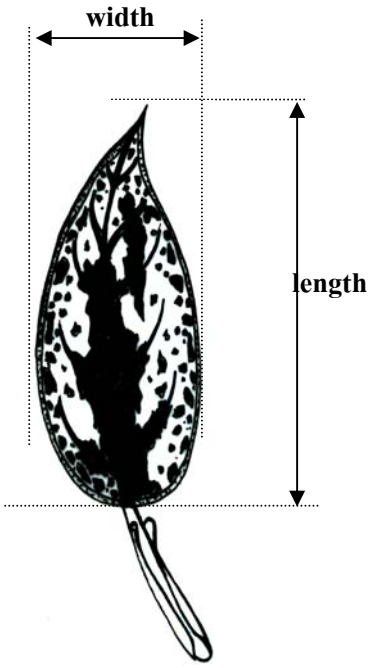
1
erect



2
semi-erect

3
horizontal

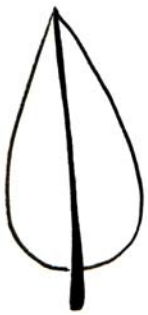
Ad 4: Leaf blade: length
Ad 5: Leaf blade :width



Ad 8: Leaf blade : shape

1
linear

2
lanceolate

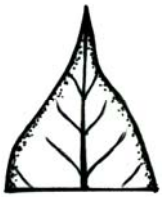


3
Ovate

4
elliptic

5
obovate

Ad 9 : Leaf blade : shape of apex



1
cuspidate

2
acuminate

3
acute

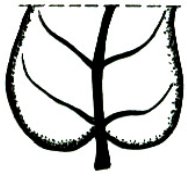
Ad 10 : Leaf blade : shape of base

1
attenuate

2
acute

3
obtuse

4
truncate



5
cordate

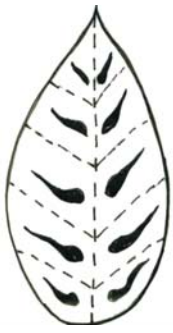
Ad 13 Leaf blade : distribution of secondary color of upper side : along midrib
Ad 15 Leaf blade : distribution of secondary color of upper side : marginal zone
Ad 17 Leaf blade : distribution of secondary color of upper side : between midrib and margin
Ad 18 Leaf blade : distribution of secondary color of upper side : along primary veins
Ad 19 Leaf blade : distribution of secondary color of upper side : between primary veins
Ad 20 Leaf blade : distribution of secondary color of upper side : irregular spots
Ad 25 Leaf blade : distribution of tertiary color of upper side : along midrib
Ad 27 Leaf blade : distribution of tertiary color of upper side : marginal zone
Ad 29 Leaf blade : distribution of tertiary color of upper side : between midrib and margin
Ad 30 Leaf blade : distribution of tertiary color of upper side : along primary veins
Ad 31 Leaf blade : distribution of tertiary color of upper side : between primary veins
Ad 32 Leaf blade : distribution of tertiary color of upper side : irregular spots
Ad 38 Leaf blade : distribution of secondary color of lower side : along midrib
Ad 40 Leaf blade : distribution of secondary color of lower side : marginal zone
Ad 42 Leaf blade : distribution of secondary color of lower side : between midrib and margin
Ad 43 Leaf blade : distribution of secondary color of lower side : along primary veins
Ad 44 Leaf blade : distribution of secondary color of lower side : between primary veins
Ad 45 Leaf blade : distribution of secondary color of lower side : irregular spots

along midrib

marginal zone

between midrib and margin

along primary veins

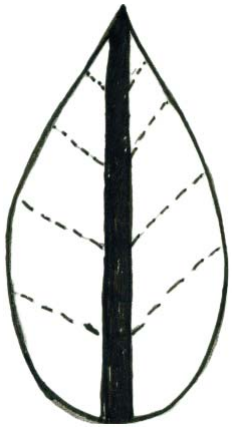


between primary veins

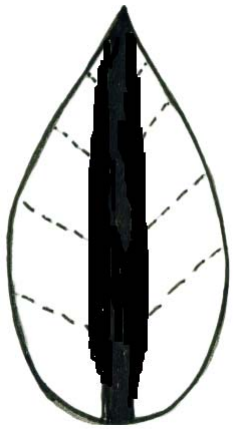
irregular spots

Ad 14 Leaf blade : secondary color of upper side : width of along midrib
Ad 26 Leaf blade : distribution of tertiary color of upper side : width of along midrib
Ad 39 Leaf blade : secondary color of lower side : width of along midrib

1
narrow

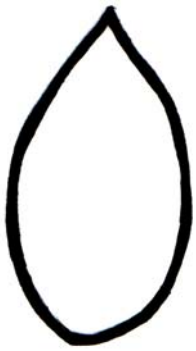


2
medium



3
broad

Ad 16 Leaf blade: distribution of secondary color of upper side :width of marginal zone
Ad 28 Leaf blade: distribution of tertiary color of upper side :width of marginal zone
Ad 41 Leaf blade: secondary color of lower side : width of marginal zone



1
narrow

2
medium

3
Broad

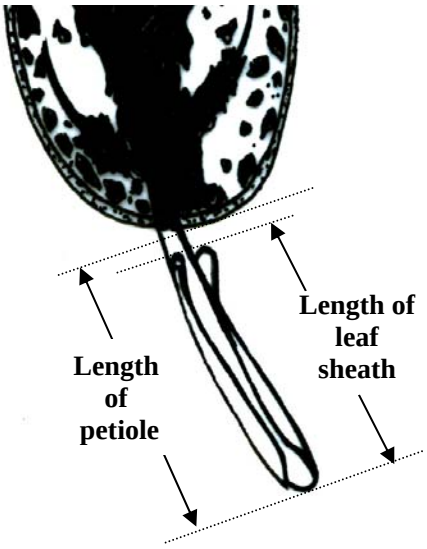
Ad 21 Leaf blade : distribution of secondary color of upper side : dot
Ad 22 Leaf blade : distribution of secondary color of upper side : patch
Ad 23 Leaf blade : distribution of secondary color of upper side : blotch
Ad 33 Leaf blade : distribution of tertiary color of upper side : dot
Ad 34 Leaf blade : distribution of tertiary color of upper side : patch
Ad 35 Leaf blade : distribution of tertiary color of upper side : blotch
Ad 46 Leaf blade : distribution of secondary color of lower side : dot
Ad 47 Leaf blade : distribution of secondary color of lower side : patch
Ad 48 Leaf blade : distribution of secondary color of lower side : blotch

dot

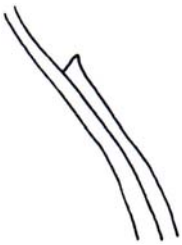
patch

Blotch

Ad 56: Petiole: length
Ad 61: Leaf sheath : length



Ad 62 : Leaf sheath : shape of apex

		
Type1	Type II	Type III

9. Literature

Sinchaisri, N., et al., 2006: Catalog of Aglaonema in Thailand. TH

10. Technical Questionnaire

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

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

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

1. Subject of the Technical Questionnaire

1.1 Genus	*Aglaonema* Schott.
1.2 Species(please complete)	
1.2.1 Botanical name	
1.2.2 Common name	Aglaonema

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	
Breeder (if different from applicant)	

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

3. Proposed denomination and breeder's reference

Proposed denomination (if available)	
Breeder's reference	

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

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

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

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

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

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

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

(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

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

4.1.4 Other [ ]
(please provide details)

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

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

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

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**		
	erect	Katarngen	1
	semi-erect	Chaowang	2
	horizontal	Chalit's Pride	3
5.2 (8)	**Leaf blade : shape**		
	linear	Thep Runjuan	1
	lanceolate	Saisamorn	2
	ovate	Black Beauty	3
	elliptic	Pride of Sumatra	4
	obovate	Ik Q san	5
5.3(i) (11)	**Leaf blade : main color of upper side**		
	RHS colour chart (indicate reference number)		
5.3(ii) (11)	leaf blade : main color of upper side		
	whitish green		1
	yellow green		2
	green		3
	red		4

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

	Characteristics	Example Varieties	Note
5.4(i) (12)	**Leaf blade : secondary color of upper side：**		
	RHS colour chart (indicate reference number)		
5.4(ii) (12)	leaf blade : secondary color of upper side		
	whitish green		1
	yellow green		2
	green		3
	red		4
5.5 (13)	**Leaf blade : distribution of secondary color of upper side :along midrib**		
	absent	Black Beauty	1
	present	Kwakngen	9
5.6 (15)	**Leaf blade : distribution of secondary color of upper side :marginal zone**		
	absent	Black Beauty	1
	present	Manilomphet	9
5.7 (17)	**Leaf blade : distribution of secondary color of upper side :between midrib and margin**		
	absent	Black Beauty	1
	present	Siargao	9
5.8 (18)	**Leaf blade : distribution of secondary color of upper side :along primary veins**		
	absent	Black Beauty	1
	present	Pride of Philippine	9
5.9 (19)	**Leaf blade : distribution of secondary color of upper side :between primary veins**		
	absent	Black Beauty	1
	present	D color	9

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

	Characteristics	Example Varieties	Note
5.10 (20)	**Leaf blade : distribution of secondary color of upper side :irregular spots**		
	absent	Black Beauty	1
	present	Chalit's Pride	9
5.11(i) (24)	**Leaf blade : tertiary color of upper side**		
	RHS colour chart (indicate reference number)		
5.11(ii) (24)	Leaf blade : tertiary color of upper side		
	whitish green		1
	yellow green		2
	green		3
	red		4

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: growth habit*	*erect*	*horizontal*

Comments:

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

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

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

Yes [ ] No [ ]

(If yes, please provide details)

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

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

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

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

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

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

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

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

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

(a) Microorganisms (e.g. virus, bacteria, phytoplasma) Yes [ ] No [ ]

(b) Chemical treatment (e.g. growth retardant, pesticide) Yes [ ] No [ ]

(c) Tissue culture Yes [ ] No [ ]

(d) Other factors Yes [ ] No [ ]

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

……

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

[Annex follows]

ANNEX

Comments from experts

Char	Title	comments	
2.2	Material Required	Improved wording. The material is to be supplied in the form of plants capable of producing the required number of leaves over the growing period.	NZ
3.3.1	Conditions for Conducting the Examination	Improved wording The tests should be conducted under conditions which provide adequate or optimum temperature, shade and ventilation facilities to ensure that characteristic expression is truly representative of the variety.	NZ
3.3.1		Is this necessary?(second paragraphs	EU
3.1	Number of Growing Cycles	Specify that if there are less than 15 fully expanded leaves, a second growing cycle is necessary	EU
4.1.4	Number of plants *Parts of Plants to be Examined*	And descriptions? This should not be useful, there should be no off type in the 9 plants	EU
		Mark all MS characteristics with a VG as well.	ZA
1	Plant : growth habit	suggest state 3 horizontal A more general term covering prostrate, which is a very defined growth form. Is the habit always prostrate.	NZ
2	Plant : height	MG or VG possible	NZ
3	Plant : number of suckers	Is this only suckers, or could this be number of shoots? MG possible	NZ
3		9 states or 1 to 4 ?	EU
3		Chowang to amend to " Chaowang "	Thailand
6	Leaf blade : ratio length/width	Adapt the wording, compressed to elongated	EU
9	Leaf blade : shape of apex	order 1 cuspidate 2 acuminate 3 acute	NZ
Combine Char. 13, 15, 17, 18, 19 and 20	**Leaf blade: distribution of secondary color of upper side**	Along midrib On margin Between midrib & margin Along veins Between veins Random	ZA

13	Leaf blade : distribution of secondary color of upper side : type	Is a combination of types possible? In which case a photo would help.	EU
13		Leaf blade: secondary color on midrib absent present Use of type 1 etc. In Ad 13 etc Each type has a pattern Type 1 = along midrib Why not use the pattern name	NZ
Combine Char. 14 & 15	**Only varieties with distribution of secondary color of upper side along the midrib and on margin:** **Leaf blade: width of secondary color of upper side**	Narrow Medium Broad	ZA
14	Leaf blade : secondary color of upper side : width of type I	Leaf blade: width of midrib secondary colour	NZ
15	Leaf blade : distribution of secondary color of upper side : type II	Leaf blade: secondary colour on marginal zone And so on through to 36 Also consider similar for lower side characters	NZ
15		Is it not possible to have the different types of the seconday color as different states of expression?	EU
17	Leaf blade : distribution of secondary color of upper side : between midrib and margin	Siargo to amend to " Siargao "	Thailand

Combine Char 21, 22 & 23	**Only varieties with distribution of secondary color of upper side random** **Leaf blade: type of secondary color of upper side**	dots patch blotch	ZA
		Combine the Characteristics for the tertiary color of the upper side of the leaf blade the same way as for the secondary color characteristics. Combine the Characteristics for the secondary color of the leaf blade of the lower side the same way as the characteristics for the secondary colors of upper side. Combine the Characteristics for the tertiary color of the leaf blade of the lower side the same way as the characteristics for the tertiary colors of upper side.	ZA
50	Leaf blade upper side : glossiness	Is this truly QL Glosiness is often QN 1 1 absent of weak 2 medium 3 strong	NZ
53	Leaf blade : profile in cross section	A two state quantitative character is of limited value. Is there variation in degree of concave e.g 1 flat 2 slightly concave 3 moderately concave.	NZ
53	Leaf blade : profile in cross section	If only two states, it is QL. Or keep QN and add a state “other”	EU
54	Leaf blade : upper side of midrib	Could this be written in a clearer way Leaf blade midrib: profile 1 raised 2 flat 3 sunken	NZ
63, 64	Leaf sheath : main color of lower side Leaf sheath : secondary color of lower side	Suggest using inner and outer as the sheath is often not horizontal. Lower side = outer side upper side = inner side	NZ
8.1		of fully developed growth.] I do not know if it clear for everyone	EU

Ad. 1	Plant : growth habit	Plant growth habit. The diagrams suggest shoot growth habit. Are we looking at shoots on plants or the whole overall plant habit?	NZ
Ad 13 etc	Leaf blade : secondary color of upper side : type I	Why not use the pattern name secondary color patterns Type III between midrib and margin Type IV along primary veins Type V between primary veins Type VI irregular spotting	NZ
Ad 46	Leaf blade : secondary color of lower side : dot	From the diagram patch and blotch changed over. A patch is larger, more irregular than a blotch. A blotch is a larger dot.	NZ
9	Literature	Catalog of Aglaonema in thailand. 2006. Asst.Prof.Dr.Neungpanich Sinchaisri et al. Bangkok. Thailand.	Thailand
TQ 1.1	Botanical name	Bot. name of the species	EU

[End of Annex and of document]