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ORIGINAL: English

DATE: August 23, 2001

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY
FOR
ORNAMENTAL PLANTS AND FOREST TREES**

**Thirty-Fourth Session
Nagano, Japan, September 24 to 28, 2001**

WORKING PAPER ON TEST GUIDELINES FOR PHALAEOPSISIS
(*Phalaenopsis* Blume)

Document prepared by experts from Japan and the Netherlands

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I. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Phalaenopsis* Blume of the family Orchidaceae.

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. As a minimum, the following quantity of plant material is recommended:

- (a) vegetatively propagated varieties: 15 plants, 2 to 3 years old that have not been flowering before;
- (b) seed propagated varieties: 25 plants, 2 to 3 years old that have not been flowering before.

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pests or diseases.

3. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. A test should normally be conducted for one growing period. If distinctness and/or uniformity cannot be sufficiently established in one growing period, the test should be extended for a second growing period.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The tests should be carried out in the greenhouse under conditions ensuring normal growth for the species concerned. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should include a total of 10 plants. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. All observations determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants.

2. For the assessment of uniformity a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, the maximum number of off-types allowed would be 1. For the assessment of uniformity of seed propagated varieties the breeding history of the variety has to be taken into consideration.
3. All observations on the leaf should be made on the longest leaf of a flowering plant.
4. All observations on the inflorescence and the flower should be made at the time when 80% of the flowers on the inflorescence have opened, on the most recently fully opened flower on the inflorescence before fading of color.
5. All observations on the length and width of the flower and parts of the flower should be made on the unextended organ.
6. All observations on the color of the sepal, the petal and the lip should be made on the inner side.
7. All observations on the color of the column should be made on the outer side.
8. 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 tolerance set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. The grouping should in the first instance be made according to the species. In addition, characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
 - (a) Plant: size (characteristic 1)
 - (b) Flower: width in front view (characteristic 18)
 - (c) Petal: color pattern (characteristic 44)
 - (a) Petal: ground color (characteristic 46) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: green
 - Gr. 4: orange
 - Gr. 5: pink
 - Gr. 6: violet
 - Gr. 7: brown

VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.

2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of expression for each characteristic.

3. *So far only few varieties exist; therefore mainly species and only few example varieties are indicated in the Table of Characteristics. All variety denominations are preceded by group names (GREX). The variety denominations are always placed in quotation marks. Denominations of further example varieties will be indicated as soon as more varieties become available. ???*

4. Legend:

(*) Characteristics that should be used on all varieties in every growing period over which examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.

(+) See Explanations on the Table of Characteristics in Chapter VIII.

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

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. Plant: size					
(*)					
very small					1
small					3
medium					5
large					7
very large					9
2. Leaf: length					
(*)					
short					3
medium					5
long					7
3. Leaf: width					
(*)					
narrow					3
medium					5
broad					7
4. Leaf: shape					
(*)					
linear					1
narrow ovate					2
oblong					3
narrow obovate					4
5. Leaf: shape of apex					
acute					1
obtuse					2
emarginate					3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. Leaf: symmetry of apex					
asymmetric					1
symmetric					2
7. Leaf: attitude					
semi-erect					3
horizontal					5
semi-pendulous					7
8. Leaf: color of upper side					
yellowish green					1
light green					2
medium green					3
dark green					4
9. Leaf: anthocyanin coloration					
absent					1
present					9
10. Inflorescence: type (*)					
solitary					1
raceme					2
compound raceme					3
11. Inflorescence: length (*)					
short					3
medium					5
long					7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12. Peduncle: length					
(*)					
short					3
medium					5
long					7
13. Peduncle: thickness					
(*)					
thin					3
medium					5
thick					7
14. Peduncle: anthocyanin coloration					
absent					1
present					9
15. Peduncle: number of flowers					
(*)					
few					3
medium					5
many					7
16. Flower: general impression of petals and sepals					
(*)					
incurving					1
spreading					2
reflexing					3
17. Flower: length in front view					
(*)					
short					3
medium					5
long					7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18. Flower: width in front view					
(*)					
narrow					3
medium					5
broad					7
19. Flower: fragrance					
absent					1
present					9
20. Sepal: shape					
(*)					
linear					1
ovate					2
elliptical					3
obovate					4
orbicular					5
21. Sepal: length					
(*)					
short					3
medium					5
long					7
22. Sepal: width					
(*)					
narrow					3
medium					5
broad					7
23. Sepal: curvature of longitudinal axis					
(*)					
incurving					1
straight					2
recurving					3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. Sepal: shape in cross section					
concave					1
flat					2
convex					3
25. Sepal: twisting					
absent					1
present					9
26. Sepal: undulation of margin (*)					
absent					1
present					9
27. Dorsal sepal: number of colors (*)					
one					1
two					2
three					3
more than three					4
28. Dorsal sepal: color pattern (*)					
self-colored					1
shaded					2
edged					3
striped					4
netted					5
spotted					6
29. Dorsal sepal: ground color (*)					
RHS Colour Chart (indicate reference number)					

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
30. Dorsal sepal: color of pattern					
RHS Colour Chart (indicate reference number)					
31. Lateral sepal: number of colors					
one					1
two					2
three					3
more than three					4
32. Lateral sepal: color pattern					
self-colored					1
shaded					2
edged					3
striped					4
netted					5
spotted					6
33. Lateral sepal: ground color					
RHS Colour Chart (indicate reference number)					
34. Lateral sepal: color of pattern					
RHS Colour Chart (indicate reference number)					

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35. Petal: shape					
(*)					
linear					1
ovate					2
elliptical					3
obovate					4
rhombate					5
semicircular					6
36. Petal: length					
(*)					
short					3
medium					5
long					7
37. Petal: width					
(*)					
narrow					3
medium					5
broad					7
38. Petal: curvature of longitudinal axis					
(*)					
incurving					1
straight					2
recurving					3
39. Petal: shape in cross section					
(*)					
concave					1
flat					2
convex					3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
40. Petal: twisting					
absent					1
present					9
41. Petal: undulation of margin					
absent					1
present					9
42. Petal: overwrapping (*)					
open					1
parallel					2
close					3
overwrapped					4
43. Petal: number of colors (*)					
one					1
two					2
three					3
more than three					4
44. Petal: color pattern (*)					
self-colored					1
shaded					2
edged					3
striped					4
netted					5
spotted					6

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
45. <u>Shaded varieties</u>					
(*) <u>only: Petal: extent of shade</u>					
small					3
medium					5
large					7
46. <u>Petal: ground color</u>					
(*)					
RHS Colour Chart (indicate reference number)					
47. <u>Petal: color of pattern</u>					
(*)					
RHS Colour Chart (indicate reference number)					
48. <u>Lip: length of apical lobe</u>					
(*)					
short					3
medium					5
long					7
49. <u>Lip: width of apical lobe</u>					
(*)					
narrow					3
medium					5
broad					7
50. <u>Lip: whiskers</u>					
(*)					
absent					1
present					9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
51. Lip: length of whiskers					
short					3
medium					5
long					7
52. Lip: shape of apical lobe (*)					
obdeltoid					1
ovate					2
elliptical					3
obovate					4
orbicular					5
rhombate					6
deltoid					7
semicircular					8
53. Lip: bumps and ridges					
absent					1
present					9
54. Lip: shape of lateral lobes (*) (+)					
i					1
ii					2
iii					3
iv					4
v					5

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
55. Lip: curvature of lateral lobes					
(*)					
(+)					
i					1
ii					2
iii					3
56. Lip: size of lateral lobes: ratio to apical lobe					
(*)					
small					3
equivalent					5
large					7
57. Lip: number of colors					
(*)					
one					1
two					2
three					3
more than three					4
58. Lip: color pattern of apical lobe					
(*)					
self-colored					1
shaded					2
edged					3
striped					4
netted					5
spotted					6
59. Lip: ground color of apical lobe					
(*)					
RHS Colour Chart (indicate reference number)					

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
60. Lip: color of pattern of apical lobe (*)					
RHS Colour Chart (indicate reference number)					
61. Lip: color pattern of lateral lobes (*)					
self-colored					1
shaded					2
edged					3
striped					4
netted					5
spotted					6
62. Lip: ground color of lateral lobes (*)					
RHS Colour Chart (indicate reference number)					
63. Lip: color of pattern of lateral lobes (*)					
RHS Colour Chart (indicate reference number)					
64. Lip: callus					
prominent					1
flat					2
65. Lip: pubescence					
absent					1
present					9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
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66. Column: color of apex

RHS Colour Chart
(indicate reference number)

67. Time of flowering

winter					1
spring					2
summer					3
perpetual					4

VIII. Explanation on the Table of Characteristics

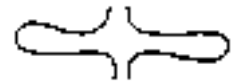
Ad. 54: Lip: shape of lateral lobes



1
i



2
ii



3
iii



4
iv



5
v

Ad.55: Lip: curvature of lateral lobes



1
i



2
ii



3
iii

IX. Literature

Karasawa, K., 1994: "Orchid Atlas", Vol. 8 Vanda and Phalaenopsis, Orchid Atlas Publishing Society, c/o Yasaka Syobo, Inc., Tokyo, Japan.

X. Technical Questionnaire

	<p>Reference Number (not to be filled in by the applicant)</p>
<p style="text-align: center;">TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p>	
<p>1.1 Genus</p>	<p><i>Phalaenopsis</i> Blume PHALAENOPSIS</p>
<p>1.2 Species</p>	<p>..... (indicate species)</p>
<p>2. Applicant (Name and address)</p>	
<p>3. Proposed denomination or breeder's reference</p>	

4. Information on origin, maintenance and reproduction of the variety

4.1 Origin

(a) Seedling (indicate parent varieties)

..... []

(b) Mutation (indicate parent variety)

..... []

(c) Discovery (indicate where and when)

..... []

(d) Other (specify)

..... []

4.2 Method of reproduction

– Seedlings []

– Cuttings []

– *In vitro* propagation []

– Other (specify) []

.....

4.3 Other information

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

Characteristics	Example Varieties	Note
5.1 Plant: size (1)		
very small		1[]
small		3[]
medium		5[]
large		7[]
very large		9[]
5.2 Flower: width in front view (18)		
narrow		3[]
medium		5[]
broad		7[]
5.2 Petal: color pattern (44)		
self-colored		1[]
shaded		2[]
edged		3[]
striped		4[]
netted		5[]
spotted		6[]
5.3i Petal: ground color (46)		
RHS Colour Chart (indicate reference number)	

Characteristics	Example Varieties	Note	
5.3ii Petal: ground color (46)			
white		1[]	
yellow		2[]	
green		3[]	
orange		4[]	
pink		5[]	
violet		6[]	
brown		7[]	
6. Similar varieties and differences from these varieties			
Denomination of similar variety	Characteristic in which the similar variety is different ^{o)}	State of expression of similar variety	State of expression of candidate variety
<p>^{o)} In the case of identical states of expressions of both varieties, please indicate the size of the difference.</p>			
7. Additional information which may help to distinguish the variety			
7.1 Resistance to pests and diseases			
7.2 Special conditions for the examination of the variety			
(a) Conditions for planting			
(b) Other conditions			

7.3 Other information

A representative color photo of the variety should be added to 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 that question is yes, please attach a copy of such an authorization.

[End of document]