



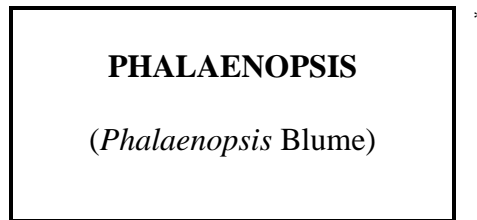
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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA



GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names: *

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Phalaenopsis</i> Blume	Phalaenopsis	Phalaenopsis	Phalaenopsis	Phalaenopsis

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as 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 *Phalaenopsis* Blume of the family Orchidaceae.

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 two-year old plants that have not previously flowered.

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

- (a) Vegetatively propagated varieties: 10 plants;
- (b) Seed-propagated varieties: 50 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 *Duration of Tests*

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

3.2 *Testing Place*

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

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 It is recommended that the tests be conducted in a greenhouse under the following conditions in the Northern hemisphere:

Time of submission of plant material:	Second half of March
Planting:	April
Substrate:	Porous with good aeration Size of pot: medium
Optimum temperature:	21-30 °C
Fertilizer:	From April to July
High temperature treatment:	September to October: minimum temperature: 25 °C
Low temperature treatment: (flower differentiation)	November - December: night temperature: 18-25 °C day temperature: 25-28 °C
Shading:	Winter season: 30% Summer season: 60-70% (Optimum: 15,000-30,000 lux)

3.3.3 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.

3.4 *Test Design*

3.4.1 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.

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

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations determined by measuring or counting should be made on 10 plants or parts taken from each of 10 plants.

3.6 *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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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.

4.2 *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 Vegetatively propagated varieties: 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, 1 off-type is allowed.

4.2.3. Seed-propagated varieties: for the assessment of uniformity of seed-propagated varieties, the recommendations in the General Introduction for cross-pollinated and/or hybrid varieties should be followed, as appropriate.

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 tested, either by growing a further generation, or by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous 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 is 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: size (characteristic 1)
- (b) Flower: width in front view (characteristic 19)
- (c) Petal: color pattern (characteristic 45)
- (d) Petal main 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

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

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*

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.

6.3 *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*

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

6.4.2 The Table of Characteristics mainly contains species because of the small number of varieties currently in existence. All variety denominations are preceded by group names (GREX). General remark: a particular grouping on the basis of known parentage, of which the unit is the GREX, is in long standing use in orchids.

6.4.3 The variety denominations are placed between single quotation marks (e.g. 'Blushfull').

6.5 *Legend*

(*) Asterisked characteristic – see Section 6.1.2

QL Qualitative characteristic – see Section 6.3

QN Quantitative characteristic – see Section 6.3

PQ Pseudo-Qualitative characteristic – see Section 6.3

(a)-(d) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 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. (*)	Plant: size	Plante: taille	Pflanze: Größe	Planta: tamaño		
QN	very small	très petite	sehr klein	muy pequeña		1
	small	petite	klein	pequeña	Cherry Song 'Doll'	3
	medium	moyenne	mittel	media	'Maihime'	5
	large	grande	groß	grande	Cygnus 'Renaissance'	7
	very large	très grande	sehr groß	muy grande		9
2. (*)	(a) Leaf: length	Feuille: longueur	Blatt: Länge	Hoja: longitud		
QN	short	courte	kurz	corta	Cherry Song 'Doll'	3
	medium	moyenne	mittel	media		5
	long	longue	lang	larga		7
3. (*)	(a) Leaf: width	Feuille: largeur	Blatt: Breite	Hoja: anchura		
QN	narrow	étroite	schmal	estrecha	Cherry Song 'Doll'	3
	medium	moyenne	mittel	media	'Maihime'	5
	broad	large	breit	ancha		7
4. (*)	(a) Leaf: shape	Feuille: forme	Blatt: Form	Hoja: forma		
PQ	linear	linéaire	linear	lineal		1
	narrow ovate	ovale étroite	schmal eiförmig	oval estrecha	Happy Sheena 'Kirara'	2
	oblong	oblongue	rechteckig	oblonga	Cygnus 'Empire'	3
	narrow obovate	obovale étroite	schmal verkehrt eiförmig	oboval estrecha		4
5. (*)	(a) Leaf: shape of apex	Feuille: forme du sommet	Blatt: Form der Spitze	Hoja: forma del ápice		
PQ	acute	aigu	spitz	agudo	Cygnus 'Renaissance'	1
	obtuse	obtus	stumpf	obtuso	'Maihime'	2
	emarginate	émarginé	eingekerbt	emarginado	Happy Sheena 'Kirara'	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	(a) Leaf: symmetry of apex	Feuille: symétrie du sommet	Blatt: Symmetrie der Spitze	Hoja: simetría del ápice		
QL	asymmetric	asymétrique	asymmetrisch	asimétrico		1
	symmetric	symétrique	symmetrisch	simétrico		2
7.	(a) Leaf: attitude	Feuille: port	Blatt: Haltung	Hoja: porte		
QN	semi-erect	demi dressée	halbaufrecht	semierecta	Cygnus 'Renaissance'	3
	horizontal	horizontale	waagerecht	horizontal	'Maihime'	5
	semi-pendulous	demi retombante	halbhängend	semicolgante	'OW Bonnie Vasquez'	7
8.	(a) Leaf: color of upper side	Feuille: couleur de la face supérieure	Blatt: Farbe der Oberseite	Hoja: color del haz		
PQ	yellowish green	vert jaunâtre	gelblichgrün	verde amarillento	Kahori 'Cupid'	1
	light green	vert clair	hellgrün	verde claro		2
	medium green	vert moyen	mittelgrün	verde medio	Cygnus 'Renaissance'	3
	dark green	vert foncé	dunkelgrün	verde oscuro	'Maihime'	4
9.	(a) Leaf: anthocyanin coloration	Feuille: pigmentation anthocyanique	Blatt: Anthocyanfärbung	Hoja: pigmentación antociánica		
QL	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente		9
10.	(b) Inflorescence: type	Inflorescence: type	Blütenstand: Typ	Inflorescencia: tipo		
QL	solitary	unique	einzel	solitaria		1
	raceme	grappe	traubenartig	racimo	'Maihime'	2
	panicle	panicule	rispenartig	panícula	Cherry Song 'Doll'	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. (*) (+)	(b) Inflorescence: length (c)	Inflorescence: longueur	Blütenstand: Länge	Inflorescencia: longitud		
QN	short	courte	kurz	corta	Zuma Aussie Delight 'ZC'	3
	medium	moyenne	mittel	media	Beauty Sheena 'Ran Ran'	5
	long	longue	lang	larga	Emotional Moon 'Kinryu'	7
12. (*)	(b) Inflorescence: number of flowers (c)	Inflorescence: nombre de fleurs	Blütenstand: Anzahl Blüten	Inflorescencia: número de flores		
QN	few	rare	gering	bajo	Kahori 'Cupid'	3
	medium	assez nombreuses	mittel	medio	Cherry Song 'Doll'	5
	many	nombreuses	groß	alto	'Toki no mai'	7
13. (*)	(b) Peduncle: length (c)	Pédoncule: longueur	Blütenstandstiel: Länge	Pedúnculo: longitud		
QN	short	court	kurz	corto	Zuma Aussie Delight 'ZC'	3
	medium	moyen	mittel	medio	Cherry Song 'Doll'	5
	long	long	lang	largo	Cygnus 'Renaissance'	7
14. (*)	(b) Peduncle: thickness (c)	Pédoncule: épaisseur	Blütenstandstiel: Dicke	Pedúnculo: grosor		
QN	thin	fin	dünn	delgado		3
	medium	moyen	mittel	medio	Beauty Sheena 'Ran Ran'	5
	thick	épais	dick	grueso	Cygnus 'Renaissance'	7
15. (*)	(b) Peduncle: anthocyanin coloration (c)	Pédoncule: pigmentation anthocyanique	Blütenstandstiel: Anthocyanfärbung	Pedúnculo: pigmentación antociánica		
QL	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente	Cherry Song 'Doll'	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. (*)	(b) Flower: general appearance of petals and sepals	Fleur: apparence générale des pétales et sépales	Blüte: allgemeine Erscheinungsform der Blütenblätter und der Kelchblätter	Flor: aspecto general de pétalos y sépalos		
PQ	incurving	incurvés	aufgebogen	curvados hacia arriba		1
	spreading	étalés	breitwüchsig	extendidos	Cygnus 'Renaissance'	2
	reflexing	réfléchis	zurückgebogen	curvados hacia abajo		3
17. (*)	(b) Flower: texture of the surface of sepals and petals	Fleur: texture de la surface des sépales et pétales	Blüte: Textur der Oberfläche der Kelchblätter und der Blütenblätter	Flor: textura de la superficie de los sépalos y los pétalos		
QL	smooth	lisse	glatt	lisa		1
	rough	rugueuse	rauh	rugosa		2
18. (*) (+)	(b) Flower: length in front view (c)	Fleur: longueur en vue de face	Blüte: Länge in der Vorderansicht	Flor: longitud en vista frontal		
QN	short	courte	kurz	corta		3
	medium	moyenne	mittel	media	Zuma Aussie Delight 'ZC'	5
	long	longue	lang	larga	Cygnus 'Renaissance'	7
19. (*) (+)	(b) Flower: width in front view (c)	Fleur: largeur en vue de face	Blüte: Breite in der Vorderansicht	Flor: anchura en vista frontal		
QN	narrow	étroite	schmal	estrecha		3
	medium	moyenne	mittel	media	Zuma Aussie Delight 'ZC'	5
	broad	large	breit	ancha	Cygnus 'Renaissance'	7
20. (*) (+)	(b) Flower: arrangement of petals	Fleur: disposition des pétales	Blüte: Anordnung der Blütenblätter	Flor: disposición de los pétalos		
QN	open	ouverts	offen	abierta		1
	touching	tangents	sich berührend	tocándose	Grace Palm 'Miwa'	2
	overlapping	chevauchants	überlappend	solapándose	Musashino Moon 'Ohgane No.4'	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
21.	(b) Flower: fragrance	Fleur: parfum	Blüte: Duft	Flor: fragancia/perfume		
QL	absent	absent	fehlend	ausente		1
	present	présent	vorhanden	presente	Cygnus 'Renaissance'	9
22.	(b) Sepal: shape	Sépale: forme	Kelchblatt: Form	Sépalo: forma		
(*)						
PQ	linear	linéaire	linear	lineal		1
	ovate	ovale	eiförmig	oval		2
	elliptic	elliptique	elliptisch	elíptica	Cygnus 'Renaissance'	3
	obovate	obovale	verkehrt eiförmig	oboval	'OW Bonnie Vasquez'	4
	round	rond	rund	redonda		5
23.	(b) Sepal: length	Sépale: longueur	Kelchblatt: Länge	Sépalo: longitud		
(*)	(c)					
QN	short	court	kurz	corto	Cherry Song 'Doll'	3
	medium	moyen	mittel	medio	Zuma Aussie Delight 'ZC'	5
	long	long	lang	largo	Cygnus 'Renaissance'	7
24.	(b) Sepal: width	Sépale: largeur	Kelchblatt: Breite	Sépalo: anchura		
(*)	(c)					
QN	narrow	étroit	schmal	estrecho		3
	medium	moyen	mittel	medio	Zuma Aussie Delight 'ZC'	5
	broad	large	breit	ancho	Cygnus 'Renaissance'	7
25.	(b) Sepal: curvature of longitudinal axis	Sépale: courbure de l'axe longitudinal	Kelchblatt: Biegung der Längsachse	Sépalo: curvatura del eje longitudinal		
(*)						
QN	incurving	incurvé	aufgebogen	curvado hacia arriba	Cygnus 'Renaissance'	1
	straight	droit	gerade	recto	Beauty Sheena 'Rin Rin'	2
	recurving	retombant	zurückgebogen	curvado hacia abajo	Zuma Aussie Delight 'ZC'	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26.	(b) Sepal: cross section	Sépale: section transversale	Kelchblatt: Querschnitt	Sépalo: corte transversal		
QN	concave	concave	konkav	cóncavo		1
	straight	droite	gerade	recto	Zuma Aussie Delight 'ZC'	2
	convex	convexe	konvex	convexo	Cygnus 'Renaissance'	3
27.	(b) Sepal: twisting	Sépale: torsion	Kelchblatt: Drehung	Sépalo: torsión		
QL	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente		9
28.	(b) Sepal: undulation of margin	Sépale: ondulation du bord	Kelchblatt: Randwellung	Sépalo: ondulación del margen		
QL	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente	Kenneth Schubert 'Marumi Blue'	9
29.	(b) Dorsal sepal: number of colors	Sépale dorsale: nombre de couleurs	Dorsales Kelchblatt: Anzahl Farben	Sépalo dorsal: número de colores		
QL	one	une	eine	uno	Cygnus 'Renaissance'	1
	two	deux	zwei	dos	Beauty Sheena 'Ran Ran'	2
	three	trois	drei	tres	Zuma's Pixie 'Malibu'	3
	more than three	plus de trois	mehr als drei	más de tres		4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
30. (*)	(b) Dorsal sepal: color pattern (d)	Sépale dorsal: répartition de la couleur	Dorsales Kelchblatt: Farbverteilung	Sépalo dorsal: distribución del color		
QL	evenly colored	de couleur uniforme	gleichmäßig gefärbt	color parejo		1
	shaded	dégradée	schattiert	sombreado	Beauty Sheena 'Rin Rin'	2
	edged	bordée	gerändert	ribeteado	Cherry Song 'Doll'	3
	striped	striée	gestreift	estriado		4
	netted	réticulée	netzartig	reticulado	Happy Sheena 'Koala'	5
	spotted	tachetée	gefleckt	manchado	Carmen 'Himiko'	6
	shaded and striped	dégradée et striée	schattiert und gestreift	sombreado y estriado		7
	striped and spotted	striée et tachetée	gestreift und gefleckt	estriado y manchado		8
	edged and striped	bordée et striée	gerändert und gestreift	ribeteado y estriado		9
31. (*)	(b) Dorsal sepal: main color (d)	Sépale dorsal: couleur principale	Dorsales Kelchblatt: Hauptfarbe	Sépalo dorsal: color principal		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
32. (*)	(b) Dorsal sepal: secondary color (d)	Sépale dorsal: couleur secondaire	Dorsales Kelchblatt: Sekundärfarbe	Sépalo dorsal: color secundario		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
33. (*)	(b) Lateral sepal: number of colors (d)	Sépale latéral: nombre de couleurs	Seitliches Kelchblatt: Anzahl Farben	Sépalo lateral: número de colores		
QL	one	une	eine	uno	Cygnus 'Renaissance'	1
	two	deux	zwei	dos	Beauty Sheena 'Ran Ran'	2
	three	trois	drei	tres	Zuma's Pixie 'Malibu'	3
	more than three	plus de trois	mehr als drei	más de tres		4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
34. (*)	(b) Lateral sepal: color (d) pattern	Sépale latéral: répartition de la couleur	Seitliches Kelchblatt: Farbverteilung	Sépalo lateral: distribución del color		
QL	evenly colored	de couleur uniforme	gleichmäßig gefärbt	color parejo		1
	shaded	dégradée	schattiert	sombreado	Kahori 'Cupid'	2
	edged	bordée	gerändert	ribeteado	Cherry Song 'Doll'	3
	striped	striée	gestreift	estriado		4
	netted	réticulée	netzartig	reticulado	Happy Sheena 'Koala'	5
	spotted	tachetée	gefleckt	manchado	Carmen 'Himiko'	6
	shaded and striped	dégradée et striée	schattiert und gestreift	sombreado y estriado		7
	shaded and netted	dégradée et réticulée	schattiert und netzartig	sombreado y reticulado		8
	shaded and spotted	dégradée et tachetée	schattiert und gefleckt	sombreado y manchado		9
	striped and spotted	striée et tachetée	gestreift und gefleckt	estriado y manchado		10
	edged and striped and spotted	bordée, striée et tachetée	gerändert, gestreift und gefleckt	ribeteado, estriado y manchado		11
35. (*)	(b) Lateral sepal: main (d) color	Sépale latéral: couleur principale	Seitliches Kelchblatt: Hauptfarbe	Sépalo lateral: color principal		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
36. (*)	(b) Lateral sepal: (d) secondary color	Sépale latéral: couleur secondaire	Seitliches Kelchblatt: Sekundärfarbe	Sépalo lateral: color secundario		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37. (*)	(b) Petal: shape	Pétale: forme	Blütenblatt: Form	Pétalo: forma		
PQ	linear	linéaire	linear	lineal		1
	ovate	ovale	eiförmig	oval	Cherry Song 'Doll'	2
	elliptic	elliptique	elliptisch	elíptica		3
	obovate	obovale	verkehrt eiförmig	oboval	'Sayaka Spring Heart'	4
	rhombic	losangique	rautenförmig	rómbica		5
	semi-circular	demi arrondi	halbkreisförmig	semicircular	Cygnus 'Renaissance'	6
38. (*)	(b) Petal: length	Pétale: longueur	Blütenblatt: Länge	Pétalo: longitud		
	(c)					
QN	short	court	kurz	corto	Cherry Song 'Doll'	3
	medium	moyen	mittel	medio	'Puriti Uman'	5
	long	long	lang	largo	Cygnus 'Renaissance'	7
39. (*)	(b) Petal: width	Pétale: largeur	Blütenblatt: Breite	Pétalo: anchura		
	(c)					
QN	narrow	étroit	schmal	estrecho	Cherry Song 'Doll'	3
	medium	moyen	mittel	medio	'Buraitohato'	5
	broad	large	breit	ancho	Cygnus 'Renaissance'	7
40. (*)	(b) Petal: curvature of longitudinal axis	Pétale: courbure de l'axe longitudinal	Blütenblatt: Biegung der Längsachse	Pétalo: curvatura del eje longitudinal		
QN	incurving	incurvé	aufgebogen	curvado hacia arriba	Beauty Sheena 'Ran Ran'	1
	straight	droit	gerade	recto	Cygnus 'Renaissance'	2
	recurving	retombant	zurückgebogen	curvado hacia abajo	Zuma Aussie Delight 'ZC'	3
41. (*)	(b) Petal: shape in cross section	Pétale: forme en section transversale	Blütenblatt: Form im Querschnitt	Pétalo: forma en sección transversal		
QN	concave	concave	konkav	cóncavo		1
	flat	plat	flach	plano	Zuma Aussie Delight 'ZC'	2
	convex	convexe	konvex	convexo	Cygnus 'Renaissance'	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
42.	(b) Petal: twisting	Pétale: torsion	Blütenblatt: Drehung	Pétalo: torsión		
QL	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente	‘Sawatdii Kha’	9
43.	(b) Petal: undulation of margin	Pétale: ondulation du bord	Blütenblatt: Randwellung	Pétalo: ondulación del margen		
QL	absent	absente	fehlend	ausente		1
	present	présente	vorhanden	presente	Zuma Aussie Delight ‘ZC’	9
44.	(b) Petal: number of colors	Pétale: nombre de couleurs	Blütenblatt: Anzahl Farben	Pétalo: número de colores		
QL	one	une	eine	uno	Cygnus ‘Renaissance’	1
	two	deux	zwei	dos	Cherry Song ‘Doll’	2
	three	trois	drei	tres	‘Kyokomachi’	3
	more than three	plus de trois	mehr als drei	más de tres		4
45.	(b) Petal: color pattern	Pétale: répartition des couleurs	Blütenblatt: Farbverteilung	Pétalo: distribución del color		
QL	evenly colored	de couleur uniforme	gleichmäßig gefärbt	color uniforme		1
	shaded	dégradée	schattiert	sombreado	Kahori ‘Cupid’	2
	edged	bordée	gerändert	ribeteado	Cherry Song ‘Doll’	3
	striped	striée	gestreift	estriado		4
	netted	réticulée	netzartig	reticulado	Happy Sheena ‘Koala’	5
	spotted	tachetée	gefleckt	manchado	Carmen ‘Himiko’	6
	shaded and striped	dégradée et striée	schattiert und gestreift	sombreado y estriado		7
	shaded and spotted	dégradée et tachetée	schattiert und gefleckt	sombreado y manchado		8
	shaded and striped and spotted	dégradée, striée et tachetée	schattiert, gestreift und gefleckt	sombreado, estriado y manchado		9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
46. (*)	(b) Petal: main color (d)	Pétale: couleur principale	Blütenblatt: Hauptfarbe	Pétalo: color principal		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
47. (*)	(b) <u>Shaded varieties</u> only: Petal: extent of shade	<u>Variétés dégradées</u> seulement: Pétale: étendue du dégradé	<u>Nur Sorten mit schattiertem Blütenblatt:</u> Blütenblatt: Ausdehnung der Schattierung	<u>Sólo variedades sombreadas:</u> Pétalo: alcance del sombreado		
QN	small	petite	gering	pequeño		3
	medium	moyenne	mittel	medio		5
	large	grande	groß	grande		7
48. (*)	(b) Petal: secondary color (d)	Pétale: couleur secondaire	Blütenblatt: Sekundärfarbe	Pétalo: color secundario		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
49. (*)	(b) Lip: length of apical lobe (c) (+)	Labelle: longueur du lobe apical	Lippe: Länge des apikalen Lappens	Labio: longitud del lóbulo apical		
QN	short	court	kurz	corto	Cherry Song 'Doll'	3
	medium	moyen	mittel	medio	'Maihime'	5
	long	long	lang	largo		7
50. (*)	(b) Lip: width of apical lobe (c) (+)	Labelle: largeur du lobe apical	Lippe: Breite des apikalen Lappens	Labio: anchura del lóbulo apical		
QN	narrow	étroit	schmal	estrecho	Cherry Song 'Doll'	3
	medium	moyen	mittel	medio	'Maihime'	5
	broad	large	breit	ancho		7
51. (*)	(b) Lip: presence of whiskers	Labelle: présence de cirres	Lippe: Vorhandensein von Haaren	Labio: presencia de patillas		
QL	absent	absents	fehlend	ausentes	Cherry Song 'Doll'	1
	present	présents	vorhanden	presentes	Cygnus 'Renaissance'	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
52.	(b) Lip: length of whiskers relative to length of apical lobe	Labelle: longueur des cirres par rapport au lobe apical	Lippe: Länge der Haare im Verhältnis zur Länge des apikalen Lappens	Labio: longitud de las patillas en relación con la longitud del lóbulo apical		
(+)						
QN	short	courts	kurz	cortas	‘Maihime’	3
	medium	moyens	mittel	medias	Happy Sheena ‘Koala’	5
	long	longs	lang	largas	Cygnus ‘Renaissance’	7
53.	(b) Lip: shape of apical lobe	Labelle: forme du lobe apical	Lippe: Form des apikalen Lappens	Labio: forma del lóbulo apical		
(*)						
(+)						
PQ	ovate	ovale	eiförmig	oval		1
	elliptic	elliptique	elliptisch	elíptica	Carmen ‘Himiko’	2
	obovate	obovale	verkehrt eiförmig	oboval	Kahori ‘Cupid’	3
	orbicular	orbiculaire	kreisförmig	orbical		4
	semi-circular	demi arrondi	halbkreisförmig	semicircular		5
	deltoid	deltoïde	deltaförmig	deltoïde		6
	obdeltoid	obdeltoïde	verkehrt deltaförmig	obdeltoïde	Cygnus ‘Renaissance’	7
	rhombic	losangique	rautenförmig	rómbica	‘Sawatdii Ca’	8
54.	(b) Lip: bump and ridge on apical lobe	Labelle: bosse et arête sur le lobe apical	Lippe: Höcker und Wulst am apikalen Lappen	Labio: chichón y cresta en el lóbulo apical		
(+)						
QL	absent	absentes	fehlend	ausente		1
	present	présentes	vorhanden	presente	Goldiana ‘hagimoto’	9
55.	(b) Lip: type of shape of lateral lobe	Labelle: type de forme du lobe latéral	Lippe: Typ der Form des Seitenlappens	Labio: tipo de forma del lóbulo lateral		
(*)						
(+)						
PQ	type I	type I	Typ I	tipo I	Zuma Aussie Delight ‘ZC’	1
	type II	type II	Typ II	tipo II	Carmen ‘Himiko’	2
	type III	type III	Typ III	tipo III	Cherry Song ‘Doll’	3
	type IV	type IV	Typ IV	tipo IV	Kahori ‘Cupid’	4
	type V	type V	Typ V	tipo V	Cygnus ‘Renaissance’	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
56. (*) (+)	(b) Lip: type of curvature of lateral lobe	Labelle: type de courbure du lobe latéral	Lippe: Typ der Biegung des Seitenlappens	Labio: tipo de curvatura del lóbulo lateral		
PQ	type I	type I	Typ I	tipo I	Cygnus 'Renaissance'	1
	type II	type II	Typ II	tipo II	Cherry Song 'Doll'	2
	type III	type III	Typ III	tipo III		3
57. (*)	(b) Lip: size of lateral lobe relative to apical lobe	Labelle: taille du lobe latéral par rapport au lobe apical	Lippe: Größe des Seitenlappens im Verhältnis zum apikalen Lappen	Labio: tamaño del lóbulo lateral en relación con el lóbulo apical		
QN	smaller	plus petit	kleiner	más pequeño	Cherry Song 'Doll'	3
	same	identique	gleich groß	del mismo tamaño	Beauty Sheena 'Ran Ran'	5
	larger	plus grand	größer	más grande	Cygnus 'Renaissance'	7
58. (*)	(b) Lip: number of colors	Labelle: nombre de couleurs	Lippe: Anzahl Farben	Labio: número de colores		
QL	one	une	eine	uno		1
	two	deux	zwei	dos		2
	three	trois	drei	tres		3
	more than three	plus de trois	mehr als drei	más de tres		4
59. (*)	(b) Lip: color pattern of apical lobe	Labelle: répartition de la couleur du lobe apical	Lippe: Farbverteilung auf dem apikalen Lappen	Labio: distribución del color en el lóbulo apical		
QL	evenly colored	de couleur uniforme	gleichmäßig gefärbt	color uniforme		1
	shaded	dégradée	schattiert	sombreado	Kahori 'Cupid'	2
	edged	bordée	gerändert	ribeteado	'OW Bonnie Vasquez'	3
	striped	striée	gestreift	estriado	Happy Sheena 'Koala'	4
	netted	réticulée	netzartig	reticulado		5
	spotted	tachetée	gefleckt	manchado		6

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
60. (*)	(b) Lip: main color of apical lobe (d)	Labelle: couleur principale du lobe apical	Lippe: Hauptfarbe des apikalen Lappens	Labio: color principal en el lóbulo apical		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
61. (*)	(b) Lip: color of pattern of apical lobe (d)	Labelle: couleur du motif du lobe apical	Lippe: Farbe des Musters auf dem apikalen Lappen	Labio: color del dibujo en el lóbulo apical		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
62. (*)	(b) Lip: color pattern of lateral lobe (d)	Labelle: répartition de la couleur du lobe latéral	Lippe: Farbverteilung auf dem Seitenlappen	Labio: distribución del color en el lóbulo lateral		
QL	evenly colored	de couleur uniforme	gleichmäßig gefärbt	color uniforme		1
	shaded	dégradée	schattiert	sombreado	Zuma Aussie Delight 'ZC'	2
	edged	bordée	gerändert	ribeteado		3
	striped	striée	gestreift	estriado	Carmen 'Himiko'	4
	netted	réticulée	netzartig	reticulado		5
	spotted	tachetée	gefleckt	manchado	Beauty Sheena 'Ran Ran'	6
63. (*)	(b) Lip: main color of lateral lobe (d)	Labelle: couleur principale du lobe latéral	Lippe: Hauptfarbe des Seitenlappens	Labio: color principal del lóbulo lateral		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		
64. (*)	(b) Lip: color of pattern of lateral lobe (d)	Labelle: couleur du motif du lobe latéral	Lippe: Farbe des Musters auf dem Seitenlappen	Labio: color del dibujo en el lóbulo lateral		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
65.	(b) Lip: callus	Labelle: callus	Lippe: Kallus	Labio: callo		
QL	prominent	proéminent	herausragend	prominente	Cygnus 'Renaissance'	1
	flat	plat	flach	plano	Zuma Aussie Delight 'ZC'	2
66.	(b) Lip: pubescence	Labelle: pilosité	Lippe: Behaarung	Labio: pubescencia		
QL	absent	absente	fehlend	ausente	Cygnus 'Renaissance'	1
	present	présente	vorhanden	presente	Zuma's Pixie 'Malibu'	9
67.	(b) Column: color of apex	Colonne: couleur du sommet	Säule: Farbe der Spitze	Columna: color del ápice		
(+)						
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

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

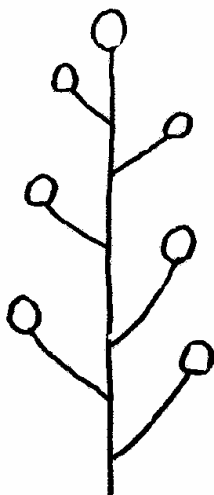
- (a) Observations on the leaf should be made on the longest leaf of a flowering plant.
- (b) To be assessed on the most recently opened flower on the inflorescence, before the color starts to fade, at the time when 50% of the flowers on the inflorescence have opened.
- (c) Observations on the length and width of the flower and parts of the flower should be made on the unextended organ.
- (d) Observations on the color of the sepal, the petal and the lip should be made on the inner side.

8.2 *Explanations for individual characteristics*

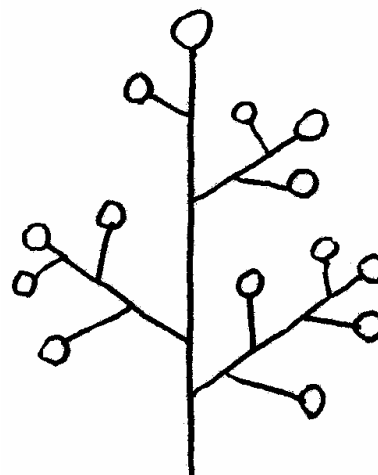
Ad. 10: Inflorescence: type



1
solitary

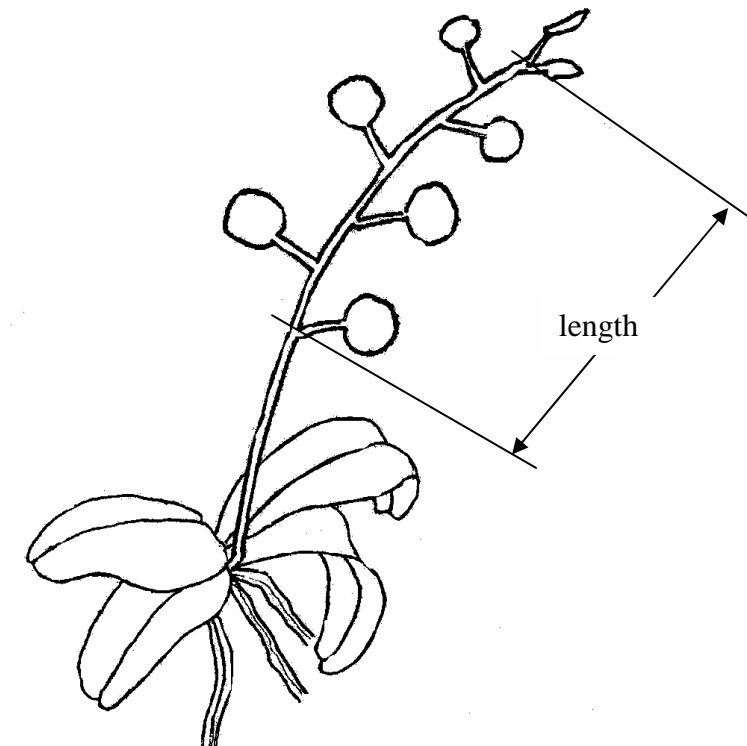


2
raceme



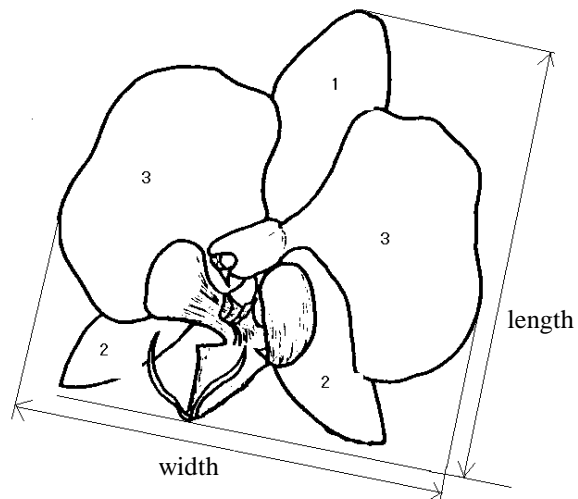
3
panicle

Ad. 11: Inflorescence: length

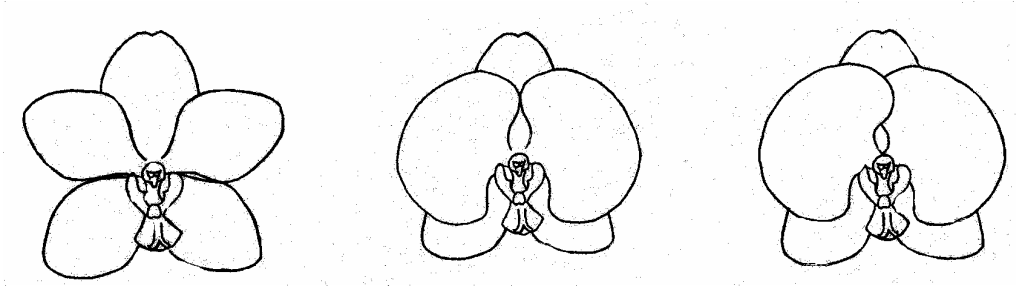


Ad. 18 and 19: Flower: length in front view (18) and width in front view (19)

- 1: Dorsal sepal
- 2: Lateral sepal
- 3: Petal



Ad. 20: Flower: arrangement of petals



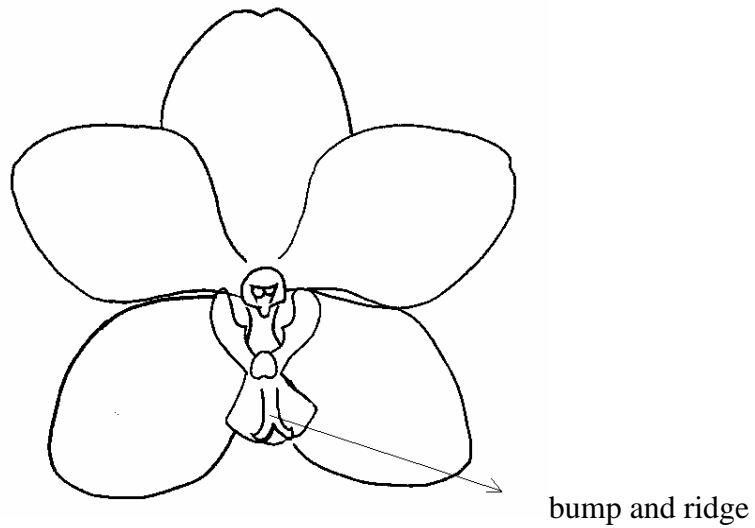
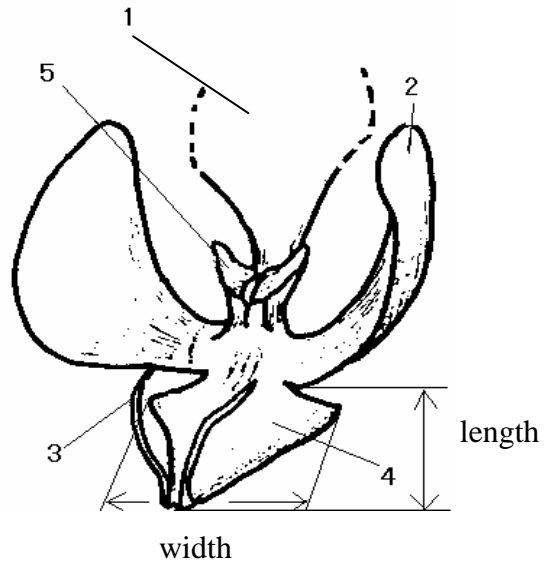
1
open

2
touching

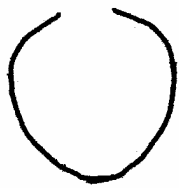
3
overlapping

Ad. 49, 50, 52 and 54: Lip: length of apical lobe (49), width of apical lobe (50), length of whiskers relative to length of apical lobe (52) and bump and ridge on apical lobe(54)

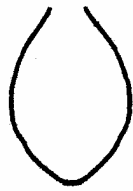
- 1: Column
- 2: Lip: lateral lobe
- 3: Lip: whiskers
- 4: Lip: apical lobe
- 5: Lip: callus



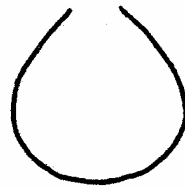
Ad. 53: Lip: shape of apical lobe



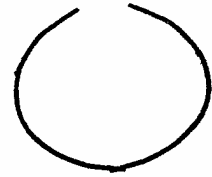
1
ovate



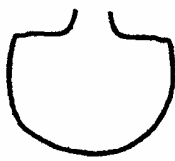
2
elliptic



3
obovate



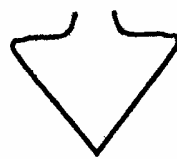
4
orbicular



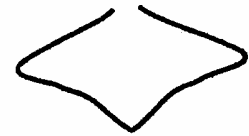
5
semi-circular



6
deltoid



7
obdeltoid



8
rhombic

Ad. 55: Lip: type of shape of lateral lobe



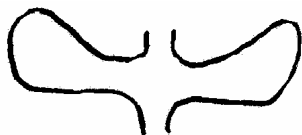
1
type I



2
type II



3
type III

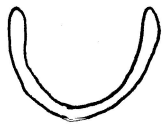


4
type IV



5
type V

Ad. 56: Lip: type of curvature of lateral lobe



1
type I



2
type II



3
type III

Ad. 67: Column: color of apex

All observations on the color of the column should be made on the dorsal side.

9. Literature

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

Karasawa, K., 1996: "Orchids", pp. 510-538, Yama to Keikokusha, Tokyo, Japan (Japanese).

"Encyclopedia of Horticulture", Vol. 9, pp. 71-75, Seibun-Do Shinkosha, Tokyo, Japan (Japanese).

"The Grand Dictionary of Horticulture", Vol. 5, pp. 483-491, Shougakukan, Tokyo, Japan (Japanese).

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		
1.1.1 Latin Name	<input type="text" value="Phalaenopsis Blume"/>	
1.1.2 Common Name	<input type="text" value="Phalaenopsis"/>	
1.2 Species (please complete)		
1.2.1 Latin Name	<input type="text"/>	
1.2.2 Common Name	<input type="text"/>	
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"/>	

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

3. Proposed denomination and breeder's reference

Proposed denomination
(if available)

Breeder's reference

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)

(b) partially unknown cross
(please state known parent variety(ies))

(c) totally unknown cross

4.1.2 Mutation
(please state parent variety)

4.1.3 Discovery
(please state where, when and how developed)

4.1.4 Other
(please provide details)

4.2 Method of Propagating the Variety

4.2.1 Vegetative propagation

(a) cuttings

(b) *in vitro* propagation

(c) other (state method)

4.2.2 Seed

4.2.3 Other
(please provide details)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note
5.1 Plant: size (1)		
very small		1[]
small	Cherry Song 'Doll'	3[]
medium	'Maihime'	5[]
large	Cygnus 'Renaissance'	7[]
very large		9[]
5.2 Flower: width in front view (19)		
narrow		3[]
medium	Zuma Aussie Delight 'ZC'	5[]
broad	Cygnus 'Renaissance'	7[]
5.3 Petal: color pattern (45)		
evenly colored		1[]
shaded	Kahori 'Cupid'	2[]
edged	Cherry Song 'Doll'	3[]
striped		4[]
netted	Happy Sheena 'Koala'	5[]
spotted	Carmen 'Himiko'	6[]
shaded and striped		7[]
shaded and spotted		8[]
shaded and striped and spotted		9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.3i Petal: main color (46)		
RHS Colour Chart (indicate reference number)		
5.3ii Petal: main color (46)		
white	Cygnus 'Renaissance'	1[]
yellow	'Buraithato'	2[]
green		3[]
orange	Zuma Aussie Delight 'ZC'	4[]
pink	'Maihime'	5[]
violet		6[]
brown		7[]

6. Similar varieties and differences from these varieties

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
<i>(Example)</i>	<i>Petal: color pattern</i>	<i>shaded</i>	<i>shaded and striped</i>

Comments:

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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 Special conditions for the examination of the variety

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

Yes [] No []

7.2.2 If yes, please give details:

7.3 Other information

A representative color photograph of the whole plant and one of the flower 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.

9. 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]