



TG/133/5

ORIGINAL: English

DATE: 2020-12-17

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

HYDRANGEA *

UPOV Code(s): HYDRN

Hydrangea L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Hydrangea</i> L.	Hydrangea	Hortensia, Hydrangée	Hortensie	Hidrangea, Hortensia

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.]

TABLE OF CONTENTS	PAGE
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED.....	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles.....	3
3.2 Testing Place.....	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design.....	4
3.5 Additional Tests.....	4
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY.....	4
4.1 Distinctness.....	4
4.2 Uniformity.....	5
4.3 Stability.....	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS.....	6
6.1 Categories of Characteristics.....	6
6.2 States of Expression and Corresponding Notes.....	6
6.3 Types of Expression.....	7
6.4 Example Varieties.....	7
6.5 Legend.....	7
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	8
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS.....	19
8.1 Explanations covering several characteristics.....	19
8.2 Explanations for individual characteristics.....	19
9. LITERATURE.....	30
10. TECHNICAL QUESTIONNAIRE.....	31

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Hydrangea* L.

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 expressing all characteristics in the first growing cycle.
- 2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:
- 8 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*

- 3.1.1 The minimum duration of tests should normally be a single growing cycle.
- 3.1.2 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

- 3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.
- 3.3.2 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 8 plants.

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

3.5 *Additional Tests*

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants or Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 7 plants or parts of plants taken from each of 7 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

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

MG: single measurement of a group of plants or parts of plants

MS: measurement of a number of individual plants or parts of plants

VG: visual assessment by a single observation of a group of plants or parts of plants

VS: visual assessment by observation of individual plants or parts of plants

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

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

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

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

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

4.2 *Uniformity*

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

4.2.2 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.3 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 8 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: type (characteristic 1)
 - (b) Stem: fasciation (characteristic 5)
 - (c) Stem: color (characteristic 6)
 - (d) Leaf blade: intensity of anthocyanin coloration (characteristic 17)
 - (e) Leaf blade: variegation (characteristic 19)
 - (f) Leaf blade: main color (characteristic 20)
 - (g) Inflorescence: shape (characteristic 26)
 - (h) Inflorescence: conspicuousness of fertile flowers (characteristic 29)
 - (i) Sterile flower: diameter of calyx (characteristic 32)
 - (j) Sterile flower: number of sepals (characteristic 33)
 - (k) Sterile flower: main color of inner side of sepals (characteristic 42) with the following groups:
 - Gr. 1: white
 - Gr. 2: green
 - Gr. 3: light pink
 - Gr. 4: medium pink
 - Gr. 5: dark pink
 - Gr. 6: red
- 5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 "Examining Distinctness".
6. Introduction to the Table of Characteristics
- 6.1 *Categories of Characteristics*
- 6.1.1 *Standard Test Guidelines Characteristics*
- Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.
- 6.1.2 *Asterisked Characteristics*
- Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.
- 6.2 *States of Expression and Corresponding Notes*
- 6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.2.2 All relevant states of expression are presented in the characteristic.

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.

The example varieties given in the Table of Characteristics belong to the species indicated below:

- (a) *Hydrangea macrophylla* (Thunb.) Ser. and *Hydrangea serrata* (Thunb.) Ser. var. *serrata*
- (b) *Hydrangea paniculata* Siebold
- (c) *Hydrangea arborescens* L.
- (d) *Hydrangea quercifolia* W. Bartram
- (e) *Hydrangea petiolaris* Siebold & Zucc.

6.5 *Legend*

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1	2	3	4	5	6	7	
		Name of characteristics in English	Nom du caractère en français	Name des Merkmals auf Deutsch	Nombre del carácter en español		
		states of expression	types d'expression	Ausprägungsstufen	tipos de expresión		

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression
 QL Qualitative characteristic – see Chapter 6.3
 QN Quantitative characteristic – see Chapter 6.3
 PQ Pseudo-qualitative characteristic – see Chapter 6.3

4 Method of observation (and type of plot, if applicable)
 MG, MS, VG, VS – see Chapter 4.1.5

5 (+) See Explanations on the Table of Characteristics in Chapter 8.2

6 (a)-(d) See Explanations on the Table of Characteristics in Chapter 8.1

7 Not applicable

(a) - (e) Species of example varieties (see 6.4)

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	QL VG					
	Plant: type	Plante : type	Pflanze: Typ	Planta: tipo		
	climbing	grim pant	kletternd	trepadora	Silver Lining (e)	1
	non-climbing	non grim pant	nicht kletternd	no trepadora	Merveille (a)	2
2. (*)	QN VG	(+)				
	Only varieties with Plant: type: non- climbing: Plant: growth habit	Uniquement les variétés de type non grim pant ; Plante : port	Nur Sorten mit Pflanze: Typ: nicht kletternd: Pflanze: Wuchsform	Solo variedades con Planta: tipo: no trepadora: Planta: hábito de crecimiento		
	upright	dressé	aufrecht	erecto		1
	semi-upright	demi-dressé	halbaufrecht	semierecto		2
	spreading	étalé	breitwüchsig	extendido		3
3. (*)	QN MG/MS/VG	(+)				
	Only varieties with Plant: type: non- climbing: Plant: height	Uniquement les variétés de type non grim pant ; Plante : hauteur	Nur Sorten mit Pflanze: Typ: nicht kletternd: Pflanze: Höhe	Solo variedades con Planta: tipo: no trepadora: Planta: altura		
	very short	très courte	sehr niedrig	muy baja	BREG14 (b), NCHA8 (c), Saxtabrose (a)	1
	very short to short	très courte à courte	sehr niedrig bis niedrig	muy baja a baja		2
	short	courte	niedrig	baja	Dolprim (b), HBA 2014903 (a), NCHA7 (c)	3
	short to medium	courte à moyenne	niedrig bis mittel	baja a media		4
	medium	moyenne	mittel	media	Bokraflame (b), Hortmasnodo (a), NCHA3 (c)	5
	medium to tall	moyenne à haute	mittel bis hoch	media a alta		6
	tall	haute	hoch	alta	Bulk (b), HBA 215908 (a), NCHA4 (c)	7
	tall to very tall	haute à très haute	hoch bis sehr hoch	alta a muy alta		8
	very tall	très haute	sehr hoch	muy alta	Annabelle (c), Kazan (a), Mid Late Summer (b)	9
4.	QN VG					
	Only varieties with Plant: type: non- climbing: Plant: height in relation to width	Uniquement les variétés de type non grim pant ; Plante : hauteur par rapport à la largeur	Nur Sorten mit Pflanze: Typ: nicht kletternd: Pflanze: Höhe im Verhältnis zur Breite	Solo variedades con Planta: tipo: no trepadora: Planta: altura en relación con la anchura		
	taller than broad	plus haute que large	höher als breit	más alta que ancha		1
	as tall as broad	aussi haute que large	gleich hoch wie breit	tan alta como ancha		2
	broader than tall	plus large que haute	breiter als hoch	más ancha que alta		3

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	(*)	QL	VG	(+)	(a)			
		Stem: fasciation	Tige : fasciation	Trieb: Verbänderung	Tallo: fasciación			
		absent	absente	fehlend	ausente	Merveille (a)		1
		present	présente	vorhanden	presente	Domotoi (a)		9
6.	(*)	PQ	VG	(+)	(a)			
		Stem: color	Tige : couleur	Trieb: Farbe	Tallo: color			
		green	vert	grün	verde	Merveille (a)		1
		pink	rose	rosa	rosa	Mid Late Summer (b)		2
		red	rouge	rot	rojo	Wims Red (b)		3
		brown	brun	braun	marrón	Bokraflame (b)		4
		black	noir	schwarz	negro	Nigra (a)		5
		green and black	vert et noir	grün und schwarz	verde y negro	Napo (a)		6
7.		QN	VG	(+)	(a)			
		Stem: number of lenticels	Tige : nombre de lenticelles	Trieb: Anzahl Lentizellen	Tallo: número de lenticelas			
		absent or few	absent ou petit	fehlend oder wenige	nulo o bajo	Blue Bird (a), Imola (a)		1
		few to medium	petit à moyen	wenige bis mittel	bajo a medio			2
		medium	moyen	mittel	medio	Merveille Sanguinea (a)		3
		medium to many	moyen à grand	mittel bis viele	medio a alto			4
		many	grand	viele	alto	Hobella (a)		5
8.		QN	VG	(+)	(a)			
		Stem: size of lenticels	Tige : taille des lenticelles	Trieb: Größe der Lentizellen	Tallo: tamaño de las lenticelas			
		small	petite	klein	pequeño	Mrs Kumiko (a)		1
		medium	moyenne	mittel	medio	Bergfink (a)		2
		large	grande	groß	grande	Hokomac (a)		3
9.		PQ	VG	(+)	(a)			
		Stem: color of lenticels	Tige : couleur des lenticelles	Trieb: Farbe der Lentizellen	Tallo: color de las lenticelas			
		whitish	blanchâtre	weißlich	blanquecino	Pink Diamond (a)		1
		reddish	rougeâtre	rötlich	rojizo	Leuchtfeuer (a)		2
		blackish	noirâtre	schwärzlich	negruzco	Merveille (a)		3

	English		français		deutsch		español		Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
10. (*)	QN	MS/VG	(b)							
	Leaf blade: length		Limbe : longueur		Blattspreite: Länge		Limbo: longitud			
	very short		très courte		sehr kurz		muy corta			1
	very short to short		très courte à courte		sehr kurz bis kurz		muy corta a corta			2
	short		courte		kurz		corta	Hörnli (a)		3
	short to medium		courte à moyenne		kurz bis mittel		corta a media			4
	medium		moyenne		mittel		media	Rosita (a)		5
	medium to long		moyenne à longue		mittel bis lang		media a larga			6
	long		longue		lang		larga	Merveille (a)		7
	long to very long		longue à très longue		lang bis sehr lang		larga a muy larga			8
	very long		très longue		sehr lang		muy larga			9
11.	QN	MS/VG	(b)							
	Leaf blade: width		Limbe : largeur		Blattspreite: Breite		Limbo: anchura			
	very narrow		très étroite		sehr schmal		muy estrecha			1
	very narrow to narrow		très étroite à étroite		sehr schmal bis schmal		muy estrecha a estrecha			2
	narrow		étroite		schmal		estrecha	Shichidanka (a)		3
	narrow to medium		étroite à moyenne		schmal bis mittel		estrecha a media			4
	medium		moyenne		mittel		media	Mrs Kumiko (a)		5
	medium to broad		moyenne à large		mittel bis breit		media a ancha			6
	broad		large		breit		ancha	Snowflake (d)		7
	broad to very broad		large à très large		breit bis sehr breit		ancha muy ancha			8
	very broad		très large		sehr breit		muy ancha			9
12. (*)	QL	VG	(+)	(b)						
	Leaf blade: lobing		Limbe : lobes		Blattspreite: Lappung		Limbo: lobulado			
	absent		absents		fehlend		ausente	Merveille (a)		1
	present		présents		vorhanden		presente	Harmony (d)		9
13. (*)	PQ	VG	(+)	(b)						
	<u>Only varieties with Leaf blade: lobing:</u> <u>absent:</u> Leaf blade: shape		<u>Uniquement les variétés sans découpures des bords :</u> Limbe : forme		<u>Nur Sorten mit Blattspreite: Lappung:</u> <u>fehlend:</u> Blattspreite: Form		<u>Solo variedades con Limbo: lobulado:</u> <u>ausente:</u> Limbo: forma			
	ovate		ovale		eiförmig		oval	Merveille (a)		1
	circular		circulaire		kreisförmig		circular	Rosita (a)		2
	elliptic		elliptique		elliptisch		elíptica	Blue Wave (a)		3
	obovate		obovale		verkehrt eiförmig		oboval	H213 (a), H213902 (a)		4

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14.	QN	VG	(+)	(b)				
	Leaf blade: length of tip	Limbe : longueur de la pointe	Blattspreite: Länge der Spitze	Limbo: longitud del ápice				
	absent or short	absente ou courte	fehlend oder kurz	ausente o corta	Chaperon Rouge (a)		1	
	medium	moyenne	mittel	media	Mme E. Mouillère (a)		2	
	long	longue	lang	larga	Hallasan (a)		3	
15. (*)	PQ	VG	(+)	(b)				
	Leaf blade: shape of base	Limbe : forme de la base	Blattspreite: Form der Basis	Limbo: forma de la base				
	acute	pointue	spitz	aguda	Europa (a)		1	
	obtuse	obtuse	stumpf	obtusa	Bosco (a), Hamburg (a)		2	
	rounded	arrondie	abgerundet	redondeada	Rosabelle (a)		3	
	cordate	cordiforme	herzförmig	cordada	Annabelle (c)		4	
16.	QN	VG	(+)	(b)				
	Leaf blade: depth of incisions on margin	Limbe : profondeur des incisions du bord	Blattspreite: Tiefe der Randeinschnitte	Limbo: profundidad de las incisiones del margen				
	absent or very shallow	absente ou très peu profonde	fehlend oder sehr flach	ausente o muy poco profunda	Bokraflame (b)		1	
	shallow	peu profonde	flach	poco profunda	Perfrie (a)		2	
	medium	moyenne	mittel	medianamente profunda	Hobergine (a)		3	
	deep	profonde	tief	profunda	Fasan (a)		4	
	very deep	très profonde	sehr tief	muy profunda	Paris (a)		5	
17. (*)	QN	VG		(b)				
	Leaf blade: intensity of anthocyanin coloration	Limbe : intensité de la pigmentation anthocyannique	Blattspreite: Intensität der Anthocyanfärbung	Limbo: intensidad de la pigmentación antocianica				
	absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Victoria (a)		1	
	weak	faible	gering	débil	SICAMU2934 (a)		2	
	medium	moyenne	mittel	media	Red Angel (a)		3	
	strong	forte	stark	fuerte	Dark Angel (a)		4	
	very strong	très forte	sehr stark	muy fuerte	Baroque Angel (a)		5	
18.	PQ	VG	(+)	(b)				
	Leaf blade: distribution of anthocyanin coloration	Limbe : distribution de la pigmentation anthocyannique	Blattspreite: Verteilung der Anthocyanfärbung	Limbo: distribución de la pigmentación antocianica				
	none	aucune	keine	ausente			1	
	on margin	sur le bord	am Rand	en el borde			2	
	throughout	partout	überall	en la totalidad			3	

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19. (*)	QL	VG	(b)				
	Leaf blade: variegation		Limbe : panachure	Blattspreite: Panaschierung	Limbo: variegación		
	absent		absente	fehlend	ausente	Merveille (a)	1
	present		présente	vorhanden	presente	Tricolor (a)	9
20. (*)	PQ	VG	(b), (c)				
	Leaf blade: main color		Limbe : couleur principale	Blattspreite: Hauptfarbe	Limbo: color principal		
	yellow		jaune	gelb	amarillo	Ogonba (a)	1
	light green		vert clair	hellgrün	verde claro	Mousseline (a)	2
	medium green		vert moyen	mittelgrün	verde medio	Hobergine (a)	3
	dark green		vert foncé	dunkelgrün	verde oscuro	Rosalba (a)	4
21. (*)	PQ	VG	(b), (c)				
	Leaf blade: secondary color		Limbe : couleur secondaire	Blattspreite: Sekundärfarbe	Limbo: color secundario		
	none		aucune	keine	ausente	Hobella (a)	1
	white		blanc	weiß	blanco	Variegata (a)	2
	yellow		jaune	gelb	amarillo	Lemon Wave (a)	3
	yellow green		vert-jaune	gelbgrün	verde amarillento	Golden Annabelle (c)	4
22.	QN	VG	(b)				
	Leaf blade: glossiness		Limbe : brillance	Blattspreite: Glanz	Limbo: brillo		
	absent or weak		absente ou faible	fehlend oder gering	ausente o débil	Maman (a)	1
	medium		moyenne	mittel	media	Merveille (a)	2
	strong		forte	stark	fuerte	Ayesha (a)	3
23.	QN	VG	(b)				
	Leaf blade: rugosity		Limbe : rugosité	Blattspreite: Blasigkeit	Limbo: rugosidad		
	absent or very weak		absente ou très faible	fehlend oder sehr gering	ausente o débil	Blue Bird (a), Bokraflame (b)	1
	weak		faible	gering	débil	Red Red (a)	2
	medium		moyenne	mittel	media	La Marne (a)	3
	strong		forte	stark	fuerte	Paris (a)	4
	very strong		très forte	sehr stark	muy fuerte	Merveille Sanguinea (a)	5
24.	QN	VG	(+)	(b)			
	Leaf blade: shape in cross-section		Limbe : forme en section transversale	Blattspreite: Form im Querschnitt	Limbo: forma en sección transversal		
	concave		concave	konkav	cóncava		1
	flat		plate	flach	plana		2
	convex		convexe	konvex	convexa		3

	English		français		deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
25. (*)	PQ	VG	(+)	(b)				
	Petiole: color	Pétiole : couleur	Blattstiel: Farbe	Pecíolo: color				
	green	vert	grün	verde	Paris (a)		1	
	red	rouge	rot	rojo	Preziosa (a)		2	
	greenish brown	brun verdâtre	grünlichbraun	marrón verdoso	Renba (b)		3	
	black	noir	schwarz	negro	Horzu (a)		4	
26. (*)	PQ	VG	(+)	(d)				
	Inflorescence: shape	Inflorescence : forme	Blütenstand: Form	Inflorescencia: forma				
	flattened	aplatie	abgeflacht	aplanada	Mousmée (a), Sea Foam (a)		1	
	flattened to globular	aplatie à globuleuse	abgeflacht bis kugelförmig	entre aplanada y globular	Wedding Gown (a)		2	
	globular	globuleuse	kugelförmig	globular	Merveille (a)		3	
	globular to conical	globuleuse à conique	kugelförmig bis kegelförmig	entre globular y cónica	Kolmamon (b)		4	
	conical	conique	kegelförmig	cónica	Snowflake (d)		5	
27.	QN	MG/MS/VG	(+)	(d)				
	Inflorescence: height	Inflorescence : hauteur	Blütenstand: Höhe	Inflorescencia: altura				
	very short	très courte	sehr niedrig	muy baja			1	
	very short to short	très courte à courte	sehr niedrig bis niedrig	muy baja a baja			2	
	short	courte	niedrig	baja	Shichidanka (a)		3	
	short to medium	courte à moyenne	niedrig bis mittel	baja a media			4	
	medium	moyenne	mittel	media	Mrs Kumiko (a)		5	
	medium to tall	moyenne à haute	mittel bis hoch	media a alta			6	
	tall	haute	hoch	alta	Snowflake (d)		7	
	tall to very tall	haute à très haute	hoch bis sehr hoch	alta a muy alta			8	
	very tall	très haute	sehr hoch	muy alta			9	
28.	QN	MG/MS/VG	(+)	(d)				
	Inflorescence: width	Inflorescence : largeur	Blütenstand: Breite	Inflorescencia: anchura				
	very narrow	très étroite	sehr schmal	muy estrecha			1	
	very narrow to narrow	très étroite à étroite	sehr schmal bis schmal	muy estrecha a estrecha			2	
	narrow	étroite	schmal	estrecha	Hörnli (a)		3	
	narrow to medium	étroite à moyenne	schmal bis mittel	estrecha a media			4	
	medium	moyenne	mittel	media	Merveille (a)		5	
	medium to broad	moyenne à large	mittel bis breit	media a ancha			6	
	broad	large	breit	ancha	Maman (a)		7	
	broad to very broad	large à très large	breit bis sehr breit	ancha muy ancha			8	
	very broad	très large	sehr breit	muy ancha			9	

	English		français		deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
29. (*)	QN	VG	(+)	(d)				
	Inflorescence: conspicuousness of fertile flowers		Inflorescence : netteté des fleurs fertiles		Blütenstand: Ausprägung der fertilen Blüten	Inflorescencia: visibilidad de las flores fértiles		
	absent or weak		absente ou faible		fehlend oder gering	no visible o poco visible	Merveille (a)	1
	medium		moyenne		mittel	medianamente visible	HOPE2069 (a)	2
	strong		forte		stark	muy visible	Mousmée (a), Sea Foam (a)	3
30. (*)	PQ	VG	(+)	(d)				
	Only varieties with Inflorescence: conspicuousness of fertile flowers: medium and strong: Inflorescence: arrangement of sterile flowers		Uniquement les variétés dont la netteté des fleurs fertiles est moyenne et forte : Inflorescence : répartition des fleurs stériles		Nur Sorten mit Blütenstand: Ausprägung der fertilen Blüten: mittel und stark: Blütenstand: Anordnung der sterilen Blüten	Solo variedades con Inflorescencia: visibilidad de las flores fértiles: medianamente y muy visible: Inflorescencia: disposición de las flores estériles		
	in one whorl		en un verticille		in einem Quirl	en un verticilo	Tricolor (a)	1
	in two or more whorls		en deux verticilles ou plus		in zwei oder mehr Quirlen	en dos o más verticilos	Jogasaki (a)	2
	irregular		irrégulière		unregelmäßig	irregular	Veitchii (a)	3
31.	QN	VG	(+)	(d)				
	Only varieties with Inflorescence: conspicuousness of fertile flowers: absent or weak: Inflorescence: density of sterile flowers		Uniquement les variétés dont la netteté des fleurs fertiles est absente ou faible : Inflorescence : densité des fleurs stériles		Nur Sorten mit Blütenstand: Ausprägung der fertilen Blüten: fehlend oder gering: Blütenstand: Dichte der sterilen Blüten	Solo variedades con Inflorescencia: visibilidad de las flores fértiles: no visible o poco visible: Inflorescencia: densidad de las flores estériles		
	sparse		lâche		locker	laxa		1
	sparse to medium		lâche à moyenne		locker bis mittel	laxa a media		2
	medium		moyenne		mittel	media		3
	medium to dense		moyenne à dense		mittel bis dicht	media a densa		4
	dense		dense		dicht	densa		5
32. (*)	QN	MG/MS	(+)	(d)				
	Sterile flower: diameter of calyx		Fleur stérile : diamètre du calice		Sterile Blüte: Durchmesser des Kelches	Flor estéril: diámetro del cáliz		
	very small		très petit		sehr klein	muy pequenõ		1
	very small to small		très petit à petit		sehr klein bis klein	muy pequenõ a pequenõ		2
	small		petit		klein	pequenõ	Ayesha (a)	3
	small to medium		petit à moyen		klein bis mittel	pequenõ a medio		4
	medium		moyen		mittel	medio	Hörnli (a), Mariesii (a)	5
	medium to large		moyen à grand		mittel bis groß	medio a grande		6
	large		grand		groß	grande	Alpenglühen (a)	7
	large to very large		grand à très grand		groß bis sehr groß	grande a muy grande		8
	very large		très grand		sehr groß	muy grande		9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
33. (*)	PQ	MG	(d)			
	Sterile flower: number of sepals	Fleur stérile : nombre de sépales	Sterile Blüte: Anzahl Kelchblätter	Flor estéril: número de sépalos		
	3 and 4	3 et 4	3 und 4	3 y 4	Preziosa (a)	1
	only 4	uniquement 4	nur 4	solo 4	AB Green Shadow (a)	2
	4 and 5	4 et 5	4 und 5	4 y 5	HBADU (a)	3
	5 and 6	5 et 6	5 und 6	5 y 6	Horcoss (a)	4
	7 or more	7 ou plus	7 oder mehr	7 o más	YOUMEFIVE (a)	5
34.	QN	VG	(+)	(d)		
	Sterile flower: attitude of sepals	Fleur stérile : port des sépales	Sterile Blüte: Haltung der Kelchblätter	Flor estéril: porte de los sépalos		
	erect	dressé	aufrecht	erecto	Hokomarevo (a)	1
	semi-erect	demi-dressé	halbaufrecht	semierecto	Horgew (a)	2
	horizontal	horizontal	waagrecht	horizontal	Fasan (a)	3
35. (*)	PQ	VG	(+)	(d)		
	Sterile flower: shape of apex of sepals	Fleur stérile : forme du sommet des sépales	Sterile Blüte: Form der Spitze der Kelchblätter	Flor estéril: forma del ápice de los sépalos		
	pointed	pointue	spitz	puntiaguda	Horgew (a)	1
	rounded	arrondie	abgerundet	redondeada	Zebra (a)	2
	emarginate	émarginée	eingekerbt	emarginada	H213905 (a)	3
36.	QN	VG	(d)			
	Sterile flower: rugosity of sepals	Fleur stérile : rugosité des sépales	Sterile Blüte: Blasigkeit der Kelchblätter	Flor estéril: rugosidad de los sépalos		
	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Schneeball (a)	1
	medium	moyenne	mittel	media	Hokomarevo (a)	2
	strong	forte	stark	fuerte	Hortmarhaso (a)	3
37.	PQ	VG	(+)	(d)		
	Sterile flower: shape of sepals in cross-section	Fleur stérile : forme des sépales en section transversale	Sterile Blüte: Form der Kelchblätter im Querschnitt	Flor estéril: forma de los sépalos en sección transversal		
	flat	plate	flach	plana	Fasan (a)	1
	weakly concave	faiblement concave	leicht konkav	débilmente cóncava	Alpenglühén (a)	2
	strongly concave	fortement concave	stark konkav	muy cóncava	SICAMU4533 (a)	3

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38. (*)	QN	VG	(+)	(d)				
	Only varieties with Sterile flower: number of sepals: 3 and 4 to 4 and 5: overlapping of sepals		Uniquement les variétés à fleur stérile avec 3 et 4 à 4 et 5 sépales : chevauchement des sépales		Nur Sorten mit steriler Blüte: Anzahl Kelchblätter: 3 und 4 bis 4 und 5: Überlappen der Kelchblätter	Solo variedades con Flor estéril: número de sépalos: 3 y 4 a 4 y 5: solapamiento de los sépalos		
	absent or very weak		absent ou très faible		fehlend oder sehr gering	ausente o muy débil	Hörnli (a)	1
	weak		faible		gering	débil	Mme Plumecoq (a)	2
	medium		moyen		mittel	medio	Bichon (a)	3
	strong		fort		stark	fuerte	Heinrich Seidel (a), Mme Gilles Goujon (a)	4
	very strong		très fort		sehr stark	muy fuerte	Etoile Violette (a), Merveille Sanguinea (a)	5
39.	QN	VG	(+)	(d)				
	Sterile flower: undulation of sepals		Fleur stérile : ondulation des sépales		Sterile Blüte: Wellung der Kelchblätter	Flor estéril: ondulación de los sépalos		
	absent or weak		absente ou faible		fehlend oder gering	ausente o débil	Dolfarf (a)	1
	medium		moyenne		mittel	media	Hortmacodre (a)	2
	strong		forte		stark	fuerte	HBAROYALC (a)	3
40. (*)	QN	VG	(+)	(d)				
	Sterile flower: incisions of margin of sepals		Fleur stérile : incisions du bord des sépales		Sterile Blüte: Randeinschnitte der Kelchblätter	Flor estéril: incisiones del margen de los sépalos		
	absent on all sepals		absentes de tous les sépales		fehlend an allen Kelchblättern	ausentes en todos los sépalos	Maman (a), Merveille (a)	1
	present on some sepals		présentes sur quelques sépales		vorhanden an einigen Kelchblättern	presentes en algunos sépalos	Gloria (a)	2
	present on all sepals		présentes sur tous les sépales		vorhanden an allen Kelchblättern	presentes en todos los sépalos	Europa (a)	3
41.	QN	VG	(+)	(d)				
	Sterile flower: depth of incisions of margin of sepals		Fleur stérile : profondeur des incisions du bord des sépales		Sterile Blüte: Tiefe der Randeinschnitte der Kelchblätter	Flor estéril: profundidad de las incisiones del margen de los sépalos		
	shallow		peu profonde		flach	poco profunda	Constellation (a)	1
	medium		moyenne		mittel	medianamente profunda	Dolfarf (a)	2
	deep		profonde		tief	profunda	HBAROYALC (a)	3
42. (*)	PQ	VG		(c), (d)				
	Sterile flower: main color of inner side of sepals		Fleur stérile : couleur principale de la face interne des sépales		Sterile Blüte: Hauptfarbe der Innenseite der Kelchblätter	Flor estéril: color principal de la cara interna de los sépalos		
	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
43. (*)	PQ	VG	(c), (d)				
	Sterile flower: secondary color of inner side of sepals		Fleur stérile : couleur secondaire de la face interne des sépales	Sterile Blüte: Sekundärfarbe der Innenseite der Kelchblätter	Flor estéril: color secundario de la cara interna de los sépalos		
	none		aucune	keine	ausente	Schneeball (a)	1
	white		blanc	weiß	blanco	Raberah (a)	2
	green		vert	grün	verde	MAK 20 (a)	3
	pink		rose	rosa	rosa	Sandra (a)	4
	red		rouge	rot	rojo	Ripple (a)	5
	violet		violet	violett	violeta		6
	brown		brun	braun	marrón	Ruby Tuesday (a)	7
44.	PQ	VG	(+)	(d)			
	Sterile flower: distribution of secondary color of inner side of sepals		Fleur stérile : distribution de la couleur secondaire sur la face interne des sépales	Sterile Blüte: Verteilung der Sekundärfarbe der Innenseite der Kelchblätter	Flor estéril: distribución del color secundario de la cara interna de los sépalos		
	marginal zone		marginale	Randzone	en la zona del borde	Sandra (a)	1
	distal margin		bord distal	distaler Rand	en el borde distal	Ripple (a)	2
	in upper half		moitié supérieure	in der oberen Hälfte	en la mitad superior	AB Green Shadow (a)	3
	in lower half		moitié inférieure	in der unteren Hälfte	en la mitad inferior	Rosalba (a)	4
	throughout		partout	überall	en la totalidad		5
45.	PQ	VG	(+)	(d)			
	Sterile flower: pattern of secondary color of inner side of sepals		Fleur stérile : répartition de la couleur secondaire sur la face interne des sépales	Sterile Blüte: Muster der Sekundärfarbe der Innenseite der Kelchblätter	Flor estéril: forma de disposición del color secundario de la cara interna de los sépalos		
	solid		uniforme	ganzflächig	uniforme	Hokomac (a)	1
	flush		surteinte	flächig	difusa	AB Green Shadow (a)	2
	irregular		irrégulière	unregelmäßig	irregular	Sweet fantasy (a)	3
46. (*)	PQ	VG	(d)				
	<u>Only varieties with Fertile flower: conspicuousness: medium and strong:</u> Fertile flower: color of petals		<u>Uniquement les variétés dont la netteté des fleurs fertiles est moyenne ou forte :</u> Fleur fertile : couleur des pétales	<u>Nur Sorten mit fertiler Blüte: Ausprägung: mittel und stark:</u> Fertile Blüte: Farbe der Blütenblätter	<u>Solo variedades con Flor fértil: visibilidad: medianamente o muy visibles:</u> Flor fértil: color de los pétalos		
	white		blanc	weiß	blanco	Rosalba (a)	1
	green		vert	grün	verde		2
	pink		rose	rosa	rosa	Tricolor (a)	3
	red		rouge	rot	rojo		4
	purple		pourpre	purpurn	púrpura	Lemon Wave (a)	5
	blue		bleu	blau	azul		6

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
47. (*)	PQ	VG	(+)			
	Only varieties with Inflorescence: shape: conical: Inflorescence: pink or red color at aging	Uniquement les variétés à inflorescence conique : Inflorescence : couleur rose ou rouge au vieillissement	Nur Sorten mit Blütenstand: Form: kegelförmig: Blütenstand: rosa oder rote Farbe beim Alterungsprozess	Solo variedades con Inflorescencia: forma: cónica: Inflorescencia: color rosa o rojo al envejecer		
	absent	absente	fehlend	ausente	Dolprim (b)	1
	on a part of inflorescence	sur une partie de l'inflorescence	an einem Teil des Blütenstands	en una parte de la inflorescencia	Renba (b), Renhy (b)	2
	on the entire inflorescence	sur l'ensemble de l'inflorescence	am ganzen Blütenstand	en toda la inflorescencia	Rendia (b)	3

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

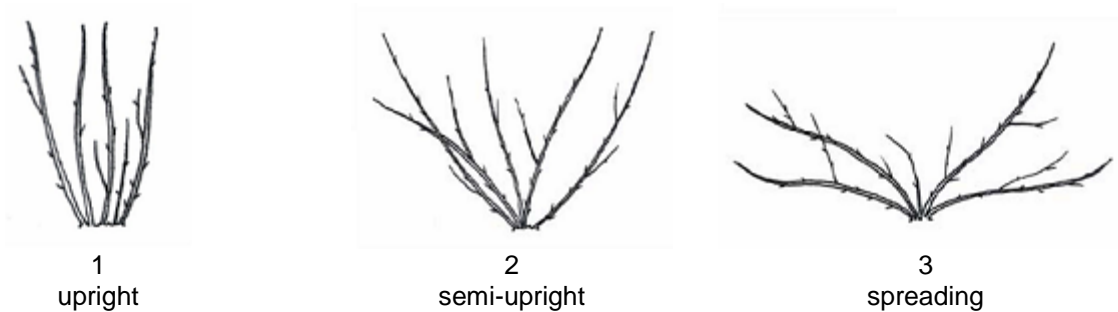
Unless otherwise indicated, observations should be made at the time of full flowering.

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

- (a) Observations should be made in the middle third of the stem before the opening of flowers.
- (b) Observations should be made on the upper side of leaves from the third node under the inflorescence before the opening of flowers.
- (c) The main color is the color with the largest surface area. In cases where the areas of the main and the secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color.
- (d) Observations should be made on fully developed primary inflorescences.

8.2 *Explanations for individual characteristics*

Ad. 2: Only varieties with Plant: type: non-climbing: Plant: growth habit



Ad. 3: Only varieties with Plant: type: non-climbing: Plant: height



Ad. 5: Stem: fasciation



Ad. 7: Stem: number of lenticels



1
absent or few



3
medium



5
many

Ad. 8: Stem: size of lenticels



1
small



2
medium



3
large

Ad. 12: Leaf blade: lobing







1
absent



9
present

Ad. 13: Only varieties with Leaf blade: lobing: absent: Leaf blade: shape

		← broadest part →		
		below middle	at middle	above middle
relative width	narrow	 1 ovate	 3 elliptic	 4 obovate
	broad		 2 circular	

Ad. 14: Leaf blade: length of tip



Ad. 15: Leaf blade: shape of base



1
acute



2
obtuse



3
rounded



4
cordate

Ad. 16: Leaf blade: depth of incisions on margin



1
absent or very shallow



2
shallow



3
medium

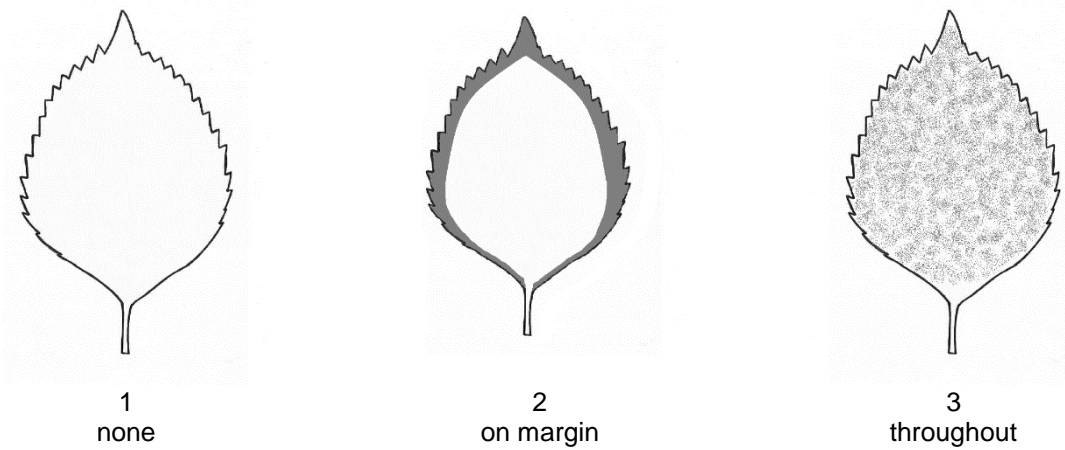


4
deep

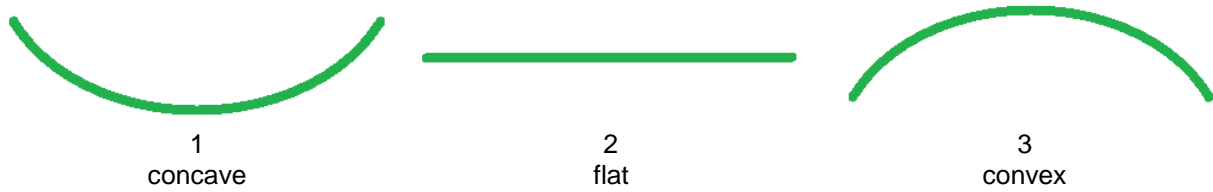


5
very deep

Ad. 18: Leaf blade: distribution of anthocyanin coloration



Ad. 24: Leaf blade: shape in cross-section



Ad. 25: Petiole: color

Observations should be made on the middle third of the petiole on the lower side.

Ad. 26: Inflorescence: shape



Ad. 27: Inflorescence: height



Ad. 28: Inflorescence: width



Ad. 29: Inflorescence: conspicuousness of fertile flowers



1
absent or weak



2
medium



3
strong

a = fertile flowers

Ad. 30: Only varieties with Inflorescence: conspicuousness of fertile flowers: medium and strong:
Inflorescence: arrangement of sterile flowers



1
in one whorl



2
in two or more whorls



3
irregular

Ad. 31: Only varieties with Inflorescence: conspicuousness of fertile flowers: absent or weak:
Inflorescence: density of sterile flowers



1
sparse



3
medium



5
dense

Ad. 32: Sterile flower: diameter of calyx

The observations should be made on the flattened sterile flower.
The diameter should be observed at the broadest part of the calyx.



Ad. 34: Sterile flower: attitude of sepals



1
erect



2
semi-erect



3
horizontal

Ad. 35: Sterile flower: shape of apex of sepals



1
pointed



2
rounded



3
emarginate

Ad. 37: Sterile flower: shape of sepals in cross-section



1
flat



2
weakly concave



3
strongly concave

Ad. 38: Only varieties with Sterile flower: number of sepals: 3 and 4 to 4 and 5: overlapping of sepals

For varieties with double sterile flowers observations should be made on the outermost row of sepals.



1
absent or very weak



2
weak



3
medium



4
strong



5
very strong

Ad. 39: Sterile flower: undulation of sepals



1
absent or weak

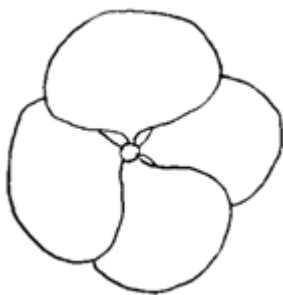


2
medium

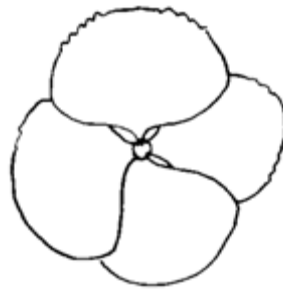


3
strong

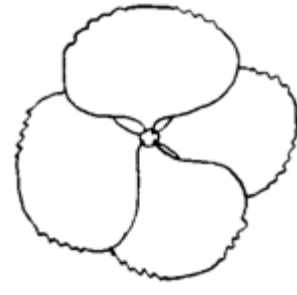
Ad. 40: Sterile flower: incisions of margin of sepals



1
absent on all sepals



2
present on some sepals



3
present on all sepals

Ad. 41: Sterile flower: depth of incisions of margin of sepals



1
shallow



2
medium



3
deep

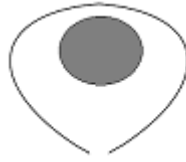
Ad. 44: Sterile flower: distribution of secondary color of inner side of sepals



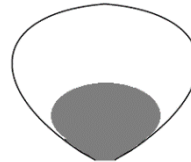
1
marginal zone



2
distal margin



3
in upper half



4
in lower half



5
throughout

Ad. 45: Sterile flower: pattern of secondary color of inner side of sepals



1
solid



2
flush



3
irregular

Ad. 47: Only varieties with Inflorescence: shape: conical: Inflorescence: pink or red color at aging



1
absent



2
on a part of inflorescence



3
on the entire inflorescence

9. Literature

Bertrand H., Becue I., Relion D., 2007: INH, BRG. Ressources génétiques du genre Hydrangea L., collection nationale, texte et iconographie. Jan. Edition 2007, 245 pp.

Bertrand H., Relion D., Boulineau F., Chevalier C., Retailleau JM, 2004: INH-GEVES CD ROM. Description officielle des variétés d'Hydrangeas: 105 variétés décrites (version 1) Nov. 2004.

BRG, INH, Bertrand H., 2007: Répertoire des ressources génétiques Hydrangea. Réseau Hydrangea 2006, Feb. edition.

Guerin V. Coord., 2002: Hydrangea: acquisitions nouvelles et applications. INRA Editions, 133 pp.

Haworth-Booth, M., 1984: The Hydrangeas. 5th Ed., Constable, London, GB, 217 pp.

Lawson-Hall T. & Rothera B. 1995: Hydrangeas a Gardeners' Guide. Edition B.T. Batsford Ltd. London, GB, 160 pp.

Möhring, H.K., Kuhlen, H., Bosse, G., 1956: Die Hortensien. Verlag Dr. Rudolf Georgi, Aachen, DE, 238 pp.

Rehder, A., 1940: Manual of Cultivated Trees and Shrubs. 2nd Ed., Macmillan Company, New York, US, 996 pp.

Vidalie, H., 1986: Les productions florales. 4e éd., Edition J.B. Baillière, Paris, FR.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1	Botanical name	<input type="text" value="Hydrangea L."/>
1.2	Common name	<input type="text" value="Hydrangea"/>
1.3	Species (please indicate):	<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"/>
3. Proposed denomination and breeder's reference		
	Proposed denomination (if available)	<input type="text"/>
	Breeder's reference	<input type="text"/>

#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 variety)
(.....) 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)

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

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

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

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).

The example varieties given belong to the species indicated below:

- (a) *Hydrangea macrophylla* (Thunb.) Ser. and *Hydrangea serrata* (Thunb.) Ser. var. *serrata*
- (b) *Hydrangea paniculata* Siebold
- (c) *Hydrangea arborescens* L.
- (d) *Hydrangea quercifolia* W. Bartram
- (e) *Hydrangea petiolaris* Siebold & Zucc.

Characteristics	Example Varieties	Note
5.1 Plant: type (1)		
climbing	Silver Lining (e)	1 []
non-climbing	Merveille (a)	2 []
5.2 Stem: fasciation (5)		
absent	Merveille (a)	1 []
present	Domotoi (a)	9 []
5.3 Stem: color (6)		
green	Merveille (a)	1 []
pink	Mid Late Summer (b)	2 []
red	Wims Red (b)	3 []
brown	Bokraflame (b)	4 []
black	Nigra (a)	5 []
green and black	Napo (a)	6 []
5.4 Leaf blade: intensity of anthocyanin coloration (17)		
absent or very weak	Victoria (a)	1 []
weak	SICAMU2934 (a)	2 []
medium	Red Angel (a)	3 []
strong	Dark Angel (a)	4 []
very strong	Baroque Angel (a)	5 []
5.5 Leaf blade: variegation (19)		
absent	Merveille (a)	1 []
present	Tricolor (a)	9 []
5.6 Leaf blade: main color (20)		
yellow	Ogonba (a)	1 []
light green	Mousseline (a)	2 []
medium green	Hobergine (a)	3 []
dark green	Rosalba (a)	4 []

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

Characteristics	Example Varieties	Note
5.7 Inflorescence: shape (26)		
flattened	Mousmée (a), Sea Foam (a)	1 []
flattened to globular	Wedding Gown (a)	2 []
globular	Merveille (a)	3 []
globular to conical	Kolmamon (b)	4 []
conical	Snowflake (d)	5 []
5.8 Inflorescence: conspicuousness of fertile flowers (29)		
absent or weak	Merveille (a)	1 []
medium	HOPE2069 (a)	2 []
strong	Mousmée (a), Sea Foam (a)	3 []
5.9 <u>Only varieties with Inflorescence: conspicuousness of fertile flowers: medium and strong:</u> Inflorescence: arrangement of sterile flowers (30)		
in one whorl	Tricolor (a)	1 []
in two or more whorls	Jogasaki (a)	2 []
irregular	Veitchii (a)	3 []
5.10 Sterile flower: diameter of calyx (32)		
very small		1 []
very small to small		2 []
small	Ayesha (a)	3 []
small to medium		4 []
medium	Hörnli (a), Mariesii (a)	5 []
medium to large		6 []
large	Alpenglühén (a)	7 []
large to very large		8 []
very large		9 []
5.11 Sterile flower: number of sepals (33)		
3 and 4	Preziosa (a)	1 []
only 4	AB Green Shadow (a)	2 []
4 and 5	HBADU (a)	3 []
5 and 6	Horcos (a)	4 []
7 or more	YOUMEFIVE (a)	5 []

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

Characteristics	Example Varieties	Note
5.12 Sterile flower: incisions of margin of sepals (40)		
absent on all sepals	Maman (a), Merveille (a)	1 []
present on some sepals	Gloria (a)	2 []
present on all sepals	Europa (a)	3 []
5.13(i) Sterile flower: main color of inner side of sepals (42)		
RHS Colour Chart (indicate reference number)		
5.13(ii) Sterile flower: main color of inner side of sepals (42)		
white		1 []
green		2 []
light pink		3 []
medium pink		4 []
dark pink		5 []
red		6 []
other (please indicate)		7 []
5.14 Sterile flower: secondary color of inner side of sepals (43)		
none	Schneeball (a)	1 []
white	Raberah (a)	2 []
green	MAK 20 (a)	3 []
pink	Sandra (a)	4 []
red	Ripple (a)	5 []
violet		6 []
brown	Ruby Tuesday (a)	7 []
5.15 <u>Only varieties with Inflorescence: shape: conical:</u> (47) Inflorescence: pink or red color at aging		
absent	Dolprim (b)	1 []
on a part of inflorescence	Renba (b), Renhy (b)	2 []
on the entire inflorescence	Rendia (b)	3 []

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
<i>Example</i>	<i>Sterile flower: number of sepals</i>	<i>3 and 4</i>	<i>5 and 6</i>
Comments:			

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

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

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

Yes No

(If yes, please provide details)

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

Yes No

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (<http://www.upov.int/tgp/en/>).

[The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

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

8. Authorization for release

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

Yes [] No []

(b) Has such authorization been obtained?

Yes [] No []

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

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

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

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

(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes []	No []
(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes []	No []
(c) Tissue culture	Yes []	No []
(d) Other factors	Yes []	No []

Please provide details for where you have indicated "yes".

.....

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

Applicant's name

Signature Date

[End of document]