E

TG/133/4(proj.4)
ORIGINAL: English
DATE: 2010-02-11

UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

HYDRANGEA

UPOV Code: HYDRN

Hydrangea L.

[*]

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

to be considered by the

Technical Committee at its forty-sixth session,
to be held in Geneva from March 22 to 24, 2010

Alternative Names:[*]

Botanical name	*English*	*French*	*German*	*Spanish*
Hydrangea L.	Hydrangea	Hortensia	Hortensie	Hortensia, Hidrangea

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

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 rooted cuttings, taken from a mother plant grown in a medium that will not specifically affect the sepal color, capable of flowering and expressing all relevant characteristics of the variety during 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

The minimum duration of tests should normally be two independent growing cycles.

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

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. In particular, the plants should not be grown in a medium that will specifically affect the sepal color.

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 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations should be made on 8 plants or parts taken from each of 8 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 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.

4.2 Uniformity

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

4.2.2 For the assessment of uniformity, 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 tested, either by growing a further generation, or by testing a new 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 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) Stem: color (characteristic 5)
b) Leaf blade: variegation (characteristic 15)
c) Leaf blade: main color (excluding variegation)(characteristic 16)
d) Inflorescence: shape (characteristic 20)
e) Inflorescence: conspicuousness of fertile flowers (characteristic 23)
f) Sterile flower: type (characteristic 26)
g) Sterile flower: main color (characteristic 29) with the following groups:
Gr.1: white
Gr.2: light pink
Gr.3: dark pink
Gr.4: purple pink
Gr.5: red

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

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

6.5 Legend

(*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3
QN: Quantitative characteristic – see Chapter 6.3
PQ: Pseudo-qualitative characteristic – see Chapter 6.3

(+) See Explanations on the Table of Characteristics in Chapter 8.

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 : type**	**Plante : type**	**Pflanze: Typ**	**Planta: tipo**		
QL	climbing	grimpant	kletternd	trepadora	Nana Yakushimanum	1
	non-climbing	non grimpant	nicht kletternd	no trepadora	Merveille	2
2. (*)	**Only varieties with plant type: non-climbing: Plant: growth habit**	**Uniquement les variétés de type non grimpant : Plante : port**	**Nur Sorten mit Pflanzentyp: nicht kletternd: Pflanze: Wuchsform**	**Sólo variedades con tipo de planta: no trepadora: Planta: hábito de crecimiento**		
PQ	upright	dressé	aufrecht	erecto	Merveille	1
	semi upright	demi dressé	halbaufrecht	semierecto		2
	spreading	étalé	breitwüchsig	extendido		3
3. (*) (+)	**Only varieties with plant type: non-climbing: Plant: natural height including inflorescence**	**Uniquement les variétés de type non grimpant : Plante : hauteur naturelle y compris l'inflorescence**	**Nur Sorten mit Pflanzentyp: nicht kletternd: Pflanze: natürliche Höhe einschließlich Blütenstand**	**Sólo variedades con tipo de planta: no trepadora: Planta: altura incluyendo la inflorescencia**		
QN	short	courte	niedrig	baja	Hörnli	3
	medium	moyenne	mittel	media	Merveille	5
	tall	haute	hoch	alta	Maman	7
4. (*) (+)	**Stem: fasciation**	**Tige : fasciation**	**Stiel: Verbänderung**	**Tallo: fasciación**		
QL	absent	absente	fehlend	ausente	Merveille	1
	present	présente	vorhanden	presente	Domotoi	9
5. (*)	**Stem: color**	**Tige: couleur**	**Trieb: Farbe**	**Tallo: color**		
PQ	green	verte	grün	verde	Merveille	1
	brownish	brunâtre	bräunlich	amarronado		2
	purplish	pourpre	purpurn	purpúreo		3
	blackish	noirâtre	schwärzlich	negruzco	Nigra	4

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6.	**Stem: lenticels (in autumn)**	**Tige : lenticelles (en automne)**	**Stiel: Lentizellen (im Herbst)**	**Tallo: lenticelas (en otoño)**		
QN	absent or few	absentes ou peu nombreuses	fehlend oder wenige	ninguna o pocas	Zorro	1
	medium	moyennement nombreuses	mittel	cantidad media	Merveille	2
	many	nombreuses	viele	muchas		3
7. (*)	**Stem: color of lenticels**	**Tige : couleur des lenticelles**	**Stiel: Farbe der Lentizellen**	**Tallo: color de las lenticelas**		
PQ	white	blanches	weiß	blanco	Pink Diamond	1
	red	rouges	rot	rojo	Leuchtfeuer	2
	black	noires	schwarz	negro	Merveille	3
8. (*)	**Leaf blade: length**	**Limbe : longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
QN	short	court	kurz	corta	Hörnli	3
	medium	moyen	mittel	media	Rosita	5
	long	long	lang	larga	Merveille	7
9.	**Leaf blade: width**	**Limbe : largeur**	**Blattspreite: Breite**	**Limbo: anchura**		
QN	narrow	étroit	schmal	estrecha	Shichidanka	3
	medium	moyen	mittel	media	Mrs Kumiko	5
	broad	large	breit	ancha	Snowflake	7
10. (*) (+)	**Leaf blade: lobing**	**Limbe : découpure des bords**	**Blattspreite: Lappung**	**Limbo: lobulado**		
QL	absent	absente	fehlend	ausente	Merveille	1
	present	présente	vorhanden	presente	Harmony	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
11. **(+)**	**Only varieties with leaf blade lobing: absent: Leaf blade: shape**	**Uniquement les variétés sans découpures des bords : Limbe : forme**	**Nur Sorten mit Lappung der Blattspreite: fehlend: Blattspreite: Form**	**Sólo variedades que no presentan limbo lobulado: Limbo: forma**		
PQ	ovate	ovale	eiförmig	oval	Merveille	1
	elliptic	elliptique	elliptisch	elíptica	Blue Ware	2
	circular	circulaire	kreisförmig	circular	Rosita	3
12. **(*)** **(+)**	**Leaf blade: length of tip**	**Limbe : longueur de la pointe**	**Blattspreite: Länge der Spitze**	**Limbo: longitud del ápice**		
QN	short	courte	kurz	corta	Chaperon rouge	1
	medium	moyenne	mittel	media	Mme E. Mouillère	2
	long	longue	lang	larga	Hallasan	3
13. **(+)**	**Leaf blade: shape of base**	**Limbe : forme de la base**	**Blattspreite: Form der Basis**	**Limbo: forma de la base**		
PQ	acute	pointue	spitz	aguda	Europa	1
	obtuse	obtuse	stumpf	obtusa	Bosco, Hamburg	2
	rounded	arrondie	abgerundet	redondeada	Rosabelle	3
	cordate	cordiforme	herzförmig	cordada	Annabelle	4
14.	**Leaf blade: depth of incisions**	**Limbe : profondeur des incisions**	**Blattspreite: Tiefe der Einschnitte**	**Limbo: profundidad de las incisiones**		
QN	shallow	peu profondes	flach	poco profunda	King George	3
	medium	moyennes	mittel	media	Europa	5
	deep	profondes	tief	profunda	Altona	7
15. **(*)**	**Leaf blade: variegation**	**Limbe : panachure**	**Blattspreite: Panaschierung**	**Limbo: variegación**		
QL	absent	absente	fehlend	ausente	Merveille	1
	present	présente	vorhanden	presente	Tricolor	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
16. (*) (+)	**Leaf blade: main color (excluding variegation)**	**Limbe : couleur principale (à l'exclusion de la panachure)**	**Blattspreite: Hauptfarbe (ohne Panaschierung)**	**Limbo: color principal (excluida la variegación)**		
PQ	yellow	jaune	gelb	amarillo	Ogonda	1
	light green	vert clair	hellgrün	verde claro	Mousseline	2
	medium green	vert moyen	mittelgrün	verde medio	Hobergine	3
	dark green	vert foncé	dunkelgrün	verde oscuro	Rosalba	4
	purple	violet	purpurn	púrpura	Merveille Sanguinea	5
17. (*)	**Leaf blade: secondary color**	**Limbe : couleur secondaire**	**Blattspreite: Sekundärfarbe**	**Limbo: color secundario**		
PQ	white only	seulement blanche	nur weiß	sólo blanco	Variegata	1
	white and yellow	blanche et jaune	weiß und gelb	blanco y amarillo	Tricolor	2
	yellow only	seulement jaune	nur gelb	sólo amarillo	Lemen wave	3
18.	**Leaf blade: glossiness of upper side**	**Feuille : brillance de la face supérieure**	**Blattspreite: Glanz der Oberseite**	**Limbo: brillo del haz**		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Maman	1
	moderate	modérée	mäßig	moderado	Merveille	2
	strong	forte	stark	presente	Joseph Banks/Ayesha	3
19.	**Leaf blade: blistering**	**Feuille : cloqûre**	**Blattspreite: Blasigkeit**	**Limbo: abullonado**		
QN	weak	faible	gering	débil	Mme Mouillère	1
	medium	moyenne	mittel	medio	Rosita	2
	strong	forte	stark	fuerte	Merveille	3
20. (*) (+)	**Inflorescence: shape**	**Inflorescence : forme**	**Blütenstand: Form**	**Inflorescencia: forma**		
PQ	flattened	aplatie	abgeflacht	aplanada	Mousmée, Sea Foam	1
	globular	globuleuse	kugelförmig	globulosa	Merveille	2
	conical	conique	kegelförmig	cónica	Snowflake	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
21. **(+)**	**Inflorescence: height**	**Inflorescence : hauteur**	**Blütenstand: Höhe**	**Inflorescencia: altura**		
QN	short	basse	niedrig	baja	Shichidanka	3
	medium	moyenne	mittel	media	Mrs Kumiko	5
	tall	haute	hoch	alta	Snowflake	7
22. **(+)**	**Inflorescence: diameter**	**Inflorescence : diamètre**	**Blütenstand: Durchmesser**	**Inflorescencia: diámetro**		
QN	small	petit	klein	pequeño	Hörnli	3
	medium	moyen	mittel	medio	Merveille	5
	large	grand	groß	grande	Maman	7
23. **(*)** **(+)**	**Inflorescence: conspicuousness of fertile flowers**	**Inflorescence : netteté des fleurs fertiles**	**Blütenstand: Ausprägung der fertilen Blüten**	**Inflorescencia: visibilidad de las flores fértiles**		
QN	inconspicuous or slightly conspicuous	peu nettes ou légèrement nettes	undeutlich oder etwas deutlich	invisibles o ligeramente visibles	Merveille	1
	moderately conspicuous	modérément nettes	mäßig deutlich	moderadamente visibles	Mucke	2
	very conspicuous	très nettes	sehr deutlich	muy visibles	Mousmée, Sea Foam	3
24. **(+)**	**Only varieties with inflorescence shape: flattened: Inflorescence: arrangement of sterile flowers**	**Uniquement les variétés à forme d'inflorescence : aplatie : Inflorescence : répartition des fleurs stériles**	**Nur Sorten mit Blütenstand: Form: abgeflacht: Blütenstand: Anordnung der sterilen Blüten**	**Sólo variedades con forma de la inflorescencia: aplanada: Inflorescencia: disposición de las flores estériles**		
PQ	irregular	irrégulière	unregelmäßig	irregular	Vetchie	1
	in one whorl	en un verticille	in einem Quirl	en un verticilo	Tricolor	2
	in two or more whorls	en deux verticilles ou plus	in zwei oder mehr Quirlen	en dos o más verticilos	Jogasaki	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
25. (*) (+)	**Sterile flower: diameter of calyx**	**Fleur stérile : diamètre du calice**	**Sterile Blüte: Durchmesser des Kelches**	**Flor estéril: diámetro del cáliz**		
QN	small	petit	klein	pequeño	Ayesha	3
	medium	moyen	mittel	medio	Homli/Mariesi	5
	large	grand	groß	grande	Alpenglühen	7
26. (*) (+)	**Sterile flower: type**	**Fleur stérile : type**	**Sterile Blüte: Typ**	**Flor estéril: tipo**		
QL	single	simple	einfach	simple	Merveille	1
	double	double	gefüllt	doble	Amethyst, Izu-no-Hana	2
27. (+)	**Sterile flower: degree of overlapping of sepals**	**Fleur stérile : degré de chevauchement des sépales**	**Sterile Blüte: Stärke des Überlappens der Kelchblätter**	**Flor estéril: grado de solapado de los sépalos**		
QN	absent or very weak	absent ou très faible	fehlend oder sehr gering	ausente o muy débil	Hörnli	1
	weak	faible	gering	débil	Madame Plumecoq	2
	medium	moyen	mittel	medio	Bichon	3
	strong	fort	stark	fuerte	Heinrich Siedel, Madame Gilles Goujon	4
	very strong	très fort	sehr stark	muy fuerte	Etoile Violette, Merveille Sanguinéa	5
28. (*) (+)	**Sterile flower: incisions of margin of sepal**	**Fleur stérile : incisions du bord du sépale**	**Sterile Blüte: Randeinschnitte des Kelchblattes**	**Flor estéril: incisiones del borde del sépalo**		
QN	absent on all sepals	absentes sur tous les sépales	fehlend an allen Kelchblättern	ausentes en todos los sépalos	Maman, Merveille	1
	present on some sepals	présentes sur quelques sépales	vorhanden an einigen Kelchblättern	presentes en algunos sépalos	Gloria	2
	present on all sepals	présentes sur tous les sépales	vorhanden an allen Kelchblättern	presentes en todos los sépalos	Europa	3

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
29. (*) (+)		**Sterile flower: main color**	**Fleur stérile : couleur principale**	**Sterile Blüte: Hauptfarbe**	**Flor estéril: color principal**		
PQ	**(b)**	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)		
30. (*) (+)		**Sterile flower: secondary color of sepal**	**Fleur stérile : couleur secondaire du sépale**	**Sterile Blüte: Sekundärfarbe des Kelchblattes**	**Flor estéril: color secundario del sépalo**		
	(b)	absent	absente	fehlend	ausente		1
		white	blanc	weiß	blanco	Raberah	2
		pink	rose	rosa	rosa	Sandra	3
		red	rouge	rot	rojo	Ripple	4
31. (*) (+)		**Sterile flower: distribution of secondary color**	**Fleur stérile : répartition de la couleur secondaire**	**Sterile Blüte: Verteilung der Sekundärfarbe**	**Flor estéril: distribución del color secundario**		
PQ		distal part	partie distale	distalen Teil	en la parte distal	Ripple	1
		marginal zone	bordée	Randzone	en el borde	Sandra	2
		diffuse	diffuse	diffus	difusa	Rosalba	3
32.		**Fertile flower: color of petals**	**Fleur fertile : couleur des pétales**	**Fertile Blüte: Farbe des Blütenblattes**	**Flor fértil: color de los pétalos**		
PQ		white	blancs	weiß	blanco	Rosalba	1
		pink	roses	rosa	rosa	Tricolor	2
		purple	violets	purpurn	púrpura	Lemen wave	3
33. (*) (+)		**Time of beginning of flowering**	**Époque de début de la floraison**	**Zeitpunkt des Beginns der Blüte**	**Época de comienzo de la floración**		
QN		early	précoce	früh	temprana	Freudenstein	3
		medium	moyenne	mittel	media	Maman, Marveille	5
		late	tardive	spät	tardía	Europa, Hörnli, Magicien	7

8. Explanations on the Table of Characteristics

Ad. 3: Only varieties with plant type: non-climbing: Plant: natural height including inflorescence

Plants should be examined during the flowering period.

Ad. 4: Stem: fasciation

Ad. 10: Leaf blade: lobing

1
absent

9
present

Ad. 11: Only varieties with leaf blade lobing: absent: Leaf blade: shape

< length/width ratio>		< position of broadest part >	
		below middle	at middle
high			 2 elliptic
low		 1 ovate	 3 circular

Ad. 12: Leaf blade: length of tip

1
short

2
medium

3
long

Ad. 13: Leaf blade: shape of base

1
acute

2
obtuse

3
rounded

4
cordate

Ad. 16: Leaf blade: main color (excluding variegation)

The main color is the color with the largest surface area.

Ad. 20: Inflorescence: shape

1
flattened

2
globular

3
conical

Ad. 21: Inflorescence: height

Ad. 22: Inflorescence: diameter

Ad. 23: Inflorescence: conspicuousness of fertile flowers

Fertile flowers tend to have a small inconspicuous calyx and sterile flowers have a large prominent calyx.

inconspicuous

very conspicuous

Ad. 24: Only varieties with flower head shape: flattened: Inflorescence: arrangement of sterile flowers

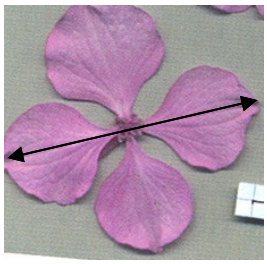
1
irregular

2
in one whorl

3
in two or more whorls

Ad. 25: Sterile flower: diameter of calyx

The diameter should be observed at the broadest part of the calyx.



Ad. 26: Sterile flower: type

single: when the number of sepals is 3 to 6
double: when the number of sepals is > 6

Ad. 27: Sterile flower: degree of overlapping of sepals

1
absent or very weak

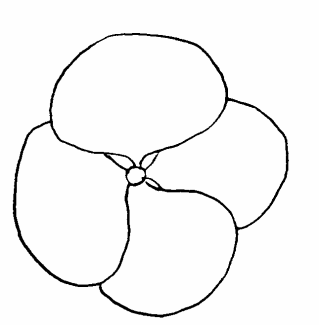
2
weak

3
medium

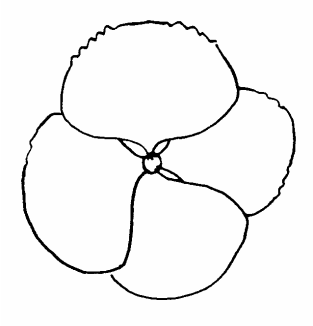
4
strong

5
very strong

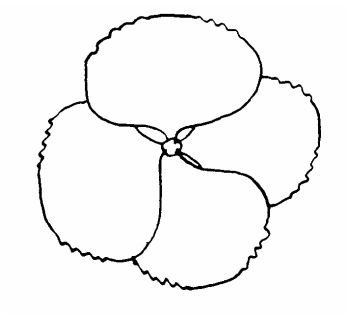
Ad. 28: Sterile flower: incisions of margin of sepal



1
absent on all sepals



2
present on some sepals



3
present on all sepals

Ad. 29: Sterile flower: main color
Ad. 30: Sterile flower: secondary color of sepal

The states correspond to plants grown in pots in a medium with pH higher than 5 and with no added aluminium or other metals that would affect the color. In other growing conditions the states could be different. The main color is the color with the largest surface area. The secondary color is the color with the second largest surface area.

Ad. 30: Sterile flower: secondary color of sepal

2
white

3
pink

4
red

Ad. 31: Sterile flower: distribution of secondary color

1
upper part

2
marginal zone

3
diffuse

Ad. 33: Time of beginning of flowering

The time of beginning of flowering is when one or more inflorescences have at least 90% colored sepals.

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.

Mohring, 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 Genus

1.1.1 Botanical Name	*Hydrangea* L.
1.1.2 Common Name	Hydrangea
1.2 Species	

2. Applicant

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

3. Proposed denomination and breeder's reference

Proposed denomination (if available)	
Breeder's reference	

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

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

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

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

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

(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)

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 [ ]

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

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

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

	Characteristics	Example Varieties	Note
5.1 (4)	**Stem: fasciation**		
	absent	Merveille	1[ ]
	present	Domotoi	9[ ]
5.2 (5)	**Stem: color**		
	green	Merveille	1[ ]
	brownish		2[ ]
	purplish		3[ ]
	blackish	Nigra	4[ ]
5.3 (16)	**Leaf blade: main color (excluding variegation)**		
	yellow	Ogonda	1[ ]
	light green	Mousseline	2[ ]
	medium green	Hobergine	3[ ]
	dark green	Rosalba	4[ ]
	purple	Merveille Sanguinea	5[ ]
5.4 (20)	**Inflorescence: shape**		
	flattened	Mousmée, Sea Foam	1[ ]
	globular	Merveille	2[ ]
	conical	Snowflake	3[ ]
5.5 (23)	**Inflorescence: conspicuousness of fertile flowers**		
	inconspicuous or slightly conspicuous	Merveille	1[ ]
	moderately conspicuous	Mucke	2[ ]
	very conspicuous	Mousmée, Sea Foam	3[ ]

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

	Characteristics	Example Varieties	Note
5.6 (26)	**Sterile flower: type**		
	single	Merveille	1[ ]
	double	Amethyst, Izu-no-Hana	2[ ]
5.7(a)(i) (29)	**Sterile flower: main color (plants continuously grown in non-bluing conditions)**		
	RHS Colour Chart (indicate reference number)		
5.7(a)(ii) (29)	**Sterile flower: main color (plants continuously grown in non-bluing conditions)**		
	white		1[ ]
	light pink		2[ ]
	dark pink		3[ ]
	purple pink		4[ ]
	red		5[ ]
	other		6[ ]
5.7(b)(i) (29)	**Sterile flower: main color (plants continuously grown in bluing conditions)**		
	RHS Colour Chart (indicate reference number)		
5.7(b)(ii) (29)	**Sterile flower: main color (plants continuously grown in bluing conditions)**		
	color (please complete)		[ ]
5.8 (30)	**Sterile flower: secondary color of sepal**		
	absent		1[ ]
	white	Raberah	2[ ]
	pink	Sandra	3[ ]
	red	Ripple	4[ ]

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

6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the **similar** variety(ies)	Describe the expression of the characteristic(s) for **your** candidate variety
Example	*Sterile flower: main color*	*light pink*	*dark pink*

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

7.4 Use

(a)	pot plant	[ ]
(b)	garden plant	[ ]
(c)	cut-flower	[ ]
(d)	other (please provide details)	[ ]

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

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

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

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

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

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

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

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

(c) Tissue culture Yes [ ] No [ ]

(d) Other factors Yes [ ] No [ ]

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

……

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]