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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

**HEUCHERA;
HEUCHERELLA**

UPOV Code: HEUCH; HEUCL

Heuchera L.;
xHeucherella H. R. Wehrh.

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>Heuchera</i> L.	Heuchera, Coral Flower	Heuchera	Purpurglöckchen	Coralito, Flor de Coral
<i>xHeucherella</i> H. R. Wehrh., <i>Heuchera x Tiarella</i>	Heucherella, Foamy Bells	Heucherella	Bastardschaumblüte	Heucherella

The purpose of these guidelines (“Test Guidelines”) is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Heuchera* L. and *xHeucherella* H. R. Wehrh..

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 young plants capable of 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:

10 young plants.

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

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

3. Method of Examination

3.1 *Number of Growing Cycles*

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

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

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

3.3.2 Observation of color by eye

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

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

3.4 *Test Design*

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

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

3.5 *Additional Tests*

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 9 plants or parts taken from each of 9 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

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

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

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

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

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

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

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

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

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

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

4.2 *Uniformity*

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

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

4.3 *Stability*

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

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

5. Grouping of Varieties and Organization of the Growing Trial

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

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

5.3 The following have been agreed as useful grouping characteristics:

- (a) Fully expanded leaf blade: color covering the greatest surface area, with the following groups:
 - Gr. 1: white
 - Gr. 2: light yellow
 - Gr. 3: medium yellow
 - Gr. 4: yellow green
 - Gr. 5: light green
 - Gr. 6: medium green
 - Gr. 7: dark green
 - Gr. 8: yellow brown
 - Gr. 9: pink
 - Gr. 10: red
 - Gr. 11: red brown
 - Gr. 12: brown
 - Gr. 13: purple
 - Gr. 14: grey purple
 - Gr. 15: grey green
 - Gr. 16: grey
 - Gr. 17: blackish

- (b) Fully expanded leaf blade: color covering the next greatest surface area, with the following groups:
 - Gr. 1: white
 - Gr. 2: light yellow
 - Gr. 3: medium yellow
 - Gr. 4: yellow green
 - Gr. 5: light green
 - Gr. 6: medium green
 - Gr. 7: dark green
 - Gr. 8: yellow brown
 - Gr. 9: pink

- Gr. 10: red
- Gr. 11: red brown
- Gr. 12: brown
- Gr. 13: purple
- Gr. 14: grey purple
- Gr. 15: grey green
- Gr. 16: grey
- Gr. 17: blackish

- (c) Flower: color of outer surface (characteristic 64), with the following groups:
- Gr. 1: greenish
 - Gr. 2: white
 - Gr. 3: cream
 - Gr. 4: light pink
 - Gr. 5: medium pink
 - Gr. 6: dark pink
 - Gr. 7: 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 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic

with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

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

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

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

6.3 *Types of Expression*

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

6.4 *Example Varieties*

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

6.5 *Legend*

(*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3

QN Quantitative characteristic – see Chapter 6.3

PQ Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

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

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

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota	
1.	VG/	Plant: height	Plante : hauteur	Pflanze: Höhe	Planta: altura		
(*)	MG						
(+)							
QN	(a)	short	courte	niedrig	baja	Firebird	3
		medium	moyenne	mittel	media	Blackout	5
		tall	haute	hoch	alta	Bronze Beauty	7
2.	VG/	Plant: width	Plante : largeur	Pflanze: Breite	Planta: anchura		
(*)	MG						
(+)							
QN	(a)	narrow	étroite	schmal	estrecha	Plum Royale	3
		medium	moyenne	mittel	media	Blackout	5
		broad	large	breit	ancha	Solar Power	7
3.	VG	Plant: density of foliage	Plante : densité du feuillage	Pflanze: Dichte des Laubes	Planta: densidad del follaje		
(*)							
QN	(a)	sparse	lâche	locker	baja	Sugar Plum	3
		medium	moyenne	mittel	media	Mahogany	5
		dense	dense	dicht	alta	Brass Lantern	7
4.	VG	Young leaf blade: color one	Jeune limbe : première couleur	Spreite des jungen Blattes: Farbe eins	Limbo joven: primer color		
(*)							
(+)							
PQ	(b)	RHS Colour Chart	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)		
	(c)	(indicate reference number)					
	(d)						

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
5. (*)(+)	VG Young leaf blade: color one: distribution	Jeune limbe : première couleur : distribution	Spreite des jungen Blattes: Farbe eins: Verteilung	Limbo joven: primer color: distribución		
PQ (b)	along veins	le long des nervures	entlang der Adern	a lo largo de los nervios		1
(c)	along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde		2
(d)	between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie		3
	between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios en la zona central		4
	between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios en la zona intermedia		5
	between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde		6
	marginal zone	zone marginale	Randbereich	en la zona del borde		7
	throughout	partout	gleichmäßig	en toda la superficie		8
6. (*)(+)	VG Young leaf blade: color one: pattern	Jeune limbe : première couleur : répartition	Spreite des jungen Blattes: Farbe eins: Muster	Limbo joven: primer color: pauta de disposición		
PQ (b)	flushed	diffuse	verschwommen	difuso		1
(c)	dotted	finement mouchetée	gepunktet	punteado		2
(d)	blotched	tachée	gefleckt	manchado		3
	irregular	irrégulière	unregelmäßig	irregular		4
	solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso		5
7. (*)(+)	VG Young leaf blade: color one: total area	Jeune limbe : première couleur : surface totale	Spreite des jungen Blattes: Farbe eins: ganze Fläche	Limbo joven: primer color: superficie total		
QN (b)	small	petite	klein	pequeña		3
(c)	medium	moyenne	mittel	media		5
(d)	large	grande	groß	grande		7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
8. (*) (+)	VG Young leaf blade: color two	Jeune limbe deuxième couleur	Spreite des jungen Blattes: Farbe zwei	Limbo joven: segundo color		
PQ	(b) RHS Colour Chart (c) (indicate reference (d) number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)		
9. (*) (+)	VG Young leaf blade: color two: distribution	Jeune limbe : deuxième couleur : distribution	Spreite des jungen Blattes: Farbe zwei: Verteilung	Limbo joven: segundo color: distribución		
PQ	(b) none	aucune	keine	ninguno		1
	(c) along veins	le long des nervures	entlang der Adern	a lo largo de los nervios		2
	(d) along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde		3
	between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie		4
	between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios en la zona central		5
	between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios en la zona intermedia		6
	between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde		7
	marginal zone	zone marginale	Randbereich	en la zona del borde		8
	throughout	partout	gleichmäßig	en toda la superficie		9
10. (*) (+)	VG Young leaf blade: color two: pattern	Jeune limbe : deuxième couleur : répartition	Spreite des jungen Blattes: Farbe zwei: Muster	Limbo joven: segundo color: pauta de disposición		
PQ	(b) flushed	diffuse	flächig	difuso		1
	(c) dotted	finement mouchetée	gepunktet	punteado		2
	(d) blotched	tachée	gefleckt	manchado		3
	irregular	irrégulière	unregelmäßig	irregular		4
	solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso		5

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
11.	VG	Young leaf blade: color two: total area	Jeune limbe : deuxième couleur : surface totale	Spreite des jungen Blattes: Farbe zwei: Gesamtfläche	Limbo joven: segundo color: superficie total	
(*)						
(+)						
QN	(b)	small	petite	klein	pequeña	3
	(c)	medium	moyenne	mittel	mediana	5
	(d)	large	grande	groß	grande	7
12.	VG	Young leaf blade: color three	Jeune limbe : troisième couleur	Spreite des jungen Blattes: Farbe drei	Limbo joven: tercer color	
(*)						
(+)						
PQ	(b)	RHS Colour Chart	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)	
	(c)	(indicate reference number)				
	(d)					
13.	VG	Young leaf blade: color three: distribution	Jeune limbe : troisième couleur : distribution	Spreite des jungen Blattes: Farbe drei: Verteilung	Limbo joven: tercer color: distribución	
(*)						
(+)						
PQ	(b)	none	aucune	keine	ninguno	1
	(c)	along veins	le long des nervures	entlang der Adern	a lo largo de los nervios	2
	(d)	along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde	3
		between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie	4
		between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios en la zona central	5
		between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios en la zona intermedia	6
		between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde	7
		marginal zone	zone marginale	Randbereich	en la zona del borde	8
		throughout	partout	gleichmäßig	en toda la superficie	9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
14.	VG	Young leaf blade: color three: pattern	Jeune limbe : troisième couleur : répartition	Spreite des jungen Blattes: Farbe drei: Muster	Limbo joven: tercer color: pauta de disposición	
	(*)					
	(+)					
PQ	(b)	flushed	diffuse	verschwommen	difuso	1
	(c)	dotted	finement mouchetée	gepunktet	punteado	2
	(d)	blotched	tachée	gefleckt	manchado	3
		irregular	irrégulière	unregelmäßig	irregular	4
		solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso	5
15.	VG	Young leaf blade: color three: total area	Jeune limbe : troisième couleur : surface totale	Spreite des jungen Blattes: Farbe drei: Gesamtfläche	Limbo joven: tercer color: superficie total	
	(*)					
	(+)					
QN	(b)	small	petite	klein	pequeña	3
	(c)	medium	moyenne	mittel	media	5
	(d)	large	grande	groß	grande	7
16.	VG	Young leaf blade: color four	Jeune limbe : quatrième couleur	Spreite des jungen Blattes: Farbe vier	Limbo joven: cuarto color	
	(*)					
	(+)					
PQ	(b)	RHS Colour Chart	Code RHS des	RHS-Farbkarte	Carta de colores RHS	
	(c)	(indicate reference	couleurs (indiquer le	(Nummer angeben)	(indicar el número de	
	(d)	number)	numéro de référence)		referencia)	

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
17. VG (*) (+)	Young leaf blade: color four: distribution	Jeune limbe : quatrième couleur : distribution	Spreite des jungen Blattes: Farbe vier: Verteilung	Limbo joven: cuarto color: distribución		
PQ	(b) none	aucune	keine	ninguno		1
	(c) along veins	le long des nervures	entlang der Adern	a lo largo de los nervios		2
	(d) along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde		3
	between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie		4
	between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios, en la zona central		5
	between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios, en la zona intermedia		6
	between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde		7
	marginal zone	zone marginale	Randbereich	en la zona del borde		8
	throughout	partout	gleichmäßig	en toda la superficie		9
18. VG (*) (+)	Young leaf blade: color four: pattern	Jeune limbe : quatrième couleur : répartition	Spreite des jungen Blattes: Farbe vier: Muster	Limbo joven: cuarto color: pauta de disposición		
PQ	(b) flushed	diffuse	verschwommen	difuso		1
	(c) dotted	finement mouchetée	gepunktet	punteado		2
	(d) blotched	tachée	gefleckt	manchado		3
	irregular	irrégulière	unregelmäßig	irregular		4
	solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso		5

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
19.	VG	Young leaf blade:	Jeune limbe :	Spreite des jungen	Limbo joven:	
(*)		color four: total area	quatrième couleur :	Blattes: Farbe vier:	cuarto color:	
(+)		surface totale	Gesamtfläche	superficie total		
QN	(b)	small	petite	klein	pequeña	3
	(c)	medium	moyenne	mittel	media	5
	(d)	large	grande	groß	grande	7
20.	VG/	Petiole: length	Pétiole : longueur	Blattstiel: Länge	Pecíolo: longitud	
(*)	MG					
QN	(e)	short	court	kurz	corto	Firebird
		medium	moyen	mittel	medio	Mahogany
		long	long	lang	largo	Brass Lantern
21.	VG	Petiole: pubescence	Pétiole : pubescence	Blattstiel:	Pecíolo:	
				Behaarung	pubescencia	
QN	(e)	absent or very sparse	absente ou très faible	fehlend oder sehr gering	ausente o muy escasa	Sashay
		sparse	faible	gering	escasa	Plum Royale
		medium	moyenne	mittel	media	French Quarter
		dense	dense	dicht	densa	Blackout
22.	VG	Petiole: main color	Pétiole : couleur principale	Blattstiel:	Pecíolo: color principal	
(*)				Hauptfarbe		
(+)						
PQ	(e)	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)	
23.	VG/	Leaf blade: length	Limbe : longueur	Blattspreite: Länge	Limbo: longitud	
(*)	MS					
(+)						
QN	(e)	short	court	kurz	corto	Firebird
		medium	moyen	mittel	medio	Blackout
		long	long	lang	largo	Solar Power

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota	
24.	VG/ MS	Leaf blade: width	Limbe : largeur	Blattspreite: Breite	Limbo: anchura		
(*)							
(+)							
QN	(e)	narrow	étroit	schmal	estrecho	Firebird	3
		medium	moyen	mittel	medio	Blackout	5
		broad	large	breit	ancho		7
25.	VG/ MS	Leaf blade: length/width ratio	Limbe : rapport longueur/largeur	Blattspreite: Verhältnis Länge/Breite	Limbo: relación longitud/anchura		
(*)							
(+)							
QN	(e)	very slightly compressed	très légèrement comprimé	sehr leicht zusammengedrückt	muy ligeramente comprimido	Blood Red	1
		roundish	arrondi	rundlich	tirando a redondo	Blackout	3
		very slightly elongated	très légèrement allongé	sehr leicht langgezogen	muy ligeramente alargado	Plum Royale	5
		slightly elongated	légèrement allongé	leicht langgezogen	ligeramente alargado	Stoplight	7
		moderately elongated	modérément allongé	mäßig langgezogen	moderadamente alargado	Green Ivory	9
26.	VG	Leaf blade: shape of apex	Limbe : forme du sommet	Blattspreite: Form der Spitze	Limbo: forma del ápice		
(+)							
PQ	(c)	acute	aigu	spitz	agudo	Blackout	1
	(e)	obtuse	obtus	stumpf	obtuso	Stoplight	2
		rounded	arrondi	abgerundet	redondeado	Mahogany	3
27.	VG	Leaf blade: lobing	Limbe : découpure	Blattspreite: Lappung	Limbo: lobulado		
(*)							
(+)							
QN	(c)	absent or very shallow	absente ou très peu profonde	fehlend oder sehr flach	ausente o muy poco profundo	Fairy Cups	1
	(e)	shallow	peu profonde	flach	poco profundo	Blood Red	3
		medium	moyenne	mittel	medio	Sugar Plum	5
		deep	profonde	tief	profundo	Solar Power	7

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
28. VG (* (+)	<u>Heucherella only:</u> Leaf blade: length of terminal lobe relative to total length	<u>Heuchera</u> seulement : Limbe : longueur du lobe terminal par rapport à la longueur totale	<u>Nur Heucherella:</u> Blattspreite: Länge des Endlappens im Verhältnis zur Gesamtlänge	<u>Únicamente Heucherella:</u> Limbo: longitud del lobo terminal en relación con la longitud total		
QN	(c) short	court	kurz	corto		3
	(e) medium	moyen	mittel	medio	Tapestry	5
	long	long	lang	largo	Alabama Sunrise	7
29. VG (* (+)	Leaf blade: number of indentations of margin	Limbe : nombre de denticulations du bord	Blattspreite: Anzahl Randeinschnitte	Limbo: número de indentaciones del borde		
QN	(c) absent or very few	absent ou très rares	keine oder sehr wenige	ausentes o muy bajo	Fairy Cups	1
	(e) few	rares	wenige	bajo	Blood Red	2
	medium	moyen	mittel	medio	Sugar Plum	3
	many	nombreuses	viele	alto	Bronze Beauty	4
	very many	très nombreuses	sehr viele	muy alto	Pistache	5
30. VG (*	Leaf blade: depth of indentations of margin	Limbe : profondeur des denticulations du bord	Blattspreite: Tiefe der Randeinschnitte	Limbo: profundidad de las indentaciones del borde		
QN	(c) very shallow	très peu profonde	sehr flach	muy poco profundas	Blood Red	1
	(e) shallow	peu profonde	flach	poco profundas	Pistache	2
	medium	moyenne	mittel	medias	Solar Power	3
	deep	profonde	tief	profundas	Blackout	4
	very deep	très profonde	sehr tief	muy profundas	Sashay	5

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota	
31.	VG	Leaf blade: undulation of margin	Limbe : ondulation du bord	Blattspreite: Wellung des Randes	Limbo: ondulación del borde		
(*) (+)							
QN	(c)	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Stoptlight	1
	(e)	weak	faible	gering	débil	TNHEU041	3
		medium	moyenne	mittel	media	Lime Rickey	5
		strong	forte	stark	fuerte	Chocolate Ruffles	7
32.	VG	Leaf blade: rugosity	Limbe : rugosité	Blattspreite: Blasigkeit	Limbo: rugosidad		
(+)							
QN	(c)	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Pistache	1
	(e)	weak	faible	schwach	débil	Brass Lantern	3
		medium	moyenne	mittel	media	Autumn Leaves	5
		strong	forte	stark	fuerte	Dark Inn	7
33.	VG	Leaf blade: glossiness	Limbe : brillance	Blattspreite: Glanz	Limbo: brillo		
(*)							
QN	(c)	absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Pistache	1
	(e)	weak	faible	gering	débil	Mahogany	2
		medium	moyenne	mittel	medio	Blackout	3
		strong	forte	stark	fuerte	Obsidian	4
34.	VG	Leaf blade: pubescence	Limbe : pubescence	Blattspreite: Behaarung	Limbo: pubescencia		
QN	(c)	absent or very sparse	absente ou très épars	fehlend oder sehr gering	ausente o muy escasa	Mahogany	1
	(e)	sparse	épars	gering	escasa	Plum Royale	2
		medium	moyenne	mittel	media		3
		dense	dense	dicht	densa	Caramel	4

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
35. VG (*)	Leaf blade: pubescence of the lower surface	Limbe : pubescence de la surface inférieure	Blattspreite: Behaarung der Unterseite	Limbo: pubescencia de la cara inferior		
QN (e)	absent or very sparse	absente ou très épars	fehlend oder sehr gering	ausente o muy escasa	Stoplight	1
	sparse	épars	gering	escasa	Brass Lantern	2
	medium	moyenne	mittel	media	Pistache	3
	dense	dense	dicht	densa		4
36. VG (*) (+)	Leaf blade: color one	Limbe : première couleur	Blattspreite: Farbe eins	Limbo: primer color		
PQ (c) (d) (e)	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)		
37. VG (*) (+)	Leaf blade: color one: distribution	Limbe : première couleur : distribution	Blattspreite: Farbe eins: Verteilung	Limbo: primer color: distribución		
PQ (c)	along veins	le long des nervures	entlang der Adern	a lo largo de los nervios		1
(d)	along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde		2
(e)	between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie		3
	between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios en la zona central		4
	between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios en la zona intermedia		5
	between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde		6
	marginal zone	zone marginale	Randbereich	en la zona del borde		7
	throughout	partout	gleichmäßig	en toda la superficie		8

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
38.	VG	Leaf blade: color one: pattern	Limbe : première couleur : répartition	Blattspreite: Farbe eins: Muster	Limbo: primer color: pauta de disposición	
(*) (+)						
PQ	(c)	flushed	diffuse	verschwommen	difuso	1
	(d)	dotted	finement mouchetée	gepunktet	punteado	2
	(e)	blotched	tachée	gefleckt	manchado	3
		irregular	irrégulière	unregelmäßig	irregular	4
		solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso	5
39.	VG	Leaf blade: color one: total area	Limbe : première couleur : surface totale	Blattspreite: Farbe eins: Gesamtfläche	Limbo: primer color: superficie total	
(*) (+)						
QN	(c)	small	petite	klein	pequeña	3
	(d)	medium	moyenne	mittel	media	5
	(e)	large	grande	groß	grande	7
40.	VG	Leaf blade: color two	Limbe : deuxième couleur	Blattspreite: Farbe zwei	Limbo: segundo color	
(*) (+)						
PQ	(c)	RHS Colour Chart	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)	
	(d)	(indicate reference number)				
	(e)					

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
41.	VG	Leaf blade: color	Limbe :	Blattspreite: Farbe	Limbo: segundo	
(*)		two: distribution	deuxième couleur :	zwei: Verteilung	color: distribución	
(+)			distribution			
PQ	(c)	none	aucune	keine	ninguno	1
	(d)	along veins	le long des nervures	entlang der Adern	a lo largo de los nervios	2
	(e)	along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde	3
		between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie	4
		between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern im zentralen Bereich	entre los nervios en la zona central	5
		between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern im Zwischenbereich	entre los nervios en la zona intermedia	6
		between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde	7
		marginal zone	zone marginale	Randbereich	en la zona del borde	8
		throughout	partout	gleichmäßig	en toda la superficie	9
42.	VG	Leaf blade: color	Limbe :	Blattspreite: Farbe	Limbo: segundo	
(*)		two: pattern	deuxième couleur :	zwei: Muster	color	
(+)			répartition			
PQ	(c)	flushed	diffuse	verschwommen	difuso	1
	(d)	dotted	finement mouchetée	gepunktet	punteado	2
	(e)	blotched	tachée	gefleckt	manchado	3
		irregular	irrégulière	unregelmäßig	irregular	4
		solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso	5

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
43.	VG	Leaf blade: color two: total area	Limbe : deuxième couleur : surface totale	Blattspreite: Farbe zwei: Gesamtfläche	Limbo: segundo color: superficie total	
(*)						
(+)						
QN	(c)	small	petite	klein	pequeña	3
	(d)	medium	moyenne	mittel	media	5
	(e)	large	grande	groß	grande	7
44.	VG	Leaf blade: color three	Limbe : troisième couleur	Blattspreite: Farbe drei	Limbo: tercer color	
(*)						
(+)						
PQ	(c)	RHS Colour Chart	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)	
	(d)	(indicate reference number)				
	(e)					
45.	VG	Leaf blade: color three: distribution	Limbe : troisième couleur : distribution	Blattspreite: Farbe drei: Verteilung	Limbo: tercer color: distribución	
(*)						
(+)						
PQ	(c)	none	aucune	keine	ninguno	1
	(d)	along veins	le long des nervures	entlang der Adern	a lo largo de los nervios	2
	(e)	along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde	3
		between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie	4
		between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios en la zona central	5
		between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios en la zona intermedia	6
		between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde	7
		marginal zone	zone marginale	Randbereich	en la zona del borde	8
		throughout	partout	gleichmäßig	en toda la superficie	9

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
46.	VG	Leaf blade: color three: pattern	Limbe : troisième couleur : répartition	Blattspreite: Farbe drei: Muster	Limbo: tercer color: pauta de disposición	
	(*)					
	(+)					
PQ	(c)	flushed	diffuse	verschwommen	difuso	1
	(d)	dotted	finement mouchetée	gepunktet	punteado	2
	(e)	blotched	tachée	gefleckt	manchado	3
		irregular	irrégulière	unregelmäßig	irregular	4
		solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso	5
47.	VG	Leaf blade: color three: total area	Limbe : troisième couleur : surface totale	Blattspreite: Farbe drei: Gesamtfläche	Limbo: tercer color: superficie total	
	(*)					
	(+)					
QN	(c)	small	petite	klein	pequeña	3
	(d)	medium	moyenne	mittel	media	5
	(e)	large	grande	groß	grande	7
48.	VG	Leaf blade: color four	Limbe : quatrième couleur	Blattspreite: Farbe vier	Limbo: cuarto color	
	(*)					
	(+)					
PQ	(c)	RHS Colour Chart	Code RHS des	RHS-Farbkarte	Carta de colores RHS	
	(d)	(indicate reference	couleurs (indiquer le	(Nummer angeben)	(indicar el número de	
	(e)	number)	numéro de référence)		referencia)	

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
49. VG (*) (+)	Leaf blade: color four: distribution	Limbe : quatrième couleur: distribution	Blattspreite: Farbe vier: Verteilung	Limbo: cuarto color: distribución		
PQ	(c) none	aucune	keine	ninguno		1
	(d) along veins	le long des nervures	entlang der Adern	a lo largo de los nervios		2
	(e) along veins and on margin	le long des nervures et en bordure	entlang der Adern und am Rand	a lo largo de los nervios y en el borde		3
	between veins throughout	partout entre les nervures	gleichmäßig zwischen den Adern	entre los nervios en toda la superficie		4
	between veins in central zone	entre les nervures dans la zone centrale	zwischen den Adern in der zentralen Zone	entre los nervios en la zona central		5
	between veins in intermediate zone	entre les nervures dans la zone intermédiaire	zwischen den Adern in der Zwischenzone	entre los nervios en la zona intermedia		6
	between veins and on margin	entre les nervures et en bordure	zwischen den Adern und am Rand	entre los nervios y en el borde		7
	marginal zone	zone marginale	Randbereich	en la zona del borde		8
	throughout	partout	gleichmäßig	en toda la superficie		9
50. VG (*) (+)	Leaf blade: color four: pattern	Limbe: quatrième couleur : répartition	Blattspreite: Farbe vier: Muster	Limbo: cuarto color: pauta de disposición		
PQ	(c) flushed	diffuse	verschwommen	difuso		1
	(d) dotted	finement mouchetée	gepunktet	punteado		2
	(e) blotched	tachée	gefleckt	manchado		3
	irregular	irrégulière	unregelmäßig	irregular		4
	solid or nearly solid	uniforme ou presque	ganzflächig oder beinahe ganzflächig	liso o prácticamente liso		5

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
51.	VG	Leaf blade: color	Limbe :	Blattspreite: Farbe	Limbo: cuarto	
(*)		four: total area	quatrième couleur :	vier: Gesamtfläche	color: superficie	
(+)			surface totale		total	
QN	(c)	small	petite	klein	pequeña	3
	(d)	medium	moyenne	mittel	media	5
	(e)	large	grande	groß	grande	7
52.	VG	Leaf blade: color of	Limbe : couleur de	Blattspreite: Farbe	Limbo: color de la	
(*)		lower side (if	la <u>face inférieure</u>	der <u>Unterseite</u> (falls	<u>cara inferior</u> (si es	
		significantly	(si très différente de	deutlich verschieden	significativamente	
		different from upper	celle de la face	von Oberseite)	distinto del de la	
		side)	supérieure)		cara superior)	
PQ	(e)	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)	
53.	VG	Flowering stem:	Tige florale : port	Blütenstandstiel:	Tallo floral: porte	
(+)		attitude		Haltung		
QN		upright	dressé	aufrecht	erecto	Greenfinch 1
		semi-upright	demi-dressé	halbaufrecht	semierecto	Caramel 2
		spreading	étalé	breitwüchsig	extendido	Alabama Sunrise 3
54.	VG/ MG	Flowering stem:	Tige florale :	Blütenstandstiel:	Tallo floral:	
(*)		length	longueur	Länge	longitud	
(+)						
QN		short	courte	kurz	corta	Mahogany 3
		medium	moyenne	mittel	media	Brass Lantern 5
		long	longue	lang	larga	French Quarter 7
55.	VG	Flowering stem:	Tige florale :	Blütenstandstiel:	Tallo floral: color	
(*)		main color	couleur principale	Hauptfarbe	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 (indicar el número de referencia)	

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
56.	VG/ (*) (+) MS	Flowering stem: length of flowering part	Tige florale : longueur de la partie en floraison	Blütenstandstiel: Länge des blühenden Teils	Tallo floral: longitud de la parte en floración	
QN	short	courte	kurz	corta	Midnight Bayou	3
	medium	moyenne	mittel	media	Autumn Leaves	5
	long	longue	lang	larga	Havana	7
57.	VG/ (*) (+) MS	Flowering stem: width of flowering part	Tige florale : largeur de la partie en floraison	Blütenstandstiel: Breite des blühenden Teils	Tallo floral: anchura de la parte en floración	
QN	narrow	étroite	schmal	estrecho	Brass Lantern	3
	medium	moyenne	mittel	medio	Lipstick	5
	broad	large	breit	ancho	French Quarter	7
58.	VG/ (*) MS	Flowering stem: length/width ratio of flowering part	Tige florale : rapport longueur/largeur de la partie en floraison	Blütenstandstiel: Verhältnis Länge/Breite des blühenden Teils	Tallo floral: relación longitud/anchura de la parte en floración	
QN	slightly elongated	légèrement allongée	leicht langgezogen	ligeramente alongado	Brass Lantern	3
	moderately elongated	modérément allongée	mäßig langgezogen	moderadamente alongado	Lipstick	5
	strongly elongated	fortement allongée	stark langgezogen	fuertemente alongado	Redstone Falls	7
59.	VG (*)	Flowering stem: density of flowers	Tige florale : densité des fleurs	Blütenstandstiel: Dichte der Blüten	Tallo floral: densidad de flores	
QN	sparse	faible	locker	baja	White Marble	3
	medium	moyenne	mittel	media	Solar Power	5
	dense	dense	dicht	alta	Vyking Ship	7
60.	VG (*) (+)	Flower bud: color	Bouton floral : couleur	Blütenknospe: Farbe	Yema floral: color	
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)		

	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
61.	VG	Flower: attitude	Fleur : port	Blüte: Haltung	Flor: porte	
	(+)					
QN	(f)	upwards	vers le haut	aufrecht	ascendente	Rickard 1
		semi-upwards	à moitié vers le haut	halbaufrecht	semiascendente	Firebird 2
		outwards	perpendiculaire	abstehend	hacia el exterior	Coral Bouquet 3
		semi-downwards	à moitié vers le bas	halb abwärts gerichtet	semidescendente	White Marble 4
		downwards	vers le bas	abwärts gerichtet	descendente	Sugar Plum 5
62.	VG/ (*) MS (+)	Flower: length	Fleur : longueur	Blüte: Länge	Flor: longitud	
QN	(f)	short	courte	kurz	corta	Brass Lantern 3
		medium	moyenne	mittel	media	Blood Red 5
		long	longue	lang	larga	White Marble 7
63.	VG/ (*) MS (+)	Flower: width	Fleur : largeur	Blüte: Breite	Flor: anchura	
QN	(f)	narrow	étroite	schmal	estrecha	Mahogany 3
		medium	moyenne	mittel	media	Firebird 5
		broad	large	breit	ancha	Lipstick 7
64.	VG (*) (+)	Flower: color of outer surface	Fleur : couleur de la surface externe	Blüte: Farbe der Außenfläche	Flor: color de la cara exterior	
PQ	(f)	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (indicar el número de referencia)	
65.	VG (+)	<u>Heucherella only:</u> Petal: color of inner surface	<u>Heucherella seulement :</u> Pétale : couleur de la surface interne	<u>Nur Heucherella:</u> Kronblatt: Farbe der Innenfläche	<u>Únicamente Heucherella:</u> pétalo: color de la cara interior	
PQ	(f)	white	blanc	weiß	blanco	1
		cream	crème	cremefarben	crema	2
		pale pink	rose pâle	blassrosa	rosa pálido	3

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Unless otherwise indicated, all characteristics should be observed at the time of full flowering.

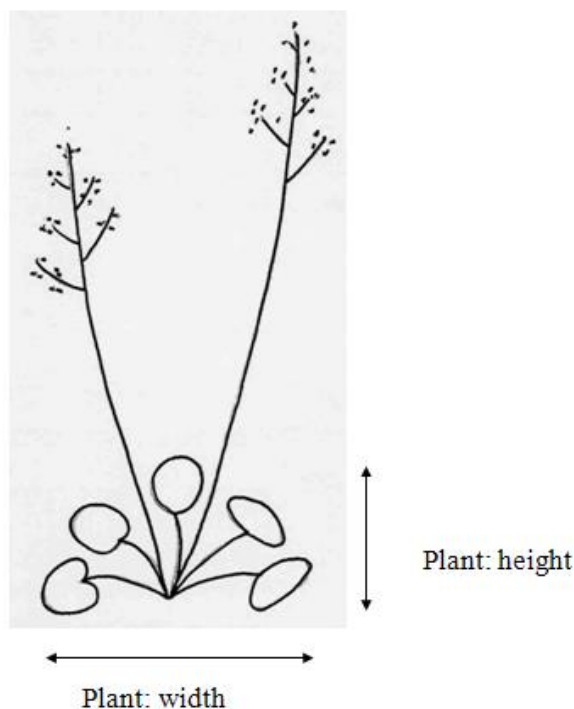
Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

- (a) To be observed on the leaf rosette, excluding the flowering stems.
- (b) To be observed on just expanded leaves of the current season.
- (c) Leaf blade characteristics should be observed on the upper surface unless otherwise indicated.
- (d) The color of the leaf blade excludes the color of the veins. Where the characteristic refers to colors as "one", "two" etc., they are to be recorded in the order that they appear on the RHS chart, i.e. color one is the one with the lowest number, color two with the second lowest and so on. For example, if the leaves are Green 137A dotted with White 155A, Green 137A will be color one and White 155A color two. If two colors are on the same leaf of the chart, for example Green 137A and Green 137D, 137A is regarded as the lower numbered color. It should be noted that under this system, ranking is independent of surface area, so the color covering the greatest surface area may be classified as color three or four. The Guideline makes provision for four colors; if there are more, the color[s] with the smallest surface area[s] should be discounted.
- (e) To be observed on fully expanded leaves of the current season.
- (f) To be observed on fully open flowers from the middle third of the flowering part of the flowering stem.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: height

Ad. 2: Plant: width



Ad. 4 to 19: Young leaf blade: color characteristics

Ad. 36 to 52: Leaf blade: color characteristics

In Heuchera and Heucherella leaf color is very significant to the overall appearance of the variety. Leaves often have several colors in different patterns and the expression of these colors and patterns can change from the young leaves to the fully expanded leaves.

This guideline allows the description of up to four colors using the RHS Colour Charts as well as the distributions, the patterns formed and the areas covered. This set of characteristics is observed on the young leaves and then repeated to describe the fully expanded leaves.

Although the colors are referred to as "color one", "color two", "color three" and "color four" in the headings, this does not indicate a ranking according to prominence or area covered. The order in which the colors should be observed is dictated by the order the colors appear in the RHS Colour Chart, as described in section 8.1(d).

Example varieties have not been provided for the leaf color characteristics. This is because the number of combinations of observations that this guideline allows for, is larger than number of combinations seen. Providing example varieties for all states of expression in this case would be misleading.

In order to provide an illustration of the recording method, two worked examples are provided below. The first describes a leaf with only one color, the second a leaf with several colors. In both cases these are described on the fully expanded leaf, but the method for the young leaf is identical.

Section 8.1(b) and (e) contains the instructions as to which material should be used for the observations.

Worked Example One – Pistache (variety with only one leaf color)



36. Leaf blade: color one – RHS Colour Chart – Yellow-Green 151C
37. Leaf blade: color one: distribution – throughout (8)
38. Leaf blade: color one: pattern – solid or nearly solid (5)
39. Leaf blade: color one: total area – very large (9)
40. Leaf blade: color two – RHS Colour Chart – not applicable
- 41: Leaf blade: color two: distribution – none (1)
- 42: Leaf blade: color two: pattern – not applicable
- 43: Leaf blade: color two: total area – not applicable
- 44: Leaf blade: color three – RHS Colour Chart – not applicable
- 45: Leaf blade: color three: distribution – none (1)
- 46: Leaf blade: color three: pattern – not applicable
- 47: Leaf blade: color three: total area – not applicable
- 48: Leaf blade: color four – RHS Colour Chart – not applicable
- 49: Leaf blade: color four: distribution – none (1)
- 50: Leaf blade: color four: pattern – not applicable
- 51: Leaf blade: color four: total area – not applicable

Worked Example Two – Venus (variety with several leaf colors)



36. Leaf blade: color one – RHS Colour Chart – Yellow-Green 144C
37. Leaf blade: color one: distribution – marginal zone (7)
38. Leaf blade: color one: pattern – solid or nearly solid (5)
39. Leaf blade: color one: total area – very small to small (2)
40. Leaf blade: color two – RHS Colour Chart – Greyed-Orange 176B
41. Leaf blade: color two: distribution – along veins (2)
42. Leaf blade: color two: pattern – solid or nearly solid (5)
43. Leaf blade: color two: total area – small (3)
44. Leaf blade: color three – RHS Colour Chart – Greyed-Orange 177D but more grey
45. Leaf blade: color three: distribution – between veins in central zone (5)
46. Leaf blade: color three: pattern – solid or nearly solid (5)
47. Leaf blade: color three: total area – large (7)
48. Leaf blade: color four – RHS Colour Chart – not applicable
49. Leaf blade: color four: distribution – none (1)
50. Leaf blade: color four: pattern – not applicable
51. Leaf blade: color four: total area – not applicable

The diagrams below show illustrations of the color distributions and color patterns

Ad. 5: Young leaf blade: color one: distribution

Ad. 37: Leaf blade: color one: distribution



1
along veins
(red brown)



2
along veins and on margin
(blackish)



3
between veins throughout
(red pink)



4
between veins in central
zone
(grey)



5
between veins in
intermediate zone
(green)



6
between veins and on
margin
(yellow green)



7
marginal zone
(red)

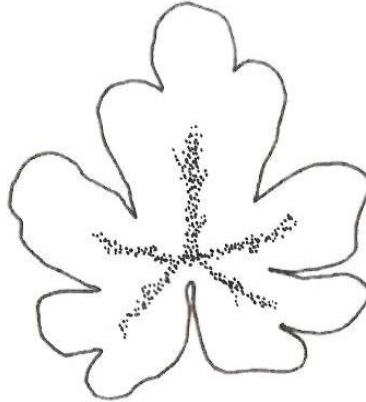


8
throughout
(pink)

- Ad. 6: Young leaf blade: color one: pattern
Ad. 10: Young leaf blade: color two: pattern
Ad. 14: Young leaf blade: color three: pattern
Ad. 18: Young leaf blade: color four: pattern
Ad. 38: Leaf blade: color one: pattern
Ad. 42: Leaf blade: color two: pattern
Ad. 46: Leaf blade: color three: pattern
Ad. 50: Leaf blade: color four: pattern



1
flushed



2
dotted



3
blotched



4
irregular



5
solid or nearly solid

Ad. 9: Young leaf blade: color two: distribution

Ad. 13: Young leaf blade: color three: distribution

Ad. 17: Young leaf blade: color four: distribution

Ad. 41: Leaf blade: color two: distribution

Ad. 45: Leaf blade: color three: distribution

Ad. 49: Leaf blade: color four: distribution

The color distributions described in these characteristics can be represented by the same diagrams as in Ad. 5 and Ad. 37. However the notes are different with the first as 'none', to allow for varieties that do not have multiple colors.



1

none (no additional colors)



2

along veins
(red brown)



3

along veins and on margin
(blackish)



4

between veins throughout
(red pink)



5

between veins in central
zone (grey)



6

between veins in
intermediate zone (green)



7

between veins and on
margin (yellow green)



8

marginal zone
(red)



9

throughout
(pink)

Ad. 22: Petiole: main color

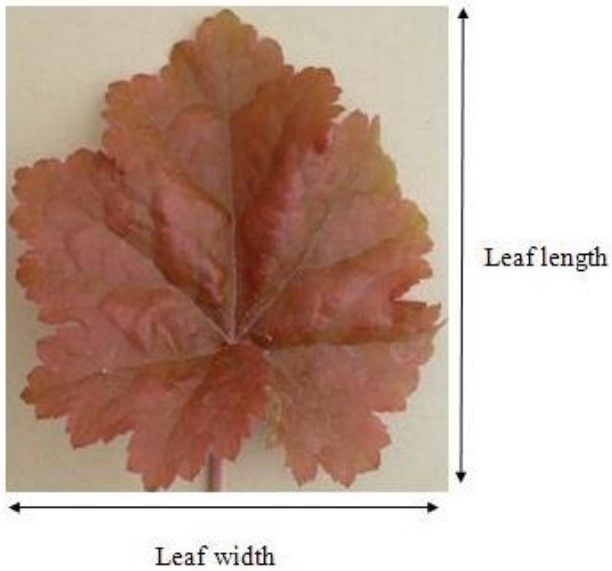
The main color is the one covering the largest surface area.

Ad. 23: Leaf blade: length

The total length of the leaf should be observed, not the distance from the petiole to the apex.

Ad. 24: Leaf blade: width

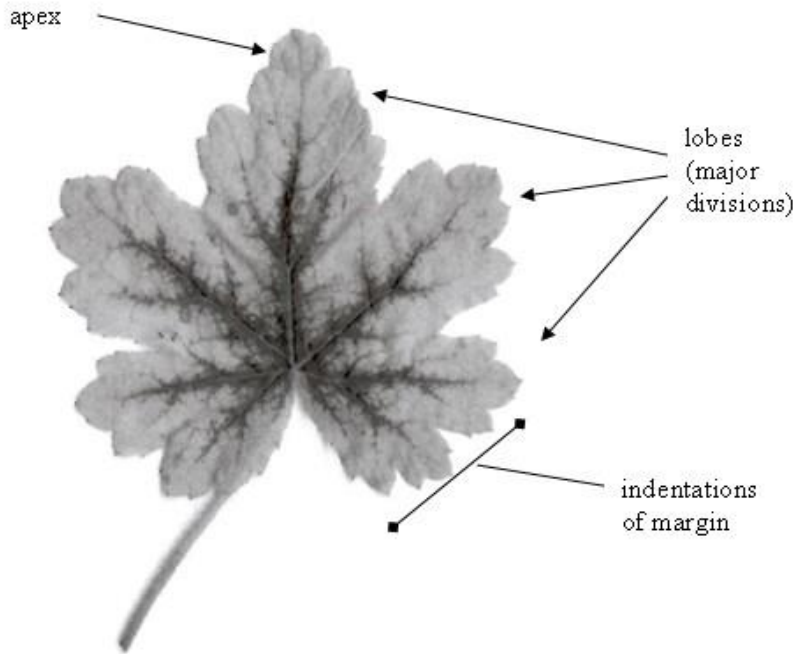
The natural width of the leaf should be observed.



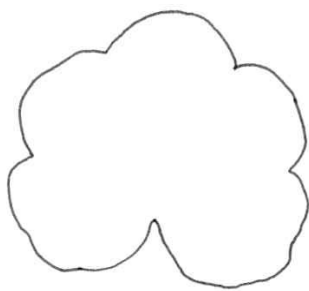
Ad. 26: Leaf blade: shape of apex

Ad. 27: Leaf blade: lobing

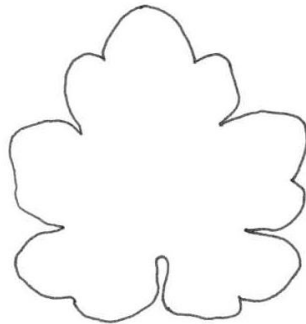
Ad. 29: Leaf blade: number of indentations of margin



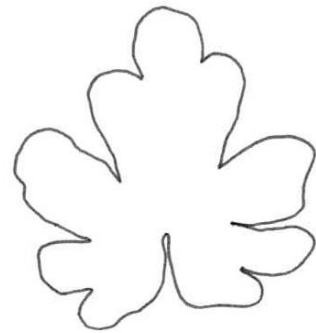
Ad. 27: Leaf blade: lobing



3
shallow

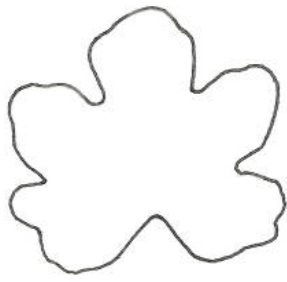


5
medium

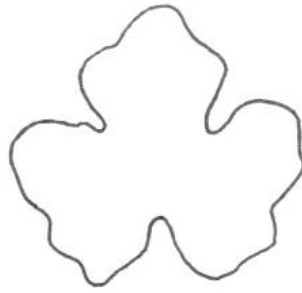


7
deep

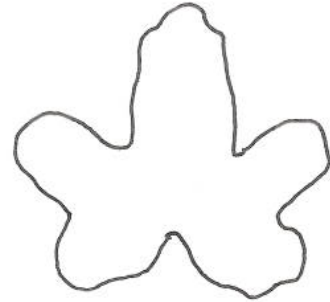
Ad. 28: Heucherella only: Leaf blade: length of terminal lobe relative to total length



3
short



5
medium



7
long

Ad. 29: Leaf blade: number of indentations of margin



1
absent or very
few



2
few



3
medium



4
many



5
very many

Ad. 31: Leaf blade: undulation of margin



1
absent or very weak



3
weak



5
medium



7
strong

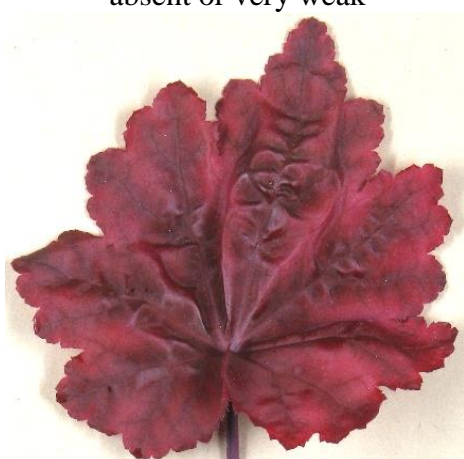
Ad. 32: Leaf blade: rugosity



1
absent or very weak



3
weak

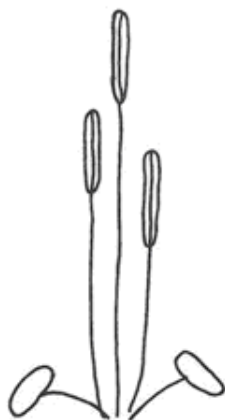


5
medium



7
strong

Ad. 53: Flowering stem: attitude



1
upright



2
semi upright

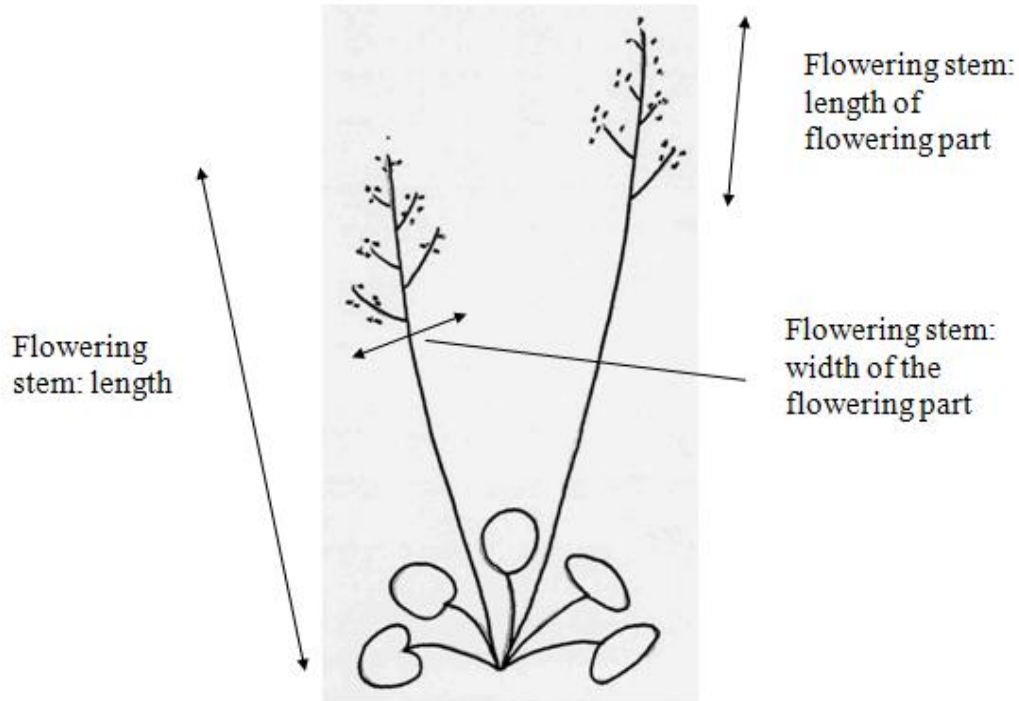


3
spreading

Ad. 54: Flowering stem: length

Ad. 56: Flowering stem: length of flowering part

Ad. 57: Flowering stem: width of flowering part



Ad. 54: Flowering stem: length

To be observed on the fully extended flowering stem.

Ad. 55: Flowering stem: main color

To be observed immediately below the flowering part of the flowering stem. The main color is the one covering the largest surface area.

Ad. 60: Flower bud: color

To be observed on a fully developed flower bud just before opening.

Ad. 61: Flower: attitude

Flower attitude is described relative to the main flowering stem and excludes the angle of the pedicel.



1
upwards



2
semi-
upwards



3
outwards



4
semi-downwards



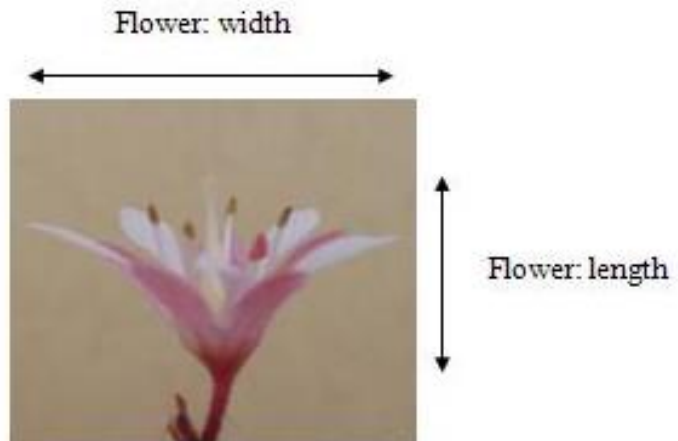
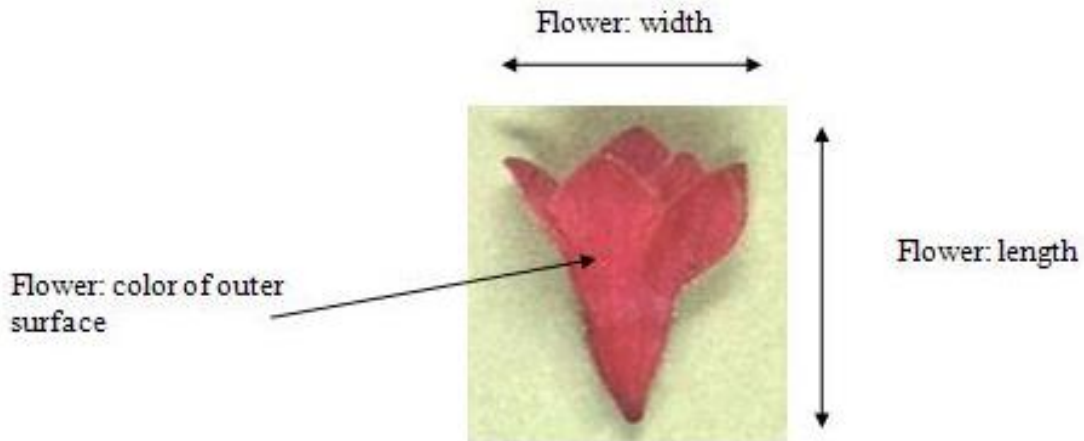
5
downwards

Ad. 62: Flower: length

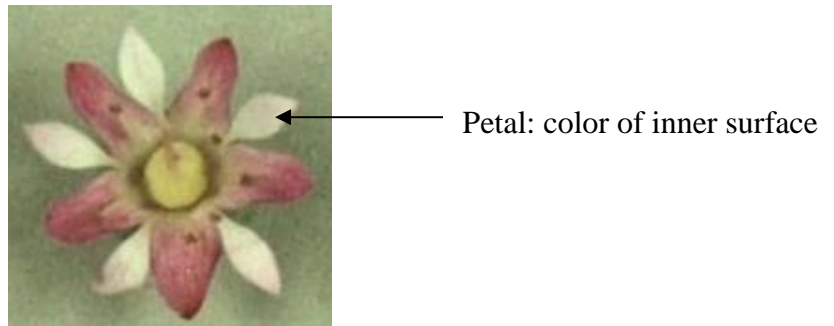
Ad. 63: Flower: width

Ad. 64: Flower: color of outer surface

Note on the flower structure: In the flowers, the lower parts of the calyx, petals and anthers are fused together into a structure called the Hypanthium. At the base of each calyx lobe a small petal is attached, which may be vestigial or may project past the mouth of the flower. The petals are generally more prominent in Heucherella.



Ad. 65: Heucherella only: Petal: color of inner surface



9. Literature

Heims, D., and Ware, G., 2005: Heucheras and Heucherellas, Coral Bells and Foamy Bells. Timber Press, Inc.. Oregon, US

Oliver, C. and M., 2006: Heuchera, Tiarella and Heucherella, A Gardener's Guide. B. T. Batsford Ltd.. London, GB

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		
<p>1. Subject of the Technical Questionnaire (please indicate the relevant genus:)</p> <p>1.1 Botanical name <input style="width: 450px;" type="text" value="Heuchera L."/> [<input type="checkbox"/>]</p> <p>1.2 Common name <input style="width: 450px;" type="text" value="Heuchera"/></p> <p>1.3 Species <input style="width: 450px;" type="text"/> (please complete)</p> <p>1.1 Botanical name <input style="width: 450px;" type="text" value="xHeucherella H. R. Wehrh."/> [<input type="checkbox"/>]</p> <p>1.2 Common name <input style="width: 450px;" type="text" value="Heucherella"/></p>		
<p>2. Applicant</p> <p>Name <input style="width: 450px;" type="text"/></p> <p>Address <input style="width: 450px; height: 60px;" type="text"/></p> <p>Telephone No. <input style="width: 450px;" type="text"/></p> <p>Fax No. <input style="width: 450px;" type="text"/></p> <p>E-mail address <input style="width: 450px;" type="text"/></p> <p>Breeder (if different from applicant) <input style="width: 450px;" type="text"/></p>		

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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3. Proposed denomination and breeder's reference	
Proposed denomination (if available)	<input type="text"/>
Breeder's reference	<input type="text"/>

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

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

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

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

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

(c) unknown cross []

4.1.2 Mutation []
(please state parent variety)

.....

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

.....

4.1.4 Other []
(please provide details)

.....

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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:
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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 Plant: height		
(1)		
very short	Blood Red	1[]
very short to short		2[]
short	Firebird	3[]
short to medium		4[]
medium	Blackout	5[]
medium to tall		6[]
tall	Bronze Beauty	7[]
tall to very tall		8[]
very tall		9[]
5.2 Leaf blade: lobing		
(27)		
absent or very shallow	Fairy Cups	1[]
very shallow to shallow		2[]
shallow	Blood Red	3[]
shallow to medium		4[]
medium	Sugar Plum	5[]
medium to deep		6[]
deep	Solar Power	7[]
deep to very deep		8[]
very deep	Kimono	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.3 Leaf margin: undulation of margin (31)		
absent or very weak	Stoplight	1[]
very weak to weak		2[]
weak	TNHEU041	3[]
weak to medium		4[]
medium	Lime Rickey	5[]
medium to strong		6[]
strong	Chocolate Ruffles	7[]
strong to very strong		8[]
very strong	Green Ivory	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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	Characteristics	Example Varieties	Note
5.4	Young just expanded leaf blade: color covering the greatest surface area		
	white		1[]
	light yellow		2[]
	medium yellow		3[]
	yellow green	Lime Rickey	4[]
	light green		5[]
	medium green		6[]
	dark green	Sashay	7[]
	yellow brown	Amber Waves	8[]
	pink	Peachy Keen	9[]
	red	Peach Flambe	10[]
	red brown	Tiramisu	11[]
	brown	Café Ole	12[]
	purple		13[]
	grey purple	Frosted Violet	14[]
	grey green		15[]
	grey		16[]
	blackish		17[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.5 Fully expanded leaf blade: color covering the greatest surface area		
white	Snow Storm	1[]
light yellow		2[]
medium yellow	Stoplight	3[]
yellow green	Pistache	4[]
light green		5[]
medium green	Firebird	6[]
dark green	Sashay	7[]
yellow brown	Amber Waves	8[]
pink		9[]
red	Autumn Leaves	10[]
red brown	Brass Lantern	11[]
brown	Bronze Beauty	12[]
purple	Midnight Rose	13[]
grey purple	Sugar Plum	14[]
grey green	Kimono	15[]
grey	Venus	16[]
blackish	Obsidian	17[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.6 Fully expanded leaf blade: color covering the next greatest surface area		
white		1[]
light yellow		2[]
medium yellow	Tiramisu	3[]
yellow green		4[]
light green		5[]
medium green	Snow Storm	6[]
dark green		7[]
yellow brown	Bronze Beauty	8[]
pink	Midnight Rose	9[]
red	Brass Lantern	10[]
red brown	Stoplight	11[]
brown	Venus	12[]
purple	Sugar Plum	13[]
grey purple		14[]
grey green		15[]
grey		16[]
blackish	Kimono	17[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.7 Fully expanded leaf blade: color covering the next greatest surface area: distribution		
along veins	Venus	1[]
along veins and on margin	Sugar Plum	2[]
between veins throughout	Bronze Beauty	3[]
between veins in central zone		4[]
between veins in intermediate zone		5[]
between veins and on margin	Tiramisu	6[]
marginal zone		7[]
throughout	Midnight Rose	8[]
5.8 Flower: color of outer surface (64)		
greenish	Shamrock	1[]
white	White Marble	2[]
cream	Ebony and Ivory	3[]
light pink	Vyking Ship	4[]
medium pink	Coral Bouquet	5[]
dark pink	Stawberry Candy	6[]
red	Blood Red	7[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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>Leaf: color of upper surface</i>	<i>yellow brown</i>	<i>light green</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
<p>#7. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.2 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.3 Other information</p> <p>A representative color image of the variety should accompany the Technical Questionnaire.</p>		
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [] No []</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [] No []</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>		

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:
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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]