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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

MAGNOLIA

UPOV Code(s): MAGNO

Magnolia L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS. UNIFORMITY AND STABILITY

prepared by experts from China
to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its fifty-sixth session, to be held virtually
from 2024-04-29 to 2024-05-02

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	English	French	German	Spanish
Magnolia L., Michelia L.	Magnolia	Magnolia	Magnolie	Magnolia

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 Magnolia 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 young plants, grafted or on their own roots.
- 2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

6 plants

- 2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.
- 2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

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

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

- 3.3 Conditions for Conducting the Examination
- 3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.
- 3.3.2 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.
- 3.4 Test Design
- 3.4.1 Each test should be designed to result in a total of at least 6 plants.
- 3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 Additional Tests

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants or Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts of plants taken from each of 5 plants and any other observations made on all plants in the test, disregarding any off-type plants.

In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2.

4.1.5 Method of Observation

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

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

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

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

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

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

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

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

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

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

4.2 Uniformity

- 4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:
- 4.2.2 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.
- 4.2.3 The assessment of uniformity for vegetatively propagated varieties should be according to the recommendations for cross-pollinated varieties in the General Introduction.
- 4.2.4 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 6 plants, 1 off-type is allowed.
- 4.3 Stability
- 4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.
- 4.3.2 Where appropriate, or in cases of doubt, stability may be further examined by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.
- 5. Grouping of Varieties and Organization of the Growing Trial
- 5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.
- 5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.
- 5.3 The following have been agreed as useful grouping characteristics:
 - (a) Plant: seasonality (characteristic 1)
 - (b) Plant: position of flower buds on branch (characteristic 4)
 - (c) Flower: number of tepals (characteristic 29)
 - (d) First whorl petaloid tepals: main color on outer side (characteristic 37) with the following groups
 - Gr. 1: white
 - Gr. 2: green
 - Gr. 3: yellow
 - Gr. 4: red pink
 - Gr. 5: red
 - Gr. 6: purple
 - (e) Time of beginning of first flowering (characteristic 54)
- 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. <u>Introduction to the Table of Characteristics</u>

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

- 6.2 States of Expression and Corresponding Notes
- 6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.
- 6.2.2 All relevant states of expression are presented in the characteristic.
- 6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 "Development of Test Guidelines".
- 6.3 Types of Expression

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

6.4 Example Varieties

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

Example variety

Magnolia 'Betty'

Magnolia cylindrica 'Lv Xing'

Magnolia denudata 'Jade Lamp'

Magnolia figo 'Purple Queen'

Magnolia 'Fragrant Cloud'

Magnolia 'Frank's Masterpiece'

Magnolia grandiflora 'Bracken's Brown Beauty'

Magnolia 'Hong Jixing'

Magnolia xloebneri 'Mag's Pirouette'

Magnolia sargentiana 'Mossman's Giant'

Magnolia sieboldii 'Qingxin'

Magnolia 'Silver Parasol'

Magnolia xsoulangiana 'Burgundy'

Magnolia sprengerii 'Diva'

Magnolia 'Sun Spire'

Magnolia virginiana Tensaw'

Magnolia 'Yellow Bird'

6.5 Legend

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

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression

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

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

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

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

7 Not applicable

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

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*)	QL	VG		(a)				
	Plant:	seasonality						
	decidu	ious					Burgundy, Yellow Bird	1
	evergr	een					Bracken`s Brown Beauty, Purple Queen	2
2. (*)	QN	VG	(+)	(a)				
	Plant:	growth habit						
	fastigia	ate					Sun Spire	1
	uprigh	t					Yellow Bird	2
	uprigh	t to spreading					Burgundy	3
	spread	ding					Jade Lamp	4
	droopi	ng					Frank's Masterpiece	5
3.	QN	VG		(a)				
	Plant: branc	density of hes						
	sparse	9					Silver Parasol	1
	sparse	e to medium					Jade Lamp	2
	mediu	m					Burgundy	3
	mediu	m to dense					Mag`s Pirouette	4
	dense	:		1				5
4. (*)	QL	VG	(+)					,
	Plant: of flow branc	position wer buds on h						
	termin	al only					Bracken`s Brown Beauty, Frank's Masterpiece	1
	termin	al and axillary					Mag`s Pirouette, Yellow Bird	2
	axillar	y only					Purple Queen	3
5.	QN	MG	(+)					
	termin	number of nal or axillary rs on branch						
	only o	ne					Bracken`s Brown Beauty, Frank's Masterpiece	1
	one ar	nd two					Fragrant Cloud, Purple Queen	2
	more t	than two						3

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6.	QN	MG/MS	(+)					•
-		: number of n relation to rs						
	abser	nt or few					Hong Jixing, Purple Queen	1
	mediu	ım					Yellow Bird	2
	many						Jade Lamp	3
7. (*)	QN	MG/VG	(+)	(a)				•
	Flowe	ering shoot: h of internodes						
	short						Fragrant Cloud	1
	mediu	ım					Burgundy	2
	long						Frank's Masterpiece	3
8. (*)	PQ	VG	(+)	(a)				
	One-y	One-year-old shoot:						
	green						Hong Jixing	1
	yellow	v green					Tensaw	2
	brown	n purple					Yellow Bird	3
	brown	1					Bracken`s Brown Beauty	4
	yellow	v brown					Burgundy	5
	grey						Qingxin, Silver Parasol	6
9.	QN	VG	(+)	(b)				•
	antho	g leaf blade: ocyanin ation of upper						
	abser	nt or very weak	<u> </u>				Bracken`s Brown Beauty	1
	weak		<u> </u>				Mag`s Pirouette	2
	mediu	ım						3
	strong	3						4
	very s	strong						5

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10	PQ	VG		(b)				
	Youn color	g leaf blade: of lower side						
	white						Qingxin, Silver Parasol	1
	green						Hong Jixing, Purple Queen	2
	grey (green					Diva	3
	browr	n red						4
	browr	n purple					Bracken`s Brown Beauty	5
	yellov	v brown						6
11	QN	VG		(b)				
	Youn pube side	g leaf blade: scence on lower						
	abser	nt or very sparse					Diva	1
	spars	e					Mag`s Pirouette	2
	mediu						Yellow Bird	3
	dense							4
	very o	dense					Bracken`s Brown Beauty	5
12 (*)	QN	MG/MS	(+)	(c)				
	Leaf	blade: length						
	very s	short					Tensaw	1
	short						Burgundy, Mag`s Pirouette	2
	mediu	ım					Bracken`s Brown Beauty	3
	long							4
	very l	ong					Silver Parasol	5
13	QN	MG/MS	(+)	(c)				
	Leaf	blade: width						
	very r	narrow					Tensaw	1
	narro	<i>N</i>					Mag`s Pirouette	2
	mediu	ım					Jade Lamp	3
	broad						Mossman`s Giant	4
	very b	oroad	<u> </u>				Silver Parasol	5

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
14	QN	MG/MS	(+)	(c)			·	
		olade: ratio n/width						
	very lo						Jade Lamp	1
	low						Burgundy	2
	mediu						Betty	3
	high						Bracken`s Brown Beauty	4
	very h	igh					Silver Parasol	5
15 (*)	PQ	VG	(+)	(c)		1		
	Leaf b	olade: shape		•				
	ovate						Yellow Bird	1
	elliptic	:					Bracken`s Brown Beauty	2
	obova	te					Diva	3
16	PQ	VG	(+)	(c)		L		
:	Leaf b	blade: shape of						
	decuri	ent						1
	attenu	ate					Hong Jixing	2
	acute	cuneate					Burgundy	3
	obtuse	e cuneate					Diva	4
	rounde	ed					Jade Lamp	5
	trunca	te						6
	cordat	e					Silver Parasol	7
	auricu	late						8
17 (*)	PQ	VG	(+)	(c)			·	
	Leaf b	plade: shape of						
	acute						Bracken`s Brown Beauty	1
	obtuse	······						2
	rounde	ed					Jade Lamp	3
	trunca	te						4
	apicul	ate					Diva	5
	acumi	nate					Burgundy	6
	cauda	te						7
	retuse						Mag`s Pirouette	8
	emarg	inate						9

	English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
18	QL VG		(c)			•	
	Leaf: variegation						
	absent						1
	present						9
19	PQ VG	(+)	(c)		1	1	<u> </u>
·	Leaf blade: color of upper side		•				
	yellow	-					1
	yellow green					Tensaw	2
	green					Bracken`s Brown Beauty	3
	grey green					Qingxin, Silver Parasol	4
	red brown						5
20	PQ VG	(+)					
	Only varieties with Plant: seasonality: deciduous: Leaf blade: color in autumn	:					
	green						1
	yellow green					Betty	2
	yellow					Mag`s Pirouette	3
	yellow brown					Yellow Bird	4
	brown					Silver Parasol	5
	brown purple						6
21 (*)	PQ VG	(+)	(c)				
ĺ	Leaf blade: texture						
	thin-papery	-				Mag`s Pirouette	1
	thick-papery					Jade Lamp	2
	thin-leathery					Purple Queen	3
	thick-leathery					Bracken`s Brown Beauty	4
22	QN VG		(c)				
	Leaf blade: glossiness of upper side						
	absent or weak					Diva	1
	medium	<u> </u>				Jade Lamp	2
	strong	1				Bracken`s Brown Beauty	3

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
23	PQ	VG	(+)				<u> </u>	
		er bud: color of aceous bract						
	green						Hong Jixing	1
	grey g	green	••••••					2
	yellov	v green					Betty	3
	yellow	<i>I</i>						4
	grey y	rellow					Mag`s Pirouette	5
	browr	1					Bracken`s Brown Beauty	6
	brown	ı red						7
24	QN	MG/VG						
	Flowe	er pedicel: length						
	short						Betty, Purple Queen	1
	mediu	ım					Bracken`s Brown Beauty	2
	long						Silver Parasol	3
25 (*)	QN	VG	(+)	(d)			•	
	Flowe	er: attitude						
	erect						Bracken`s Brown Beauty	1
	semi-						Burgundy	2
	droop	ing					Qingxin	3
26	QN	MG/VG	(+)	(d), (e)				_
	Flowe	er: height						
	short							1
	short	to medium					Purple Queen	2
	mediu	ım					Burgundy	3
	mediu	ım to tall						4
	tall		<u> </u>				Silver Parasol	5

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
27 (*)	QN	MG/VG		(d), (e)				
	Flower	r: diameter						
	very sn						Purple Queen	1
	very sn	nall to small						2
	small						Jade Lamp	3
	small to	o medium						4
	mediur						Bracken`s Brown Beauty	5
	mediur	n to large						6
	large						Frank's Masterpiece	7
	large to	very large						8
	very la	rge					Mossman`s Giant	9
28 (*)	PQ	VG	(+)	(d)				
	Flower	r: form						
	obovoi	d					Sun Spire	1
	globos	e						2
	cup-sh	aped					Yellow Bird	3
	campa	nulate					Burgundy	4
		ate-shaped						5
	bowl-sl						Bracken`s Brown Beauty	6
	saucer	-shaped						7
	stellate	}					Mag`s Pirouette	8
	goldfisl	h-shaped					Silver Parasol	9
	irregula	ar					Betty	10
29 (*)	QN	MG/MS	(+)	(d)				
	Flower tepals	r: number of						
	very fe	w					Purple Queen	1
	few						Burgundy	2
	mediur	n					Diva	3
	many						Jade Lamp	4
	very m	any					Mag`s Pirouette	5
30 (*)	QL	VG	(+)	(e)				
	Flower tepals	r: sepaloid						
	absent						Jade Lamp	1
	presen	t					Mag`s Pirouette	9

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
31 (*)	QN	VG		(d)				
	Flowe	er: fragrance						
	absen	t or weak					Mag`s Pirouette	1
	mediu	m					Bracken`s Brown Beauty	2
	strong						Purple Queen	3
32	QN	VG	(+)	(d), (e)				
	First v	whorl petaloid s: attitude						
	inward	ds					Sun Spire	1
	upwar	ds					Purple Queen, Yellow Bird	2
	outwa	rds					Burgundy	3
	horizo	ntal					Bracken`s Brown Beauty, Mag`s Pirouette	4
	downv	vards					Silver Parasol	5
33	QN	MG		(d), (e)				
	First v	whorl petaloid s: length						
	very s	hort					Purple Queen	1
	very s	hort to short						2
	short						Burgundy	3
		to medium						4
	mediu	m					Bracken`s Brown Beauty	5
	mediu	m to long						6
	long						Frank's Masterpiece	7
	long to	very long						8
	very lo	ong		·			Mossman`s Giant	9
34	QN	MG	(+)	(d), (e)		1		
	First v	whorl petaloid s: width						
	very n	arrow				†	Mag`s Pirouette	1
	narrov	v					Burgundy	2
	mediu	m					Bracken`s Brown Beauty	3
	broad							4
	very b	road					Mossman`s Giant	5

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
35 (*)	PQ	VG	(+)	(d), (e)				•
	First tepal	whorl petaloid s: shape						
		w ovate						1
	medium ovate							2
	circul	ar					Bracken`s Brown Beauty	3
	elliptio	C					Diva	4
	oblon	g						5
	linear							6
	oblan	ceolate					Mag`s Pirouette	7
	obova	ate					Jade Lamp	8
	spatu	late						9
36	QN	VG	(+)	(d), (e)				_
	First tepal section	whorl petaloid s: shape in cross on						
	conca						Bracken`s Brown Beauty	1
	flat						Betty	2
	conve	ex						3
37 (*)	PQ	VG		(d), (e), (f)				•
	First tepal outer	whorl petaloid s: main color on · side						
		Colour Chart icate reference						
38 (*)	PQ	VG		(d), (e), (f)				
	tepal	whorl petaloid s: secondary on outer side						
		Colour Chart ate reference er)						

	Eng	lish		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
39 (*)	PQ VG	((+)	(d), (e), (f)		_		
	First whorl tepals: distrisecondary couter side	ibution of						
	none						Bracken`s Brown Beauty	1
	at base only						Jade Lamp	2
	basal quarte	r						3
	basal half						Yellow Bird	4
	at apex only							5
	distal quarte	r						6
	distal half							7
	basal and central							8
	only central		•••••					9
	basal transverse		•••••					10
	on margin or							11
	throughout							12
40 (*)	PQ VG	((+)	(d), (e), (f)				
	First whorl tepals: patte secondary o outer side	ern of						
	none						Bracken`s Brown Beauty	1
	flush only						Yellow Bird	2
	flush and str	ipes					Lv Xing	3
	stripes only							4
	aciculate							5
	speckles							6
41	PQ VG			(d), (e), (f)				
	First whorl tepals: tertion outer sic	petaloid ary color le						
	none							1
	yellow							2
	green						Sun Spire	3
	orange							4
	pink							5
	red							6
	red purple							7

	English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
42 (*)	PQ VG		(d), (e), (f)				
	First whorl petaloi tepals: main color inner side	d on					
	RHS Colour Chart (indicate reference number)						
43	PQ VG		(d), (e), (f)				
	First whorl petaloi tepals: secondary color on inner side	d e					
	RHS Colour Chart (indicate reference number)						
44	PQ VG	(+)	(d), (e), (f)				
	First whorl petaloi tepals: distribution secondary color o inner side	d n of n					
	none					Bracken`s Brown Beauty	1
	at base only						2
	basal quarter					Yellow Bird	3
	basal half						4
	at apex only						5
	distal quarter						6
	distal half						7
	basal and central						8
	only central						9
	basal transverse						10
	on margin only						11
	throughout						12
45	PQ VG	(+)	(d), (e), (f)				
	First whorl petaloi tepals: pattern of secondary color o inner side						
	none						1
	flush only						2
	flush and stripes						3
	stripes only						4
	aciculate						5
	speckles						6

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
46 (*)	PQ	VG	(+)	(e)				-
·	First textu	whorl tepals: re		·				
		oranous	•••••				Mag`s Pirouette	1
	fleshy						Bracken`s Brown Beauty	2
	leathe	ery	••••••				Silver Parasol	3
47	PQ	VG	(+)	(d), (e)		1		
	Seco	nd whorl petaloid s: attitude						
	inward	ds	***************************************				Sun Spire	1
	upwai	rds					Yellow Bird	2
	outwa						Burgundy	3
	horizo						Bracken`s Brown Beauty	4
	down	wards						5
48 (*)	PQ	VG		(d), (e), (f)				
	Secon tepals outer	nd whorl petaloid s: main color on side						
		Colour Chart ate reference er)						
49	PQ	VG		(d), (e), (f)				
	Secon tepals color	nd whorl petaloid s: secondary on outer side						
		Colour Chart ate reference er)						

		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
50	PQ	VG	(+)	(d), (e), (f)				
	tepals	d whorl petaloid : distribution of dary color on side						
	none							1
	at bas	e only						2
	basal (quarter						3
	basal l	nalf						4
	at ape	x only						5
		quarter						6
	distal I	nalf						7
	basal	and central						8
	only ce							9
		ransverse						10
	on ma	rgin only						11
	throug	hout						12
51	PQ	VG	(+)	(d), (e), (f)				
	tepals	nd whorl petaloid : pattern of dary color on side						
	none							1
	flush c	nly						2
		nd stripes						3
	stripes	only						4
	acicula	ate						5
	speckl	es						6
52 (*)	PQ	VG		(d), (e)				
	Stame	ens: color						
	white						Tensaw	1
	yellow		†				Yellow Bird	2
	red		***************************************					3
	purple	red					Fragrant Cloud	4
	purple						Betty	5

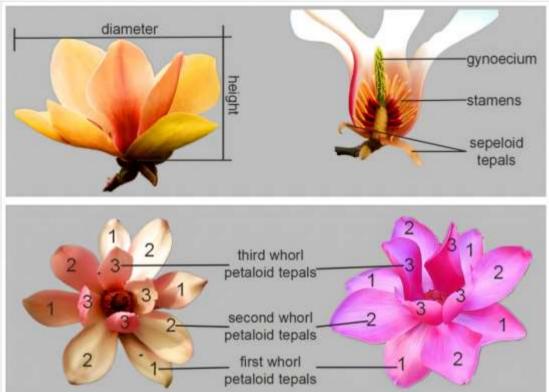
		English		français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
53	PQ	VG		(d), (e)				
	Gyno	ecium: color						
	green							1
	yellow	v green					Bracken`s Brown Beauty	2
	yellow	V						3
	red							4
	purple	e red					Fragrant Cloud	5
	purple)					Betty	6
54 (*)	QN	MG/VG	(+)					
	Time first f	of beginning of lowering						
	very early							1
	early						Mag`s Pirouette	2
	medium						Burgundy	3
	late						Hong Jixing	4
	very la	very late					Bracken`s Brown Beauty, Qingxin	5
55 (*)	QN	MG/VG	(+)					
	Lengt perio	th of flowering d						
	very s	short						1
	short						Mag`s Pirouette	2
	mediu	ım					Burgundy	3
	long						Bracken`s Brown Beauty	4
	very lo	ong					Purple Queen	5
56 (*)	QN	VG	(+)					
	Flowe	ering: frequency						
	once						Diva	1
	twice						Yellow Bird	2
	more	than twice	<u> </u>				Purple Queen	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
57	QN MG/VG	(+)				
	Only varieties with Plant: seasonality: deciduous: Time of leaf fall					
	very early				Yellow Bird	1
	early					2
	medium				Burgundy	3
	late					4
	very late				Hong Jixing	5

- 8. Explanations on the Table of Characteristics
- 8.1 Explanations covering several characteristics

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

- (a) Observations should be made during dormancy.
- (b) Observations should be made on new leaves at the end of a shoot in the upper half of the plant.
- (c) Observations should be made on fully developed leaves from the middle third of the current-year shoot in the upper half of the plant.
- (d) Observations should be made on fully opened flowers at the beginning of anther dehiscence in the upper half of the plant.
- (e) Flower structure:



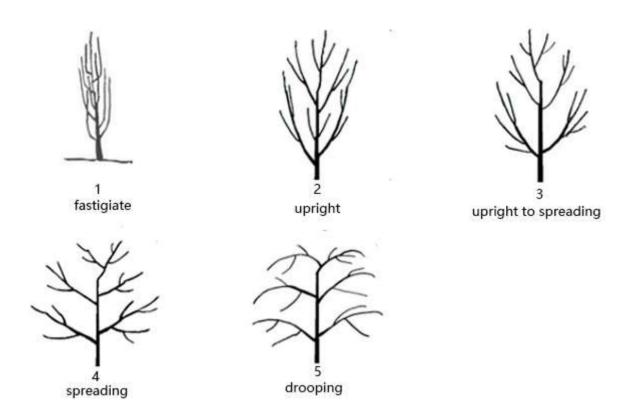
Sepaloid tepals are the first whorl tepals whose shape or texture are obviously different with those petaloid tepals.

If no sepaloid tepals, first whorl of tepals are the first whorl petaloid tepals.

(f) The main color is the color with the largest surface area, the secondary color is the color with the second largest surface area, and the tertiary color is the color with the third largest surface area. In cases where the area of the main and secondary color are too similar to reliably decide which color has the largest area, the darker color is considered to be the main color. In cases where the area of the secondary and tertiary color are too similar to reliably decide which color has the second largest area, the darker color is considered to be the secondary color.

8.2 Explanations for individual characteristics

Ad. 2: Plant: growth habit



Ad. 4: Plant: position of flower buds on branch

Observations should be made at time of beginning of flowering.



Ad. 5: Plant: number of terminal or axillary flowers on branch

Observations should be made at time of beginning of flowering.



Ad. 6: Plant: number of fruit in relation to flowers

Observations should be made four months after flowering begins.

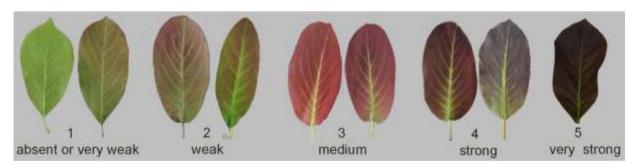
Ad. 7: Flowering shoot: length of internodes

Observations should be made on the middle third of a flowering shoot.

Ad. 8: One-year-old shoot: color

Observations should be made on the side exposed to the sun.

Ad. 9: Young leaf blade: anthocyanin coloration of upper side



Ad. 12: Leaf blade: length

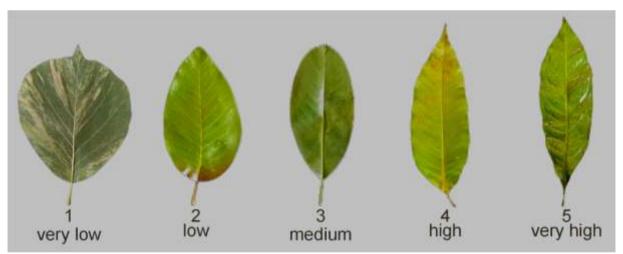
Observations should be made excluding the petiole.



Ad. 13: Leaf blade: width

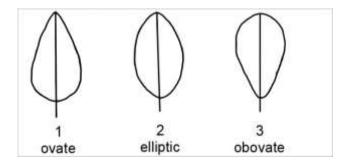
See Ad.12.

Ad. 14: Leaf blade: ratio length/width

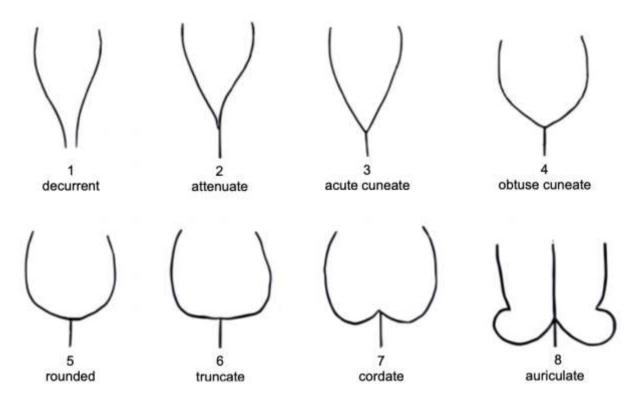


very low: <1.5 low: ≥1.5 to <2.0 medium: ≥ 2.0 to <2.5 high: ≥ 2.5 to <3.0 very high: ≥ 3.0

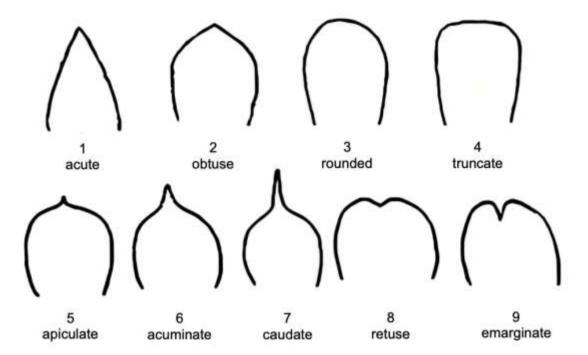
Ad. 15: Leaf blade: shape



Ad. 16: Leaf blade: shape of base



Ad. 17: Leaf blade: shape of apex



Ad. 19: Leaf blade: color of upper side

Observations should be made on the color covering the largest surface area.

Ad. 20: Only varieties with Plant: seasonality: deciduous: Leaf blade: color in autumn

Observations should be made shortly before leaf drop.

Ad. 21: Leaf blade: texture

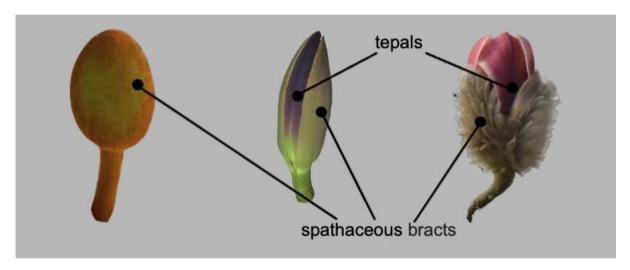
Texture refers to the tactile sensations achieved by touching the leaf, such as thickness, softness, firmness, smoothness etc.

Leathery leaf: waxiness on surface of leaves, with a firm and thick texture, such as *Magnolia grandiflora* 'Bracken's Brown Beauty'.

Papery leaf: a pliable and thin texture, such as Magnolia denudata 'Jade Lamp'.

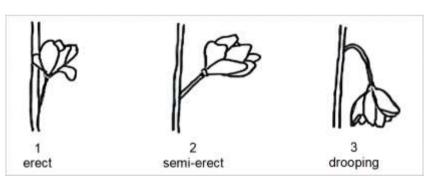
Ad. 23: Flower bud: color of spathaceous bract

Spathaceous bract: flower buds of Magnolias have big and obvious spathe-like bract with colorful hair or glabrous, membranous or leathery texture, which protect flower buds.



Observations should be made before the bud has opened.

Ad. 25: Flower: attitude

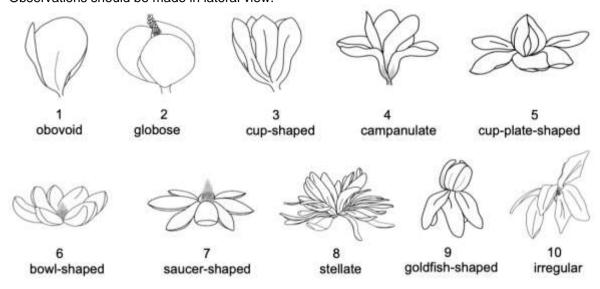


Ad. 26: Flower: height

Observations on goldfish-shaped or irregular flowers should be made from the upper edge of the flower pedicel to the upper edge of the upper tepals.

Ad. 28: Flower: form

Observations should be made in lateral view.



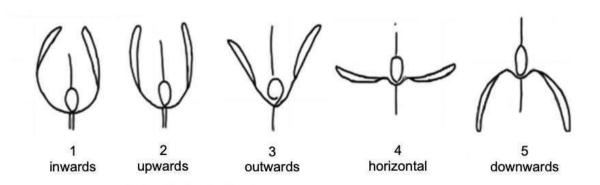
Ad. 29: Flower: number of tepals

very few: up to 6 few: from 7 to 10 medium: from 11 to 14 many: from 15 to 18 very many: more than 18

Ad. 30: Flower: sepaloid tepals

Observations should be made on the first whorl tepals at the beginning of flowering.

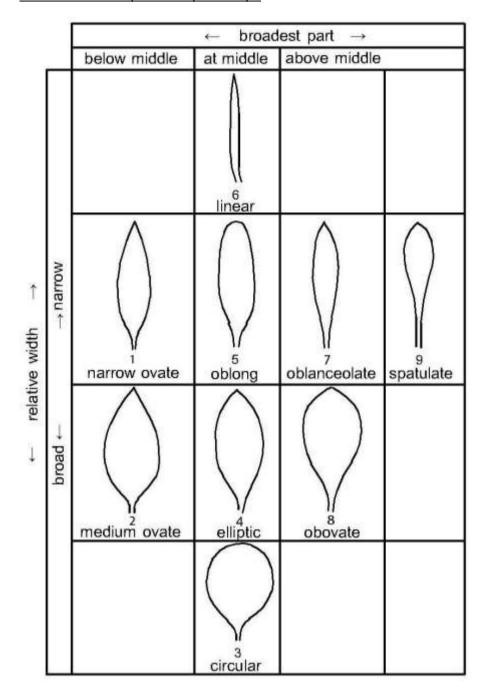
Ad. 32: First whorl petaloid tepals: attitude



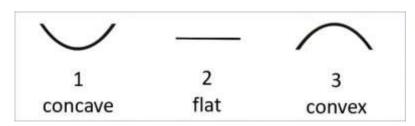
Ad. 34: First whorl petaloid tepals: width

Observations should be made at the broadest part of the tepal.

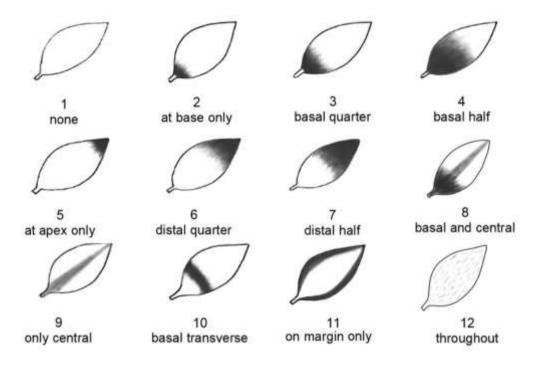
Ad. 35: First whorl petaloid tepals: shape



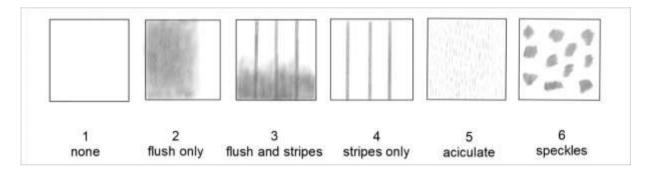
Ad. 36: First whorl petaloid tepals: shape in cross section



Ad. 39: First whorl petaloid tepals: distribution of secondary color on outer side



Ad. 40: First whorl petaloid tepals: pattern of secondary color on outer side



Ad. 44: First whorl petaloid tepals: distribution of secondary color on inner side

See Ad. 39.

Ad. 45: First whorl petaloid tepals: pattern of secondary color on inner side

See Ad. 40.

Ad. 46: First whorl tepals: texture

Texture refers to the tactile sensations achieved by touching the tepals, such as thickness, softness, firmness, smoothness etc.

Membranous tepals have a thin epidermis, without cutin thickening.

Fleshy tepals are soft and thick.

Leathery tepals are waxy on the surface, with a firm and thick texture.

Ad. 47: Second whorl petaloid tepals: attitude

See Ad. 32.

Ad. 50: Second whorl petaloid tepals: distribution of secondary color on outer side

See Ad. 39.

Ad. 51: Second whorl petaloid tepals: pattern of secondary color on outer side

See Ad. 40.

Ad. 54: Time of beginning of first flowering

Observation should be made when more than 3% flower buds bloom on all plants. In the case of more than one flowering period, the first flowering period should be observed.

Ad. 55: Length of flowering period

Observation should be made for the full time of flowering, from beginning to end. In the case of more than one flowering period, the first flowering period should be observed.

The time of beginning of flowering occurs when at least 3% of the flower buds open on all plants.

The end of flowering occurs when less than 3% of flowers are left in bloom on all plants.

Ad. 56: Flowering: frequency

The frequency is defined by the number of flowering periods within a growing season. One flowering period is from the beginning to the end of blooming. See Ad. 55.

Ad. 57: Only varieties with Plant: seasonality: deciduous: Time of leaf fall

Observations should be made when 50% of leaves on all plants have fallen from the plants.

9. Literature

Callaway, D. J., 1994: The World of Magnolias. Timber Press, Oregon.

Figlar, R. B., Nooteboom, H. P., 2004: Notes on Magnoliaceae IV. Blumea, 49: 87-100. Gardiner J, 2000: Magnolias: A Gardener's Guide. Timber Press. Portland. Lobdell, M. S., 2021: Register of Magnolia cultivars. HortScience, 56: 1614-1675. Xia, N.H., Liu Y.H., Nooteboom H.P., 2008: Magnoliaceae. In: Wu ZY et al, Flora of China Vol.7. Science Press and Missouri Botanical Garden Press, pp. 47-91.

10. <u>Technical Questionnaire</u>

TECHN	NICAL Q	UESTIONNAIRE		Page {x} of {y}	Reference Number:	
					Application date: (not to be filled in by the applican	t)
				CHNICAL QUESTIONNA	IRE for plant breeders' rights	
1.	Subject	of the Technical Question				
	1.1	Botanical name	Ма	ognolia L.		
	1.2	Common name	Ma	agnolia		
	1.3	Species (please indicate):				
2.	Applica	nt				
	Name]				
	Address	5				
	Telepho	one No.				
	Fax No.	. [
	E-mail a	address				
	Breeder (if different from applicant)					
3.	Propose	ed denomination and breed	der	's reference		
	Proposed denomination (if available)					
	Breede	r's reference				

TECH	NICAL Q	UESTIONNAIRE	Page {x} of {y}		Reference Numb	oer:
#4.	Informa	tion on the breeding scher	me and propagation o	of the var	riety	
	4.1	Breeding scheme				
	Variety	resulting from:				
	4.1.1	Crossing				
	(a)	controlled cross				[]
		(please state parent varie	ety)			
		()	x	()
		female parent			male parent	
	(b)	partially known cross				[]
		(please state known pare	ent variety(ies))			
		()	x	()
		female parent			male parent	
	(c)	unknown cross				[]
	4.1.2	Mutation (please state parent varie	ety)			[]
	4.1.3	Discovery and developm (please state where and	ent when discovered and	d how de	veloped)	[]
	4.1.4	Other (Please provide details)				[]

TECHNICAL Q	UESTIONNAIRE	Page {x} of {y}	Reference Number	:
4.2	Method of propagating the	variety		
4.2.1	Vegetative propagation			
(a) (b) (c) (d) (e)	Cuttings In vitro propagation Division Budding and grafting (pleas Other (state method)	e specify rootstock):		[] [] [] [] []
4.2.2	Other (Please provide details)			[]

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 (1)	Plant: seasonality		
	deciduous	Burgundy, Yellow Bird	1[]
	evergreen	Bracken's Brown Beauty, Purple Queen	2[]
5.2 (4)	Plant: position of flower buds on branch		
	terminal only	Bracken`s Brown Beauty, Frank's Masterpiece	1[]
	terminal and axillary	Mag`s Pirouette, Yellow Bird	2[]
	axillary only	Purple Queen	3[]
5.3 (21)	Leaf blade: texture		
	thin-papery	Mag`s Pirouette	1[]
	thick-papery	Jade Lamp	2[]
	thin-leathery	Purple Queen	3[]
	thick-leathery	Bracken's Brown Beauty	4[]
5.4 (25)	Flower: attitude		
	erect	Bracken`s Brown Beauty	1[]
	semi-erect	Burgundy	2[]
	drooping	Qingxin	3[]
5.5 (27)	Flower: diameter		
	very small	Purple Queen	1[]
	very small to small		2[]
	small	Jade Lamp	3[]
	small to medium		4[]
	medium	Bracken's Brown Beauty	5[]
	medium to large		6[]
	large	Frank's Masterpiece	7[]
	large to very large		8[]
	very large	Mossman`s Giant	9[]

	Characteristics	Example Varieties	Note
5.6 (28)	Flower: form		
, ,	obovoid	Sun Spire	1[]
	globose		2[]
	cup-shaped	Yellow Bird	3[]
	campanulate	Burgundy	4[]
	cup-plate-shaped		5[]
	bowl-shaped	Bracken`s Brown Beauty	6[]
	saucer-shaped		7[]
	stellate	Mag`s Pirouette	8[]
	goldfish-shaped	Silver Parasol	9[]
	irregular	Betty	10[]
5.7 (29)	Flower: number of tepals		
	very few	Purple Queen	1[]
	few	Burgundy	2[]
	medium	Diva	3[]
	many	Jade Lamp	4[]
	very many	Mag`s Pirouette	5[]
5.8 (31)	Flower: fragrance		
	absent or weak	Mag`s Pirouette	1[]
	medium	Bracken's Brown Beauty	2[]
	strong	Purple Queen	3[]
5.9(i) (37)	First whorl petaloid tepals: main color on outer side		
	RHS Colour Chart (indicate reference number)		
5.9(ii) (37)	First whorl petaloid tepals: main color on outer side		
. ,	white		1[]
	green		2[]
	yellow		3[]
	red pink		4[]
	red		5[]
	purple		6[]
	other (please specify)		7[]

	Characteristics	Example Varieties	Note
5.10(i) (38)	First whorl petaloid tepals: secondary color on outer side		
	RHS Colour Chart (indicate reference number)		
5.10(ii) (38)	First whorl petaloid tepals: secondary color on outer side		
` ,	white		1[]
	green		2[]
	yellow		3[]
	red pink		4 []
	red		5[]
	purple		6[]
	other (please specify)		7[]
5.11 (39)	First whorl petaloid tepals: distribution of secondary color on outer side		
	none	Bracken's Brown Beauty	1[]
	at base only	Jade Lamp	2[]
	basal quarter		3[]
	basal half	Yellow Bird	4 []
	at apex only		5[]
	distal quarter		6[]
	distal half		7[]
	basal and central		8[]
	only central		9[]
	basal transverse		10[]
	on margin only		11 []
	throughout		12[]
5.12 (40)	First whorl petaloid tepals: pattern of secondary color on outside	er	
	none	Bracken's Brown Beauty	1[]
	flush only	Yellow Bird	2[]
	flush and stripes	Lv Xing	3[]
	stripes only		4 []
	aciculate		5[]
	speckles		6[]

	Characteristics	Example Varieties	Note		
5.13 (42)	First whorl petaloid tepals: main color on inner side				
	white		1[]		
	green		2[]		
	yellow		3[]		
	red pink		4 []		
	red		5[]		
	purple		6[]		
	other (please specify)		7[]		
5.14(i) (48)	Second whorl petaloid tepals: main color on outer side				
	RHS Colour Chart (indicate reference number)				
5.14(ii) (48)	Second whorl petaloid tepals: main color on outer side				
	white		1[]		
	green		2[]		
	yellow		3[]		
	red pink		4[]		
	red		5[]		
	purple		6[]		
	other (please specify)		7[]		
5.15 (54)	Time of beginning of first flowering				
	very early		1[]		
	early	Mag`s Pirouette	2[]		
	medium	Burgundy	3[]		
	late	Hong Jixing	4[]		
	very late	Bracken's Brown Beauty, Qingxin	5[]		
5.16 (56)	Flowering: frequency				
	once	Diva	1[]		
	twice	Yellow Bird	2[]		
	more than twice	Purple Queen	3[]		

TECHNICAL QUESTIONNAIRE		Page {x} of {y}		Reference Number:		
6. Similar varieties and differences from these varieties						
Please use the following tab the variety (or varieties) who examination authority to con	ich, to the best of	f your knowled	dge, is (or are) most similar. ī		
Denomination(s) of variety(ies) similar to your candidate variety	Characteristic your candidate from the simila	variety differs	Describe the expression of the characteristic(s) for the similar variety(ies)		Describe the expres the characteristic(s) f candidate varie	or you ı
Example	Flower: numb	per of tepals	medium		few	
Comments:						

TECHNIC	CAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:		
#7. A	Additional information which may he	lp in the examination of th	e variety		
	In addition to the information provided in sections 5 and 6, are there any additional characteristics which man help to distinguish the variety?				
Y	′es []	No			
(1	If yes, please provide details)				
7.2	Are there any special conditions for	growing the variety or cor	ducting the examination?		
Y	/es []	No			
(1	If yes, please provide details)				
7.3	Other information				
Technical supplements The key •	I Questionnaire. The photograph wents the information provided in the points to consider when taking a phendication of the date and geograph Correct labeling (breeder's reference Good quality printed photograph (minimum 960 x 1280 pixels)" guidance on providing photographs ment of Test Guidelines", Guidance	rill provide a visual illustrati Technical Questionnaire. notograph of the candidate nic location se) ninimum 10 cm x 15 cm) and with the Technical Questic Note 35 (http://www.upov	nd/or sufficient resolution electronic format		

TECH	<u> HNICA</u>	<u>L QUES</u>	STIONNAIRE	Page {x} o	of {y}	Reference	e Number:		
8.	Autho	Authorization for release							
	(a)		ne variety require prio ment, human and ani	uire prior authorization for release under legislation concerning the protection of the and animal health?					
		Yes	[]	No	[]				
	(b)	Has suc	ch authorization been	obtained?					
		Yes	[]	No	[]				
	If the	answer to	o (b) is yes, please at	tach a copy of	the authori	zation.			
9. Inf	ormati	on on pla	nt material to be exar	mined or subm	itted for exa	amination			
	s and	disease,	sion of a characteristi chemical treatment ken from different gro	(e.g. growth re	etardants o	or pesticides),			
chara	acterist underg	tics of the one such	erial should not have e variety, unless the c treatment, full details vledge, if the plant ma	competent auth s of the treatm	norities allo	w or request su e given. In this	uch treatment. I respect, please	If the plant ma	aterial
	(a)	Mic	croorganisms (e.g. vir	us, bacteria, p	hytoplasma	1)	Yes []	No []	
	(b)	Che	emical treatment (e.g	. growth retard	lant, pestici	de)	Yes []	No []	
	(c)	Tis	sue culture				Yes []	No []	
	(d)	Oth	ner factors				Yes []	No []	
Please provide details for where you have indicated "yes".									
10.	I he	ereby decl	lare that, to the best o	of my knowledo	ge, the info	rmation provide	ed in this form is	s correct:	
	Арр	olicant's n	ıame						
			Γ						<u> </u>
	Siç	gnature				Date			

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