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GENEVA

DRAFT

TREE PAEONY

UPOV Code: PAEON

Paeonia Sect. Moutan

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by experts from China**to be considered by the**Enlarged Editorial Committee at its meeting
to be held in Geneva, on January 11 and 12, 2012*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Paeonia suffruticosa,</i> <i>Paeonia jishanensis,</i> <i>Paeonia ostii, Paeonia rockii,</i> <i>Paeonia delavayi</i>	Tree Paeony, Moutan Paeony	Pivoine en arbre	Strauchpäonie	Paeonia

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 *Paeonia* Sect. *Moutan* including *Paeonia suffruticosa*, *Paeonia jishanensis*, *Paeonia ostii*, *Paeonia rockii*, *Paeonia delavayi*.

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 at least one year old plants grafted on a rootstock.

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

5 plants.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease. The rootstock should be named when the plant material is supplied. The competent authorities may prescribe the rootstock on which the variety should be grafted.

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 one independent 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 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 5 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 5 plants or parts taken from each of 5 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, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 5 plants, no 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: growth habit (characteristic 1)
- (b) Plant: height (characteristic 2)
- (c) Leaf: type (characteristic 12)
- (d) Leaf: number of leaflets (characteristic 13)
- (e) Lateral leaflets: depth of sinus (characteristic 20)
- (f) Flower: most complex form (characteristic 23)
- (g) Flower: diameter (characteristic 24)
- (h) Flower: main color (characteristic 26)
- (i) Petal: basal blotch (inner side) (characteristic 32)
- (j) Petal: size of blotch (characteristic 34)
- (k) Pistil: pubescence of carpels (characteristic 43)
- (l) Flowering: time of beginning of the first flowering (characteristic 50)

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

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 *States of Expression and Corresponding Notes*

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)-(h) 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: growth habit					
(*)							
(+)							
QN	(a)	upright			Kao, Shichifukujin	1	
		semi-upright			Wu Long Peng Sheng	2	
		spreading			Zhao Fen	3	
2.	VG/	Plant: height					
(*)	MG						
QN	(a)	short			Shan Hu Tai	3	
		medium			Kao, LuoYang Hong	5	
		tall			Hanakisoi	7	
3.	VG	Plant: attitude of flowers					
(*)							
(+)							
QN	(g)	upward			Kao	1	
		outward			Rou Fu Rong	2	
		downward			Dou Lv	3	
4.	VG	Plant: position of flower in relation to foliage					
(*)							
(+)							
QN	(d)	within			Cang Zhi Hong	1	
		same level or nearly same level			Cong Zhong xiao	2	
		above			Kao	3	

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
5.	VG					
(+)						
PQ	(b)	very narrow ovate				1
		narrow ovate			Qing Long Wo MO Chi, Rou Fu Rong	2
		medium ovate			LuoYang Hong	3
		rounded			Cai Xia, Cong zhong xiao,	4
6.	VG	Mixed bud: color				
PQ	(b)	yellow brown			Yang Huang	1
		green			Cui Ye Zi, Zhi Hong,	2
		red			Hu Hong, Zhu Sha Lei	3
		purple			Kao	4
7.	VG	Very young shoot: color				
(+)						
PQ	(d)	yellow green			San Qing Bai	1
		medium green			Bai Hua Du, Shin-jitsugetu	2
		pink			Lu He Hong	3
		purple red			Si He Lian	4
		brown red			Shou An Hong	5
8.	VG/ (*) MG	One year old branch: length				
QN	(c)	short			Shan Hu Tai, Ying Luo Bao Zhu	3
		medium			Luo Yang Hong, Zhao Fen	5
		long			Tian Xiang Zhan Lu, Zi Die Ying Feng	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
14. MG	Leaf: length					
(*)						
(+)						
QN	(e)	short			Mei Ren Hong	3
		medium			Luo Yang Hong	5
		long			Rou Fu Rong	7
15. MG	Leaf: width					
(*)						
(+)						
QN	(e)	narrow			Yin Hong Qiao Dui	3
		medium			Luo Yang Hong	5
		broad			Rou Fu Rong	7
16. MG	Leaf: color of upper side					
PQ	(f)	yellow green			Zhao Fen	1
		medium green			Dou Lv	2
		dark green			Guan Shi Mo Yu, Zhuang Yuan Hong	3
		grey green			Mo Kui	4
17. VG	Leaf: anthocyanin coloration on upper side					
QN	(f)	absent or very weak			Bai Hua Du	1
		medium			Hu Hong	2
		strong			Dan Lu Yan	3
18. VG	Leaf: pubescence on lower side					
(*)						
QN	(f)	absent or weak			Yin Fen Jin Lin	1
		medium				2
		strong			Dou Lv	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
19.	VG	Lateral leaflets: shape				
(*)						
(+)						
PQ	(e)	lanceolate				1
		ovate				2
		elliptic				3
		broad elliptic				4
		broad ovate				5
20.	VG	Lateral leaflets: depth of sinus				
(*)						
(+)						
QN	(e)	absent or very shallow				1
		shallow				3
		medium				5
		deep				7
		very deep				9
21.	VG	Flower bud: shape in lateral view				
(*)						
(+)						
PQ	(g)	narrow ovate			Yu Mian Tao Hua	1
		broad ovate			Zhu Sha Lei	2
		circular			Shan Hu TAi	3
		oblate			Shou An Hong	4
22.	VG	Flowering stem: presence of lateral flowers				
(*)						
(+)						
QN	(g)	none			Luo Yang Hong	1
		one or two			Zi Mei You Chun	2
		more than two			High Noon	3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
23.	VG Flower: most complex form					
(*)						
(+)						
PQ	(g)					
	single form				Shu Sheng Peng Mo	1
	lotus form				Yu Ban Bai	2
	chrysanthemum form				Cong Zhong Xiao, Ru Hua Si Yu	3
	rose form				Luo Yang Hong	4
	golden stamen form				Yao Huang	5
	anemone form				Yin Si Guan Ding	6
	golden circle form				Fen Mian Tao Hua	7
	crown form				Shou An Hong	8
	globular form				Fen Yu Qiu	9
	hundred proliferate form				Jun Yan Hong	10
	crown proliferate form				Xian Tao	11
24.	MG Flower: diameter					
(*)						
QN	(g)					
	small				Pan Zhong Qu Guo	3
	medium				Luo Yang Hong	5
	large				Bai He Liang Chi, Xian Tao	7
25.	MG Flower: height of most complex form					
(*)						
(+)						
QN	(g)					
	absent					1
	short				Dou Lv	2
	medium				Shou An Hong	3
	tall				Zi Rong Qiu	4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
26.	VG Flower: main color					
(*)						
(+)						
PQ	RHS Colour Chart					
27.	VG Flower: secondary color					
(*)						
(+)						
PQ	RHS Colour Chart					
28.	VG Flower: distribution of secondary color					
(*)						
(+)						
PQ	(g) none				Luo Yang Hong	1
	stripe				He Pin Hua Er Qiao	2
	block				Hua Er Qiao	3
	center				Yuan Yang Pu	4
	circle				Tao Yang Jin	5
29.	MG/ VG Flower: petaloid stamens on most complex form					
(*)						
QN	(g) none or very few				Renkaku	1
	few				Yu Ban Bai	2
	medium				Luo Yang Hong	3
	many				Kun Shan Ye Guang	4
	very many				Tao Hong Xian Mei	5
30.	VG Flower: type of petaloid stamen on most complex form					
(*)						
(+)						
QL	(g) stamen-like					1
	petal-like					2

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
31.	VG	Only varieties with flower petaloid stamens on most complex form:				
(+)		Flower: conspicuousness of anthers				
QN	(g)	inconspicuous				1
		moderately conspicuous				2
		very conspicuous				3
32.	VG	Petal: basal blotch (inner side)				
(*)						
(+)						
QL	(g)	absent			Zhao Fen	1
	(h)	present			Luo Yang Hong	9
33.	VG	Petal: shape of blotch				
(*)						
(+)						
PQ	(h)	lanceolate				1
		narrow ovate				2
		oblong				3
		oblanceolate				4
		ovate				5
		broad oblong				6
		broad ovate				7
		oblate				8
		narrow obovate				9
		obovate				10
		circular				11
		square				12
		obtriangular				13

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
34. VG/ MG (*)	Petal: size of blotch					
QN (h)	very small				Hu Hong	1
	small				Luo Yang Hong	2
	medium				Xiao Hu Die	3
	large				Shu Sheng Peng Mo	4
	very large				Zhong Ban Bai	5
35. VG (*)	Petal: color of blotch					
PQ (h)	white				Zheng Chun	1
	red				High Noon	2
	purple red				Xue Hai Dan Xin	3
	red brown				Xue Hai Yin Zhen	4
	dark purple or black				Zi Die Ying Feng	5
36. VG (+)	Petal: white line in the center of the blotch					
QN (h)	absent or very inconspicuous					1
	moderately conspicuous					2
	very conspicuous					3
37. VG (+)	Petal: incision of apex (excluding petaloid)					
QN (g)	absent or very weak				Cong Zhong Xiao	1
	medium				Luo Yang Hong	3
	strong				Zi Rong Jian Rong	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
38.	VG	Petal: shape (excluding petaloid)				
(+)						
PQ	(g)	circular				1
		obovate				2
		transverse elliptic				3
39.	VG	Stamen: main color of filaments				
PQ	(g)	white			Renkaku	1
		light yellow			Xue Lian	2
		pink			Zhao Fen	3
		light purple			Luo Yang Hong	4
		dark purple			Yan Long Zi Zhu Pan	5
40.	MG	Pistil: number				
QN	(g)	few			Shou An Hong	1
		medium			Zi Die Ying Feng	2
		many			Luo Yang Hong	3
41.	VG	Pistil: color of stigma				
(*)						
PQ	(g)	light yellow			Renkaku, Yu Ban Bai	1
		pink			Zhao Fen	2
		red			Guo Qi Hong	3
		purple red			Luo Yang Hong	4
		purplish black			Ye Guang Bei	5
		black			Yan Long Zi Zhu Pan	6

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
42.	VG Pistil: openness of disc					
(*)						
(+)						
QN	(g) closed					1
	partly open					3
	fully open					5
43.	VG Pistil: pubescence of carpels					
(*)						
QN	(g) absent or sparse				Guo Qi Hong	1
	medium				High Noon	2
	dense				Luo Yang Hong	3
44.	VG Pistil: texture of disc					
(+)						
PQ	(g) leathery				Luo Yang Hong	1
	intermediate				Hua Xia Yi Pin Huang	2
	fleshy				Guo Qi Hong	3
45.	VG Pistil: color of disc					
(*)						
PQ	(g) yellowish white				Renkaku, Xue Lian	1
	yellow				Hua Xia Yi Pin Huang	2
	pink				Zhao Fen	3
	purple red				Xue Hai Dan Xin	4
	dark purple				Yan Long Zi Zhu Pan	5
46.	VG Petaloid pistil on the most complex form					
(*)						
(+)						
QL	(g) absent					1
	present					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note / Nota
47.	VG	Petaloid pistil on the most complex form: type				
(*)						
(+)						
PQ	(g)	only stigma				1
		partly petaloid				2
		completely petaloid				3
48.	VG	Petaloid pistil on the most complex form: color				
(*)						
PQ	(g)	white only			Zhi Hong Zheng Yan	1
		green and white			Yan Zhi Dian Cui	2
		green only			Kun Shan Ye Guang	3
		green and red			Wu Long Peng Sheng	4
49.	VG	Flower: fragrance				
(*)						
QN	(g)	weak			Yu Ban Bai	1
		medium			Luo Yang Hong	2
		strong			Guan Qun Fang	3
50.	MG	Flowering: time of beginning of the first flowering				
(*)						
(+)						
QN	(d)	early			Huo Lian Jin Dan	3
		medium			Luo Yang Hong	5
		late			High Noon	7

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

- (a) Plant: All observations on growth habit are made after leaf fall in the winter. All observations on height should be made when plants are in flower.
- (b) Mixed bud: a bud yielding both leaves and flowers. Observations on the buds should be made on the first lateral bud from the apex on a current year branch during after leaf fall in the autumn. A current year branch is a branch which is current or belongs to the present year.
- (c) Branch: Observations on current year branches should exclude basal shoots. All observation on length should be made after leaf falls. Two year old branches are those developed and flower buds differentiated on last year.
- (d) Very young shoots are less than 10 cm in length, some very young shoots have flower buds, some not. Young shoots are longer than 10 cm in length.
- (e) All observations on the petiole, leaf and leaflet should be made on the third and fourth fully developed leaves from the base in current year's branch in flower.
- (f) All observations on leaf color are made at the beginning of flowering.
- (g) Flower, petal, stamen, pistil, plant: all observations on the flower should be made on the terminal flower on a primary branch. All observations on the shape of flower bud should be made when the bud is beginning to show the color. All observations on the petal should be made when the flower is fully open, except for the observations on the petal color which are made on the middle part of the petal at the time of flower opening. All observations on the blotch should be made on the first inner 1~2 wheel petals.
- (h) Blotch: an irregularly shaped and sized spot at the base of the petal. All observations should be made when the flower is fully open.

8.2 *Explanations for individual characteristics*

Ad. 1: Plant: growth habit



1
upright



2
semi-upright







3
spreading

Ad. 3: Plant: attitude of flowers

Ad. 4: Plant: position of flower in relation to foliage

Ad. 5: Mixed bud: shape in lateral view

Mixed bud is a bud which produces both leaves and flowers.

		Broadest part width		
		below the middle	at the middle	above middle
Length/width	elongated		 2 narrow ovate	 1 very narrow ovate
	compressed		 4 rounded	 3 medium ovate

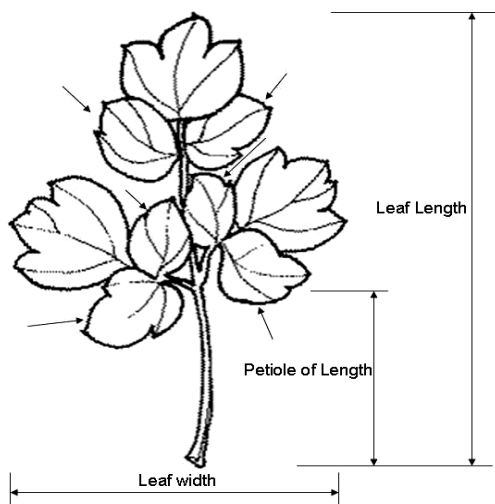
Ad. 7: Very young shoot: color

The color of very young shoots excludes that of flower buds.

Ad. 10: Petiole: length

Ad. 14: Leaf: length

Ad. 15: Leaf: width



Ad. 11: Leaf: attitude in relation to the stem



1
upright



2. 斜伸
2
semi-upright

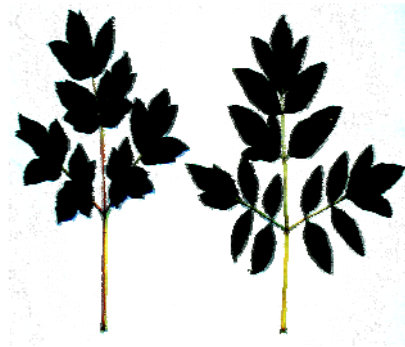


1. 平伸
3
horizontal

Ad. 12: Leaf: type



1
pinnate



2
bipinnate

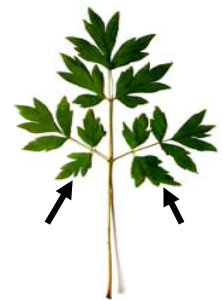
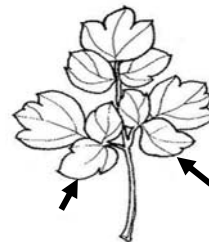
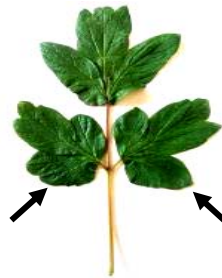


Ad. 19: Lateral leaflets: shape






Indicate the shape and position of observed leaflet blade.








The shape of leaflet blade







position of observed leaflet blade

		Broadest part width		
		below the middle	at the middle	above middle
elongated				
	1		3	
	lanceolate		elliptic	
Length/width				
	2		4	
	ovate		broad elliptic	
compressed				
	5			
	broad ovate			

Ad. 20: Lateral leaflets: depth of sinus

				
1	3	5	7	9
absent or very shallow	shallow	medium	deep	very deep

Ad. 21: Flower bud: shape in lateral view

		Broadest part width		
		Below the middle	At the middle	Above middle
elongated	 1 narrow ovate			
	 2 broad ovate	 3 circular		
compressed			 4 oblate	

Ad. 22: Flowering stem: presence of lateral flowers



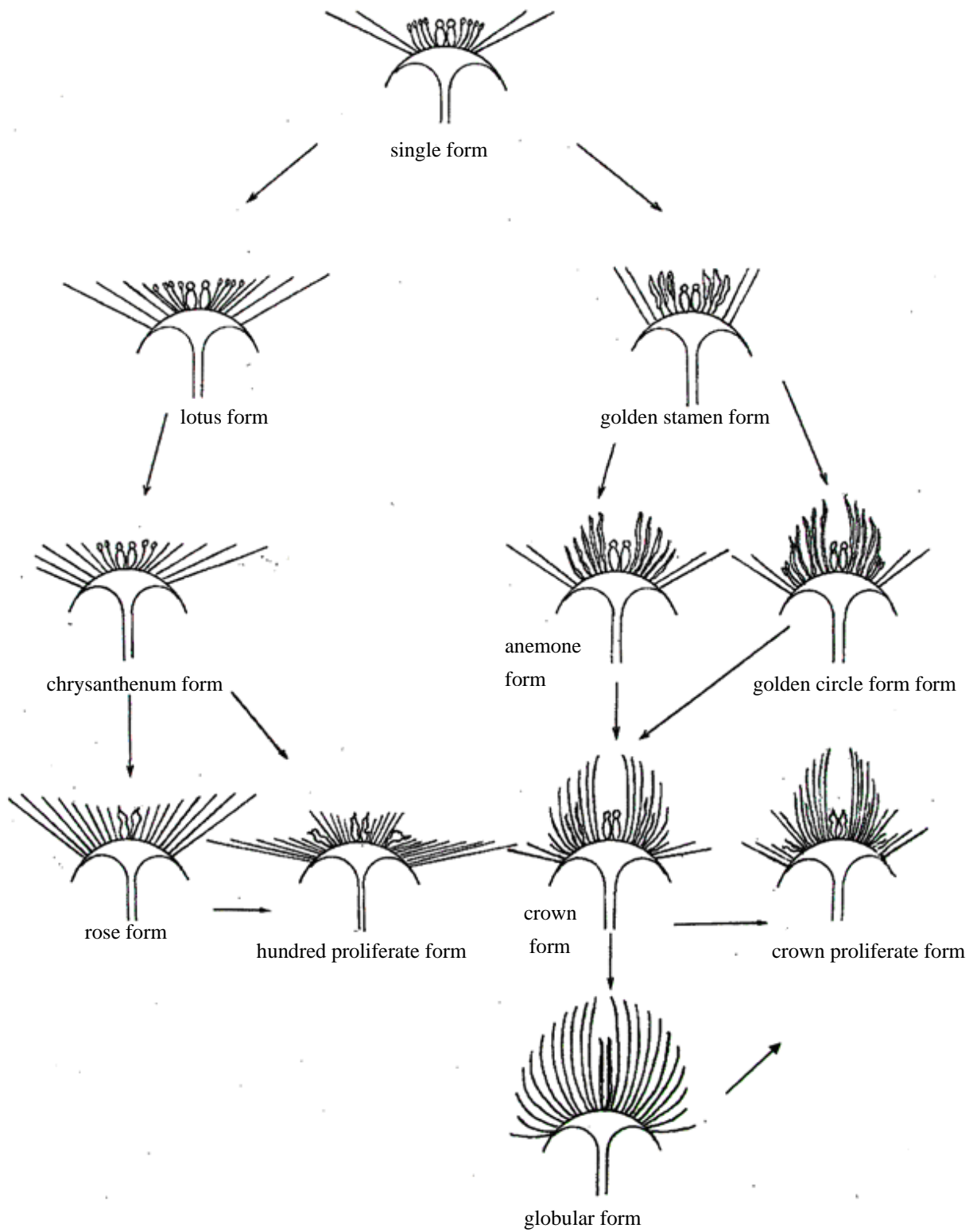
1
none



2
one or two

Ad. 23: Flower: most complex form

A variety may have more than one flower form, but flower form recorded will be the most complex.





1
single form



6
anemone form



2
lotus form



7
golden circle form



3
chrysanthemum form



8
crown form



4
rose form



9
globular form



10
hundred proliferate form



11
crown proliferate form

Ad. 26: Flower: main color

The main color is determined as the color with the largest surface area present on the upper side of a flower. If 50/50, the main color is darker one. The main color excludes the blotch and basal color.

Ad. 28: Flower: distribution of secondary color



2
stripe



3
block



4
center



5
circle

Ad. 30: Flower: type of petaloid stamen on most complex form



1
stamen-like



2
petal-like

Ad. 31: Only varieties with flower petaloid stamenson most complex form: Flower: conspicuousness of anthers



1
inconspicuous



2
moderately conspicuous



3
very conspicuous

Ad. 32: Petal: basal blotch (inner side)
















1
absent



9
present

Ad. 33: Petal: shape of blotch

		Broadest part width					
		below the middle		at the middle		above middle	
elongated	 1 lanceolate		 3 oblong		 4 oblanceolate		
	Length/width	 2 narrow ovate	 5 ovate	 6 broad oblong	 12 square	 9 narrow obovate	
compressed		 7 broad ovate		 8 oblate	 11 circular	 10 obovate	 13 obtriangular

Ad. 36: Petal: white line in the center of the blotch



1
absent or very
inconspicuous



2
moderately
conspicuous



3
very conspicuous

Ad. 37: Petal: incision of apex (excluding petaloid)



1
absent or very weak






3
medium

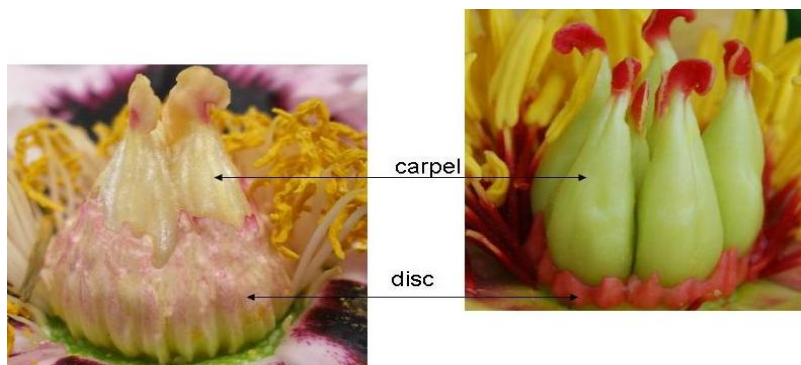


5
strong

Ad. 38: Petal: shape (excluding petaloid)

		Broadest part width		
		Below the middle	At the middle	Above middle
Length/width	elongated		 1 medium obovate	
			 2 circular	
	compressed		 3 transverse elliptic	

Ad. 42: Pistil: openness of disc



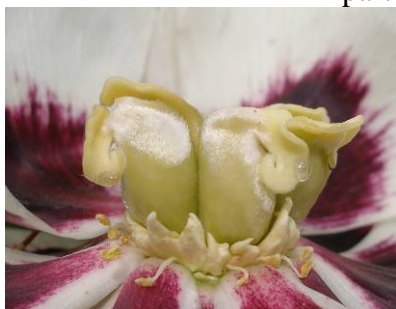
The position of the disc and carpel



1
closed



3
partly open



5
fully open

Ad. 44: Pistil: texture of the disc



1
leathery



2
intermediate



3
fleshy

Ad. 48: Pistil: petaloid pistil



1
absent

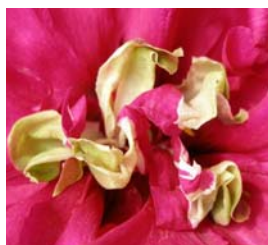


9
present

Ad. 46: Petaloid pistil on the most complex form: type



1
only stigma



2
partly petaloid



3
completely petaloid



Ad. 50: Flowering: time of beginning of the first flowering

The beginning of flowering is determined when 10% of all flower buds on the trail plants have opened.

9. Literature

Brickell, C., Editor-in Chief, 2003: A-Z Encyclopedia of Garden Plants. The Horticulture Society.

Rogers, A., 1995: Peonies. Timber Press.

Harding, A., 1993: The Peony. Sagapress/Timber press.

Wang Lian-ying, 1997: Pictorial Record of Chinese Tree peony Varieties. Chinese Forestry Publishing House

Li Jia -jue, Zhang,Xi-fang, Zhao Xiao-qing, 2011: Tree peony in China. Chinese Encyclopedia Publishing House.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE Page {x} of {y}	Reference Number:
	Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights	
1. Subject of the Technical Questionnaire	
1.1 Botanical name	<i>Paeonia suffruticosa, Paeonia Jishanensis, Paeonia ostii, Paeonia rockii, Paeonia delavayi</i>
1.2 Common name	Tree Paeony
1.3 Species	
2. Applicant	
Name	
Address	
Telephone No.	
Fax No.	
E-mail address	
Breeder (if different from applicant)	
3. Proposed denomination and breeder's reference	
Proposed denomination (if available)	
Breeder's reference	

TECHNICAL QUESTIONNAIRE Page {x} of {y}	Reference Number:
<p>#4. Information on the breeding scheme and propagation of the variety</p> <p>4.1 Breeding scheme</p> <p>Variety resulting from:</p> <p>4.1.1 Crossing</p> <p>(a) controlled cross [] (please state parent varieties)</p> <p>(.....) x (.....) female parent male parent</p> <p>(b) partially known cross [] (please state known parent variety(ies))</p> <p>(.....) x (.....) female parent male parent</p> <p>(c) unknown cross []</p> <p>4.1.2 Mutation [] (please state parent variety)</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>4.1.3 Discovery and development [] (please state where and when discovered and how developed)</p> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <p>4.1.4 Other [] (please provide details)</p> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	

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:
<p>4.2 Method of propagating the variety</p> <p>4.2.1 Vegetatively propagated varieties []</p> <p>4.2.2 Other [] (please provide details)</p> <div data-bbox="338 600 1369 676" style="border: 1px solid black; height: 34px; margin-top: 10px;"></div>	

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 Plant: growth habit (1)			
upright	Kao, Shichifukujin	1[]	
semi-upright	Wu Long Peng Sheng	2[]	
spreading	Zhao Fen	3[]	
5.2 Plant: height (2)			
very short		1[]	
very short to short		2[]	
short	Shan Hu Tai	3[]	
short to medium		4[]	
medium	Kao, LuoYang Hong	5[]	
medium to tall		6[]	
tall	Hanakisoi	7[]	
tall to very tall		8[]	
very tall		9[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.3 One year old branch: length (8)			
very short		1[]	
very short to short		2[]	
short	Shan Hu Tai, Ying Luo Bao Zhu	3[]	
short to medium		4[]	
medium	Luo Yang Hong, Zhao Fen	5[]	
medium to long		6[]	
long	Tian Xiang Zhan Lu, Zi Die Ying Feng	7[]	
long to very long		8[]	
very long		9[]	
5.4 Petiole: length (10)			
very short		1[]	
very short to short		2[]	
short	Mei Ren Hong, Yi Pin Zhu Yi	3[]	
short to medium		4[]	
medium	Lui Yang Hong	5[]	
medium to long		6[]	
long	Yu Ji Yan Zhuang	7[]	
long to very long		8[]	
very long		9[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.5 Leaf: type (12)			
pinnate	Zhong Sheng Hei	1[]	
bipinnate	Luo Yang hong	2[]	
5.6 Leaf: length (14)			
very short		1[]	
very short to short		2[]	
short	Mei Ren Hong	3[]	
short to medium		4[]	
medium	Luo Yang Hong	5[]	
medium to long		6[]	
long	Rou Fu Rong	7[]	
long to very long		8[]	
very long		9[]	
5.7 Leaf: width (15)			
very narrow		1[]	
very narrow to narrow		2[]	
narrow	Yin Hong Qiao Dui	3[]	
narrow to medium		4[]	
medium	Luo Yang Hong	5[]	
medium to broad		6[]	
broad	Rou Fu Rong	7[]	
broad to very broad		8[]	
very broad		9[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.8 Lateral leaflets: shape			
(19)			
lanceolate		1[]	
ovate		2[]	
elliptic		3[]	
broad elliptic		4[]	
broad ovate		5[]	
5.9 Lateral leaflets: depth of sinus			
(20)			
absent or very shallow		1[]	
absent or very shallow to shallow		2[]	
shallow		3[]	
shallow to medium		4[]	
medium		5[]	
medium to deep		6[]	
deep		7[]	
deep to very deep		8[]	
very deep		9[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.10 Flower: most complex form (23)			
single form	Shu Sheng Peng Mo	1[]	
lotus form	Yu Ban Bai	2[]	
chrysanthemum form	Cong Zhong Xiao, Ru Hua Si Yu	3[]	
rose form	Luo Yang Hong	4[]	
golden stamen form	Yao Huang	5[]	
anemone form	Yin Si Guan Ding	6[]	
golden circle form	Fen Mian Tao Hua	7[]	
crown form	Shou An Hong	8[]	
globular form	Fen Yu Qiu	9[]	
hundred proliferate form	Jun Yan Hong	10[]	
crown proliferate form	Xian Tao	11[]	
5.11 Flower: main color (26)			
RHS Colour Chart			
5.12 Flower: secondary color (27)			
RHS Colour Chart			
5.13 Flower: distribution of secondary color (28)			
none	Luo Yang Hong	1[]	
stripe	He Pin Hua Er Qiao	2[]	
block	Hua Er Qiao	3[]	
center	Yuan Yang Pu	4[]	
circle	Tao Yang Jin	5[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.18 Flower: petaloid stamens on most complex form (29)			
none or very few	Renkaku	1[]	
few	Yu Ban Bai	3[]	
medium	Luo Yang Hong	5[]	
many	Kun Shan Ye Guang	7[]	
very many		9[]	
5.14 Petal: basal blotch (inner side) (32)			
absent	Zhao Fen	1[]	
present	Luo Yang Hong	9[]	
5.15 Petal: shape of blotch (33)			
lanceolate		1[]	
narrow ovate		2[]	
oblong		3[]	
oblanceolate		4[]	
ovate		5[]	
broad oblong		6[]	
broad ovate		7[]	
oblate		8[]	
narrow obovate		9[]	
obovate		10[]	
circular		11[]	
square		12[]	
obtriangular		13[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.15 Petal: size of blotch (34)			
very small	Hu Hong	1[]	
small	Luo Yang Hong	2[]	
medium	Xiao Hu Die	3[]	
large	Shu Sheng Peng Mo	4[]	
very large	Zhong Ban Bai	5[]	
5.16 Petal: color of blotch (35)			
white	Zheng Chun	1[]	
red	Hign Noon	3[]	
purple red	Xue Hai Dan Xin	4[]	
red brown	Xue Hai Yin Zhen	5[]	
dark purple or black	Zi Die Ying Feng	7[]	
5.17 Stamen: main color of filaments (39)			
white	Renkaku	1[]	
light yellow	Xue Lian	2[]	
pink	Zhao Fen	3[]	
light purple	Luo Yang Hong	4[]	
dark purple	Yan Long Zi Zhu Pan	5[]	
5.18 Pistil: color of stigma (41)			
light yellow	Renkaku, Yu Ban Bai	1[]	
pink	Zhao Fen	2[]	
red	Guo Qi Hong	3[]	
purple red	Luo Yang Hong	4[]	
purplish black	Ye Guang Bei	5[]	
black	Yan Long Zi Zhu Pan	6[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.19 Pistil: openness of disc (42)			
closed		1[]	
partly open		3[]	
fully open		5[]	
5.20 Pistil: pubescence of carpels (43)			
absent or sparse	Guo Qi Hong	1[]	
medium	High Noon	2[]	
dense	Luo Yang Hong	3[]	
5.21 Pistil: color of disc (45)			
yellowish white	Renkaku, Xue Lian	1[]	
yellow	Hua Xia Yi Pin Huang	2[]	
pink	Zhao Fen	3[]	
purple red	Xue Hai Dan Xin	4[]	
dark purple	Yan Long Zi Zhu Pan	5[]	
5.22 Petaloid pistil on the most complex form (46)			
absent		1[]	
present		9[]	
5.23 Petaloid pistil on the most complex form: type (47)			
only stigma		1[]	
partly petaloid		2[]	
completely petaloid		3[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}		Reference Number:	
Characteristics	Example Varieties	Note	
5.24 Petaloid pistil on the most complex form: color (50)			
white only	Zhi Hong Zheng Yan	1[]	
green and white	Yan Zhi Dian Cui	2[]	
green only	Kun Shan Ye Guang	3[]	
green and red	Wu Long Peng Sheng	4[]	
5.25 Flower: fragrance (49)			
weak	Yu Ban Bai	1[]	
medium	Luo Yang Hong	2[]	
strong	Guan Qun Fang	3[]	
5.26 Flowering: time of beginning of the first flowering (50)			
very early		1[]	
very early to early		2[]	
early	Huo Lian Jin Dan	3[]	
early to medium		4[]	
medium	Luo Yang Hong	5[]	
medium to late		6[]	
late	High Noon	7[]	
late to very late		8[]	
very late		9[]	

TECHNICAL QUESTIONNAIRE Page {x} of {y}	Reference Number:																				
<p>6. Similar varieties and differences from these varieties</p> <p><i>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.</i></p>																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%; padding: 5px;">Denomination(s) of variety(ies) similar to your candidate variety</th> <th style="width: 25%; padding: 5px;">Characteristic(s) in which your candidate variety differs from the similar variety(ies)</th> <th style="width: 25%; padding: 5px;">Describe the expression of the characteristic(s) for the similar variety(ies)</th> <th style="width: 25%; padding: 5px;">Describe the expression of the characteristic(s) for your candidate variety</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"><i>Example</i></td> <td style="padding: 5px;"><i>Plant: height</i></td> <td style="padding: 5px;"><i>medium</i></td> <td style="padding: 5px;"><i>short</i></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		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>Plant: height</i>	<i>medium</i>	<i>short</i>												
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>Plant: height</i>	<i>medium</i>	<i>short</i>																		
<p>Comments:</p> <div style="border: 1px solid black; height: 150px; margin-top: 5px;"></div>																					

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>7.3.1 Main use</p> <p>(a) garden plant []</p> <p>(b) pot plant []</p> <p>(c) cut-flower []</p> <p>(d) other []</p> <p>(please provide details)</p> <p>7.3.2 A representative color photograph 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:												
<p>9. Information on plant material to be examined or submitted for examination.</p> <p>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.</p> <p>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:</p> <table data-bbox="284 813 1406 1070"><tr><td>(a) Microorganisms (e.g. virus, bacteria, phytoplasma)</td><td>Yes []</td><td>No []</td></tr><tr><td>(b) Chemical treatment (e.g. growth retardant, pesticide)</td><td>Yes []</td><td>No []</td></tr><tr><td>(c) Tissue culture</td><td>Yes []</td><td>No []</td></tr><tr><td>(d) Other factors</td><td>Yes []</td><td>No []</td></tr></table> <p>Please provide details for where you have indicated “yes”.</p> <p>.....</p>		(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 []
(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 []											
<p>10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:</p> <p>Applicant's name <input data-bbox="544 1397 1265 1458" type="text"/></p> <p>Signature <input data-bbox="421 1469 981 1529" type="text"/> Date <input data-bbox="1070 1469 1265 1529" type="text"/></p>													