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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

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**Technical Working Party for Ornamental Plants and Forest Trees
at its forty-third session, to be held in Cuernavaca, Morelos State, Mexico,
from September 20 to 24, 2010*

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</i> <i>ostii</i> , <i>Paeonia rockii</i> , <i>Paeonia delavayi</i>	Tree peony, Moutan	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 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 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, all observations for the purposes of distinctness should be made on 5 plants or parts taken from each of 5 plants, 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-types are allowed.

4.3 *Stability*

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

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the **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: height (characteristic 2)
- (b) Leaf: level of pinnation (**characteristic 11**)
- (c) Flower: flower form (characteristic 22)
- (d) Flower: diameter (characteristic 23)
- (e) Flower: main color: double color (characteristic 25)
- (f) Flower: time of beginning of the first flowering (characteristic 58)

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)-(e) 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. Plant: growth habit					
(*)					
(+)					
QN (a) upright				Kao, Shichifukujin	1
semi upright				Wu Long Peng Sheng	2
spreading				Zhao Fen	3
2. Plant: height					
(*)					
QN (a) short				Shan Hu Tai	3
medium				Kao, LuoYang Hong	5
tall				Hanakisoi	7
3. Plant: number of basal shoots					
(+)					
QN (b) few				Shou An Hong	1
medium				Hu Hong	2
many				Luo Yang Hong	3
4. Mixed bud: shape					
(+)					
PQ (c) 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
5. Mixed bud: color					
PQ (c) yellow brown				Yang Huang	1
green				Cui Ye Zi, Zhi Hong	2
red				Hu Hong, Zhu Sha Lei	3
purple				Kao	4

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6. One-year-old branch: length					
QN (d)	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
7. Very young shoot: color (excluding flower buds)					
(+)					
PQ (e)	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. Two-year-old branch: number of flowering branches					
PQ	one			Shou An Hong	1
	two			Hanakisoi, Zhu Sha Lei	2
	more than two			Taiyo	3
9. Petiole : length					
(+)					
QN (f)	short				3
	medium				5
	long				7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10. Leaf: attitude in relation to the stem					
QN (f) upright				Kinkaku	1
semi-erect				Cang Zhi Hong, Shou An Hong	2
horizontal				Dou Lv, Zi Hong Zheng Yan	3
11. Leaf: level of pinnation					
(+)					
QL (f) pinnate				Zhong Sheng Hei	1
bipinnate				Luo Yang hong	2
tripinnate				Xiong Mao	3
12. Leaf: length					
(*)					
(+)					
QN (f) short					3
medium					5
long					7
13. Leaf: width					
(+)					
QN (f) narrow					3
medium					5
broad					7
14. Leaf: color of upper side					
				move to before Char. 14	
PQ (g) 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

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
15. Leaf: anthocyanin coloration on upper side					
QL (g) absent				Zhao Fen	1
present				Hu Hong	9
16. Leaf: pubescence on lower side					
QN (g) absent or weak				Yin Fen Jin Lin	1
medium					2
strong				Dou Lv	3
17. Lateral leaflet: shape					
(+)					
PQ (f) lanceolate				Liu ye Bai, Zui Xi Shi	1
very narrow ovate				Yachiyotsubaki	2
narrow ovate				Fen Zhong Guan	3
medium ovate				Dou Lv	4
broad ovate				Kun Shan Ye Guang	5
18. Lateral leaflet: depth of sinus					
(*)					
(+)					
QN (f) absent or very shallow				Zui Xi Shi	1
shallow				Zhao Fen	3
medium				Luo Yang Hong	5
deep				High Noon	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19.	Flower bud: shape in lateral view				
(+)					
PQ	(h) narrow ovate			Yu Mian Tao Hua	1
	broad ovate			Zhu Sha Lei	2
	circular			Shan Hu TAI	3
	oblate			Shou An Hong	4
20.	Flowering stem: flower arrangement				
(+)					
QL	(h) Terminal only (absent laterals)			Luo Yang Hong	1
	Terminal and axillary			Zi Mei You Chun, High noon	2
21.	Flower: predominant type				
(*)					
(+)					
PQ	(h) 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				5
	anemone			Yin Si Guan Ding	6
	golden circle			Fen Mian Tao Hua	7
	crown			Shou An Hong	8
	globular			Fen Yu Qiu	9
	hundred proliferate			Jun Yan Hong	10
	crown proliferate			Xian Tao	11

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
22. Flower: diameter					
QN (h) small				Pan Zhong Qu Guo	3
medium				Luo Yang Hong	5
large				Bai He Liang Chi, Xian Tao	7
23. <u>Only varieties with crown and proliferate form:</u> Flower: height					
QN (h) short				Dou Lv	3
medium				Shou An Hong	5
tall				Zi Rong Qiu	7
24. Flower: distribution of color (excluding blotch) (* (+)					
PQ (h) single color				Luo Yang Hong	1
bi-color				Hua Er Qiao, Shimanishiki	2
25. <u>Bi-color varieties only:</u> Flower: color (excluding color of blotch) : distribution of bicolor (+)					
PQ (h) stripes				Shima-nishiki	
block				Hua Er Qiao	
center				Yuan Yang Pu	
circle				Tao Yang Jin	
26. <u>Bi-color varieties only:</u> Flower: color (excluding color of blotch) (*					
PQ (h) RHS Colour Chart (indicate reference number)					

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
27.	<u>Bi-color varieties only:</u> Flower: color 2 (excluding color of blotch)				
PQ	RHS Colour Chart (indicate reference number)				
28.	<u>Single colored varieties only:</u> Flower: main color (excluding color of blotch and basal zone)				
(*)					
(+)					
PQ	(h) RHS Colour Chart (indicate reference number)				
29.	<u>Petal: blotch at the base</u>				
(*)					
(+)					
QL	(h) absent			Zhao Fen	1
	(i) present			Luo Yang Hong	9
30.	<u>Only varieties without petal blotches:</u> Petal: change of intensity of color towards base				
(*)					
QN	(h) absent or weak			Renkaku	1
	medium			Zhao Fen	3
	strong			Teni	5
31.	<u>Only varieties without petal blotches:</u> Petal base: color in relation to outer petals				
QN	(h) same or slightly different			Yachiyotsubaki	1
	moderately different				2
	very different			Teni	3

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
32. Petal (excluding blotch and basal zone): color					
PQ (h) RHS Colour Chart (indicate reference number)					
33. Petal: shape of blotch					
(+)					
PQ (h) `V`-shaped				Wu Xing Yu	1
triangle				Wu Long Peng Sheng	2
elliptic				Xue Hai Ying Zhen	3
trullate				Huo lian Jin Dan	4
linear				Ru Hua Si Yu	5
34. <u>Only varieties with blotches at the base of petals</u>: 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				Bao Gong	5
35. <u>Only varieties with blotches at the base of petals</u>: Flower: color of blotches					
PQ (h) white				Zheng Chun	1
red				Hign 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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
36.	Petal: incision of apex (excluding petaloid)					
(+)						
QN	(h) weak				Cong Zhong Xiao	3
	medium				Luo Yang Hong	5
	strong				Zi Rong Jian Rong	7
37.	<u>Only varieties with crown and proliferate form:</u>					
(+)	Petal: shape (excluding petaloid)					
PQ	(h) circular					1
	medium obovate					2
	transverse elliptic					3
38.	Stamen: main color of filaments					
PQ	(h) 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
39.	Petaloid stamens: presence of petaloid stamens					
(*)						
QL	(h) absent				Renkaku	1
	present				Luo Yang Hong	9
40.	Petaloid stamens: number					
QN	(h) few				Yu Ban Bai	3
	medium				Luo Yang Hong	5
	many				Kun Shan Ye Guang	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
41.					
Petaloid stamens: conspicuous ness of anthers				Illustration needed	
(+)					
QL	(h)			Shou An Hong	1
				Bang Ning Zi	2
				Zi Tuo Gui	3
42.					
Petaloid stamen: shape					
(+)					
QL	(h)			Yin Si Guan Ding	1
				Shou An Hong	2
43.					
Petaloid stamen: color in relation to outer petals					
QL	(h)			Shou An Hong	1
				Tao Yang Jin	9
44.					
Pistil: number					
QN	(h)			Shou An Hong	1
				Zi Die Ying Feng	2
				Luo Yang Hong	3
45.					
Pistil: color of stigma					
PQ	(h)			Renkaku, Yu Ban Bai,	1
				Zhao Fen	2
				Guo Qi Hong	3
				Luo Yang Hong	4
				Ye Guang Bei	5
				Yan Long Zi Zhu Pan	6

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
46.	Pistil: degree of carpel enclosing disc				
(+)					
QN	(h)	open		Qing Long Wo Mo Chi, Zhi Hong	1
		partly open		Hu Hong, Yan Long Zi Zhu Pan, Zi Die Ying Feng	2
		closed		Xue Hai Dan Xin	3
47.	Pistil: pubescence of carpels				
QN	(h)	absent or sparse		Guo Qi Hong	1
		medium		High Noon	2
		dense		Luo Yang Hong	3
48.	Pistil: texture of disc				
(+)					
PQ	(h)	leathery		Luo Yang Hong	1
		intermediate		Hua Xia Yi Pin Huang	2
		freshly		Guo Qi Hong	3
49.	Pistil: color of disc				
(*)					
(+)					
PQ	(h)	yellow			1
		yellowish white		Renkaku, Xue Lian	2
		pink		Zhao Fen	3
		purple red		Xue Hai Dan Xin	4
		dark purple		Yan Long Zi Zhu Pan	5
50.	Pistil: petaloid pistil				
PQ	(h)	present		Qing Long Wo Mo Ci	1
		absent		Yu Ban Bai	9

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
51.					
(*)					
PQ	(h)				
	only stigma			Huang Jin Cui	1
	partly petaloid			Juan Ye Hong	2
	completely petaloid			Zi Hong Zheng Yan	3
52.					
	Petaloid pistil: color in relation to outer petals				
QL	(h)				
	same			Shou An Hong	1
	different			Qing Long Wo Mo Ci	9
53.					
(*)					
PQ	(h)				
	white only			Zhi Hong Zheng Yan	1
	green only			Kun Shan Ye Guang	2
	green and white			Yan Zhi Dian Cui	3
	green and red			Wu Long Peng Sheng	4
54.					
	Flower: fragrance				
QN	(h)				
	weak			Yu Ban Bai	1
	medium			Luo Yang Hong	2
	strong			Guan Qun Fang	3
55.					
(*)					
(+)					
QN	(h)				
	upward			Kao	1
	outward			Rou Fu Rong	2
	downward			Dou Lv	3

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
56.					
(+)					
Plant: position of flower in relation to foliage					
QN (e)					
within				Cang Zhi Hong	1
same level or nearly same level				Cong Zhong xiao	2
above				Kao	3
57.					
(*)					
Plant: number of flowering branches (comparing with total branches)					
QN (e)					
few				Wu Long Wo Mo chi	3
medium				Hanakisoi	5
many				Kao	7
58.					
Flowering: number of flowering periods in one year					
QN (e)					
only 1				Luo Yang Hong	1
1 or 2				Cang Zhi Hong	2
2 only					3
more than 2				High Noon	4
59.					
(*)					
Time of beginning of the first flowering					
QN (e)					
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*

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

- (a) Plant: All observation of growth habit are made after leaf fall in the winter. All observations on height should be made when plants are in flower.
- (b) Shoot: a new branch or young branch, basal shoots: All observations on the basal shoots should be made when branches are fully developed in summer.
- (c) 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 currents or belongs to the present year.
- (d) Branch: Observations on current year branches should exclude basal shoots. All observation on length should be made after leaf fall. Two year old branches are
- (e) Very young shoots are less than 10 cm in length and without flower buds, Young shoots are longer than 10 cm in length.
- (f) All observation 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.
- (g) All observation on leaf color are made at the beginning of flowering.
- (h) Flower, petal, stamen, pistil, plant: All observation on the flower should be made on the terminal flower on a praimary branch. All observation on the shape of flower bud should be made when the bud is beginning to show the color. All observation on the petal should be made when the flower is fully open, except for the observation on the petal color which are made on the middle part of the petal at the time of flower opening.
- (i) 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


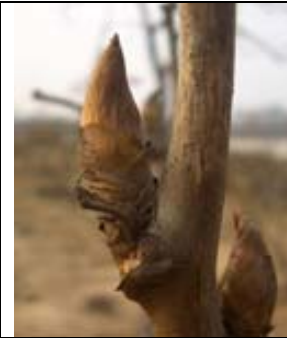




2
semi-upright



3
spreading

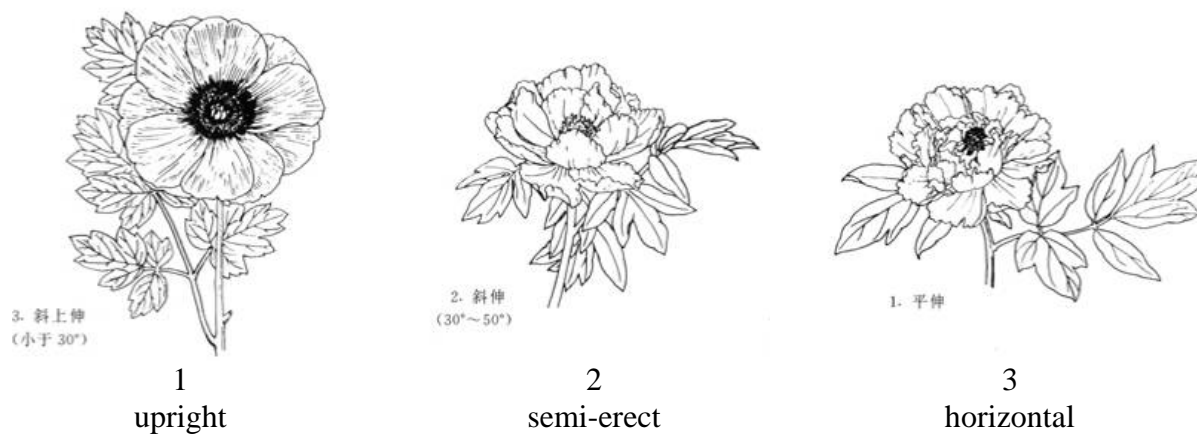
Ad. 4: Bud: shape

			
1	2	3	1
very narrow ovate	narrow ovate	medium ovate	rounded

Ad.8:Very young shoot: color (excluding flower buds)

				
1	2	3	4	5
yellow green	green	pink	purple red	brown red

Ad.10: leaf: attitude in relation to the stem



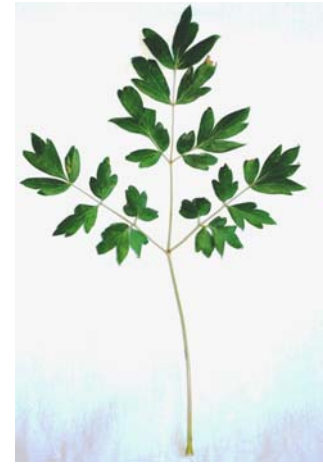
Ad.11: Leaf: level of pinnation



1
simple pinnate



2
bipinnate

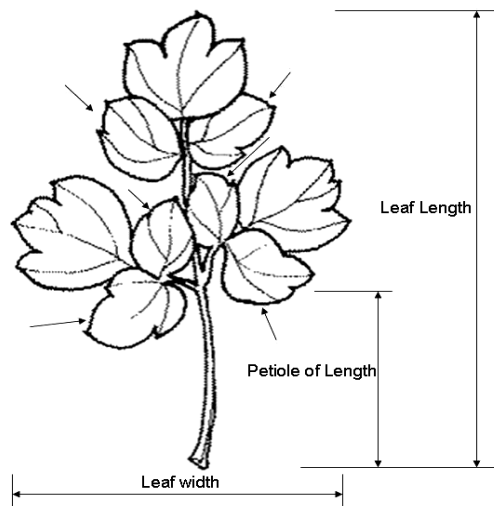


3
tripinnate

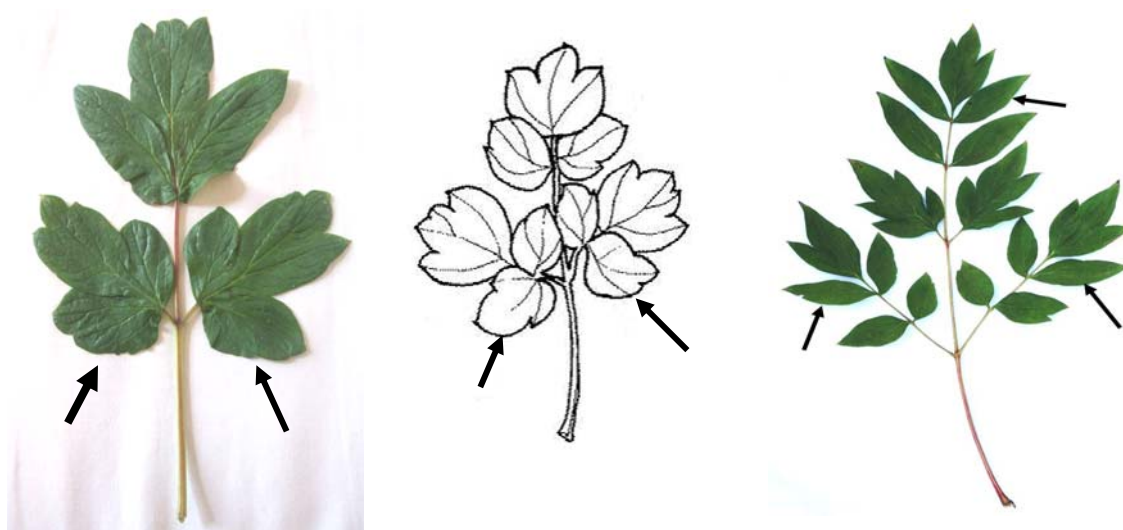
Ad.9: Petiole: length

Ad.12: Leaf: length

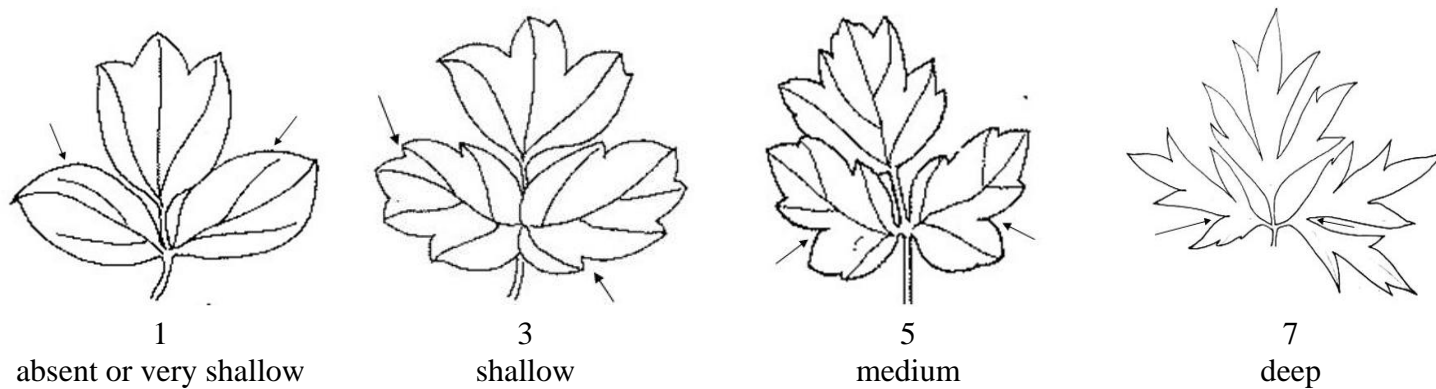
Ad.13: Leaf: width



Ad.17:Lateral leaflet :shape (indicate the position of observed leaflet)



Ad. 18: Lateral leaflet: depth of sinus



Ad.19: Flower bud: shape in lateral view



1
narrow ovate



2
broad ovate



3
circular



4
oblate

Ad. 20: Flowering stem: flower arrangement



1
terminal only (absent laterals)



2
terminal and axillary

Ad. 21: Flower: predominant type



1
single form



2
lotus form



3
chrysanthemum form



4
rose form



6
anemone



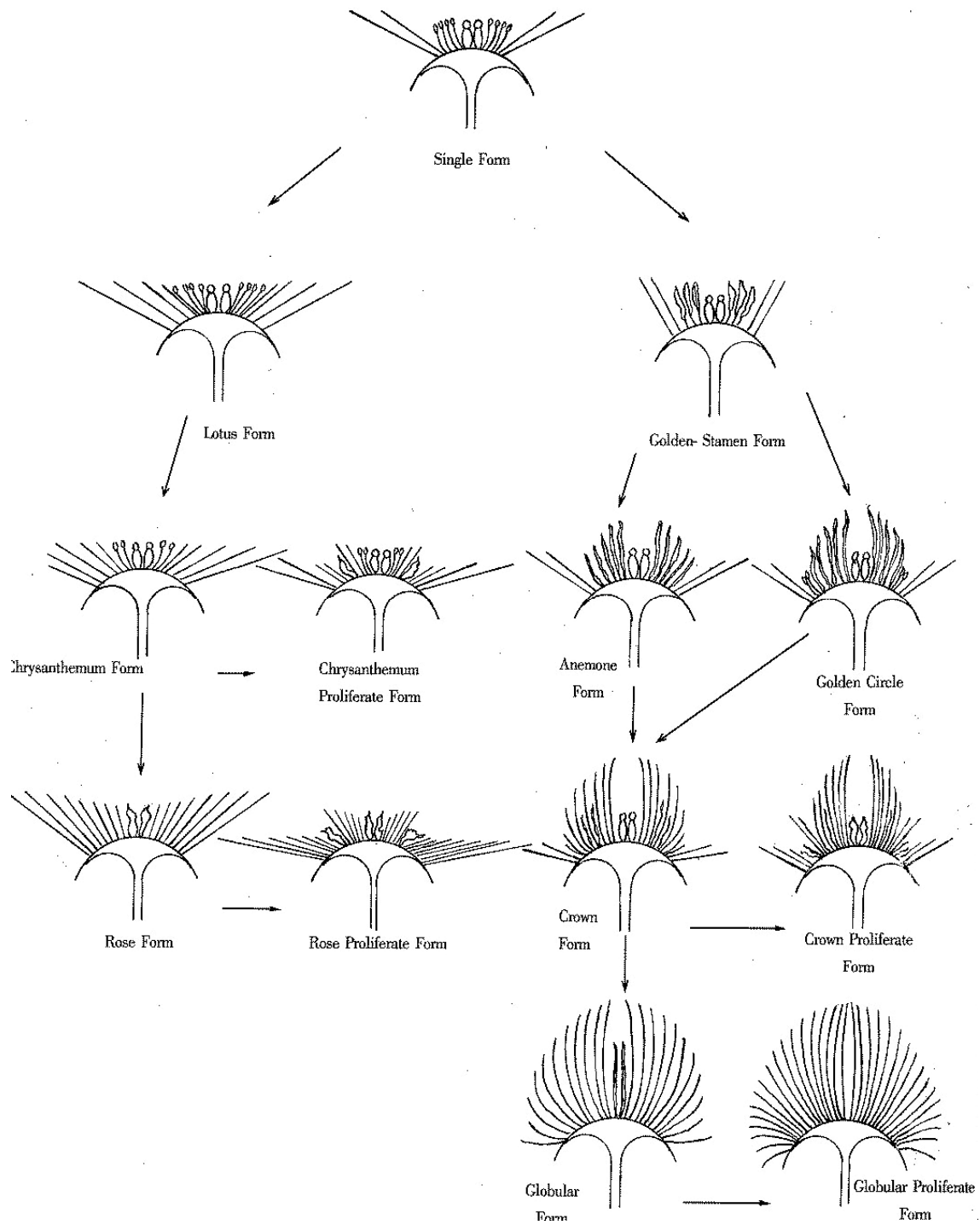
7
golden circle



8
crown



9
globular





1
single form



6
anemone form



2
lotus form



3
chrysanthemum form



7
golden circle



4
rose form



9
globular form

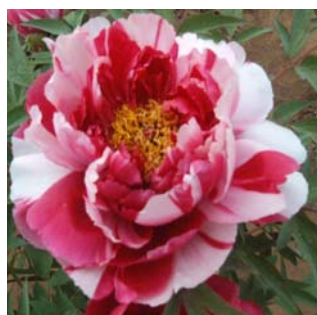


10
hundred proliferate form



11
crown proliferate form

Ad.25: Bi-color varieties only: Flower: color (excluding color of blotch): distribution of bicolor



stripe



block



center



circle

Ad. 28: Single colored varieties only: Flower: main color (excluding color of blotch and basal zone)



Main color

Secondary color

Petal color excludes the blotch and basal zone

Ad. 32: Petal: blotch at the base



1
absent



9
present

Ad. 36: Petal: incision of apex (excluding petaloid)



1
weak



2
medium



3
strong

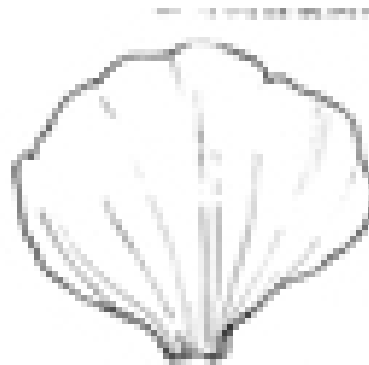
Ad. 37: Only varieties with crown and proliferate form: Flower: shape of outer petals



1
circular



2
obovate



3
transverse elliptic

Ad. 41: Flower: stamen: anthers bearing on petaloid filaments



1
inconspicuous or very
inconspicuous



2
moderately conspicuous



3
very conspicuous

Ad. 42: Petaloid stamen: shape



1
Stamen-like



2
Petal-like

Ad. 46: Pistil: degree of carpel-enclosing disc



3
open



5
partly open



7
closed

Ad. 48: Pistil: texture of the disk



1
leathery



2
intermediate



3
fleshy

Ad. 55: Plant: attitude of flowers



1
upright



2
outward



3
downward

Ad. 59: Plant: Position of flower in relation to foliage



3
within



5
same level



7
above

9. Literature

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

Allen Rogers, 1995: Peonies, Timber Press.

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

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

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Botanical name	<input type="text" value="Paeonia Sect. Moutan"/>	
1.2 Common name	<input type="text"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

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)

--

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: growth habit		
(1)		
upright	Kao, Shichifukujin,	1[]
semi-upright	Wu Long Peng Sheng	2[]
spreading	Zhao Fen	3[]
5.2 Plant: height		
(3)		
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:
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Characteristics	Example Varieties	Note
5.3 One year old branch: length (6)		
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 (9)		
very short		1[]
very short to short		2[]
short		3[]
short to medium		4[]
medium		5[]
medium to long		6[]
long		7[]
long to very long		8[]
very long		9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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	Characteristics	Example Varieties	Note
5.5	Leaf: level of pinnation		
(11)			
	pinnate	Zhong Sheng Hei	1[]
	bipinnate	Luo Yang hong	2[]
	tripinnate	Xiong Mao	3[]
5.6	Leaf: length		
(12)			
	very short		1[]
	very short to short		2[]
	short		3[]
	short to medium		4[]
	medium		5[]
	medium to long		6[]
	long		7[]
	long to very long		8[]
	very long		9[]
5.7	Leaf: width		
(13)			
	very narrow		1[]
	very narrow to narrow		2[]
	narrow		3[]
	narrow to medium		4[]
	medium		5[]
	medium to broad		6[]
	broad		7[]
	broad to very broad		8[]
	very broad		9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.8 Lateral leaflet: shape (17)		
broad ovate	Kun Shan Ye Guang	1[]
ovate	Dou Lv	2[]
long ovate	Fen Zhong Guan	3[]
narrow ovate	Yachiyotsubaki	4[]
lanceolate	Liu ye Bai, Zui Xi Shi	5[]
5.9 Lateral leaflet: depth of sinus (18)		
absent or very shallow	Zui Xi Shi	1[]
very shallow		2[]
shallow	Zhao Fen	3[]
shallow to medium		4[]
medium	Luo Yang Hong	5[]
medium to deep		6[]
deep	High Noon	7[]
deep to very deep		8[]
very deep		9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.10 Flower: predominant type (21)		
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		5[]
anemone form	Yin Si Guan Ding	6[]
golden circle form	Fen Mian Tao Hua	7[]
crown form	Shou An Hong	8[]
golbular form	Fen Yu Qiu	9[]
hundred proliferate form	Jun Yan Hong	10[]
crown proliferate form	Xian Tao	11[]
5.11 Flower: main color (28)		
RHS Colour Chart (indicate reference number)		
5.12 Flower: blotch at the base of petals (29)		
absent	Zhao Fen	1[]
present	Luo Yang Hong	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.13 Petal (excluding blotch and basal zone): color (32)		
RHS Colour Chart (indicate reference number)		
5.14 <u>Only varieties with blotches at the base of petals</u>: 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	Bao Gong	5[]
5.15 <u>Only varieties with blotches at the base of petals</u>: Flower: color of blotches (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[]
5.16 Flower: fragrance (54)		
weak	Yu Ban Bai	1[]
medium	Luo Yang Hong	2[]
strong	Guan Qun Fang	3[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.17 Flowering: time of beginning of the first flowering (59)		
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:
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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>			
Comments:			

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