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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-second session, to be held in Angers, France, from September 14 to 18, 2009*

## Alternative Names:\*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Paeonia Sect. Moutan</i>	Tree peony, Moutan	Pivoine en arbre	Strauchpäonie	

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*.

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 three-year-old grafted plants.

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

10 grafted plants.

In the case of grafted plants, the rootstock to be used is specified by the competent authority.

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

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

3. Method of Examination

3.1 *Number of Growing Cycles*

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

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

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.

### 3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 5 grafted plants.

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

### 3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations should be made on 5 plants or parts taken from each of 5 plants.

### 3.6 *Additional Tests*

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

## 4. Assessment of Distinctness, Uniformity and Stability

### 4.1 *Distinctness*

#### 4.1.1 General Recommendations

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

#### 4.1.2 Consistent Differences

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

#### 4.1.3 Clear Differences

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

## 4.2 *Uniformity*

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

4.2.2 For the assessment of uniformity, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 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 previous material supplied.

## 5. Grouping of Varieties and Organization of the Growing Trial

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

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

5.3 The following have been agreed as useful grouping characteristics:

- (a) Plant: height (characteristic 2)
- (b) Flower: predominant type (characteristic 23)
- (c) Flower: diameter (characteristic 24)
- (d) Flower: main color: double color (characteristic 25)

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

## 6. Introduction to the Table of Characteristics

### 6.1 *Categories of Characteristics*

#### 6.1.1 Standard Test Guidelines Characteristics

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

#### 6.1.2 Asterisked Characteristics

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

### 6.2 *States of Expression and Corresponding Notes*

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

### 6.3 *Types of Expression*

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

### 6.4 *Example Varieties*

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

### 6.5 *Legend*

(\*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3

QN: Quantitative characteristic – see Chapter 6.3

PQ: Pseudo-qualitative characteristic – see Chapter 6.3

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

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

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>1.</b>	<b>Plant: growth habit</b>					
(*)						
(+)						
<b>QN</b>	<b>(a)</b>	upright			Kao, Shichifukujin	1
		semi-spreading			Wu Long Peng Sheng	2
		spreading			Zhao Fen	3
<b>2.</b>	<b>Plant: height</b>					
(*)						
<b>QN</b>	<b>(a)</b>	short			Shan Hu Tai	3
		medium			Kao, LuoYang Hong	5
		tall			Hanakisoï	7
<b>3.</b>	<b>Plant: number of basal shoots</b>					
<b>QN</b>		few			Shou An Hong	1
		medium			Hu Hong	2
		many			Luo Yang Hong	3
<b>4.</b>	<b>Mixed bud: shape</b>					
(+)						
<b>PQ</b>	<b>(b)</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
<b>5.</b>	<b>Mixed bud: color</b>					
<b>PQ</b>	<b>(b)</b>	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
<b>6.</b>	<b>One-year-old branch: length</b>					
<b>QN</b>	(c) short				Shan Hu Tai, Ying Luo Bao Zhu	1
	medium				Luo Yang Hong Zhao Fen	2
	long				Tian Xiang Zhan Lu, Zi Die Ying Feng	3
<b>7.</b>	<b>More than one year old branch: number of sunken buds</b>					
<b>QN</b>	(c) absent or very few					1
	few					2
	many				High Noon, Kao	3
<b>8.</b>	<b>Very young shoot: color (excluding flower buds)</b>					
(+)						
<b>PQ</b>	(c1) yellow green				San Qing Bai	1
	green				Bai Hua Du, Shin-jitsugetu	2
	pink				Lu He Hong	3
	purple red				Si He Lian	4
	brown red				Shou An Hong	5
<b>9.</b>	<b>Two- year-old branch: number of flowering branches</b>					
<b>QN</b>	(c) one				Shou An Hong	1
	two				Hanakisoi, Zhu Sha Lei	2
	more than two				Taiyo	3



	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>10.</b>	<b>Compound leaf: attitude in relation to the stem</b>					
<b>QN</b>	(d) upright				Kinkaku	1
	semi-upright				Cang Zhi Hong, Shou An Hong	2
	horizontal				Dou Lv, Zi Hong Zheng Yan	3
<b>11.</b>	<b>Compound leaf: level of pinnation</b>					
(+)						
<b>QN</b>	(d) simple pinnate				Zhong Sheng Hei	1
	bipinnate				Luo Yang hong	2
	tripinnate				Xiong Mao	3
<b>12.</b>	<b>Compound leaf: length</b>					
(*)						
<b>QN</b>	short					1
	medium					2
	long					3
<b>13.</b>	<b>Leaf: petiole length</b>					
<b>QN</b>	short					1
	medium					2
	long					3
<b>14.</b>	<b>Leaf: width</b>					
<b>QN</b>	narrow					1
	medium					2
	broad					3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>15.</b>	<b>Leaf: color of upper side</b>				<b>move to before Char. 14</b>	
<b>PQ (d1)</b>	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
<b>16.</b>	<b>Compound leaf: anthocyanin coloration on upper side</b>					
<b>QL (d1)</b>	absent				Zhao Fen	1
	present				Hu Hong	9
<b>17.</b>	<b>Lateral leaflet: shape</b>					
	<b>(+)</b>					
<b>PQ (d)</b>	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
<b>18.</b>	<b>Lateral leaflet: depth of lobing</b>					
	<b>(*)</b>					
	<b>(+)</b>					
<b>QN (d)</b>	absent or very shallow				Zui Xi Shi	1
	shallow				Zhao Fen	3
	medium				Luo Yang Hong	5
	deep				High Noon	7
<b>19.</b>	<b>Leaf: hair on lower side</b>					
<b>QL (d)</b>	absent				Yin Fen Jin Lin	1
	present				Dou Lv	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>20.</b>	<b>Flower bud: shape</b>					
	(+)					
<b>PQ</b>	(e) oblate				Shou An Hong	1
	circular				Shan Hu TAI	2
	ovate				Zhu Sha Lei	3
	elliptic				Yu Mian Tao Hua	4
<b>21.</b>	<b>Flower bud: presence of lateral flower buds</b>					
<b>QL</b>	(e) absent				Luo Yang Hong	1
	present				High noon, Zi Mei You Chun	9
<b>22.</b>	<b>Flower: number of types on one plant</b>					
	(+)					
<b>QN</b>	one only				Luo Yang Hong	1
	more than one				Zhao Fen	2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>23.</b>	<b>Flower:</b>					
(*)	<b>predominant type</b>					
(+)						
<b>PQ</b>	single flower section					
	hundred petals subsection:					
	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
	proliferate section:					
	hundred proliferate				Jun Yan Hong	10
	crown proliferate				Xian Tao	11
<b>24.</b>	<b>Flower: diameter</b>					
<b>QN</b>	(e) small				Pan Zhong Qu Guo	3
	medium				Luo Yang Hong	5
	large				Bai He Liang Chi, Xian Tao	7
<b>25.</b>	<b><u>Only varieties with</u></b>					
	<b><u>crown and</u></b>					
	<b><u>proliferate form:</u></b>					
	<b>Flower: height</b>					
<b>QN</b>	(e) short				Dou Lv	3
	medium				Shou An Hong	5
	tall				Zi Rong Qiu	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>26.</b> (*)	<b>Flower: coloration</b>					
<b>QL</b>	Single				Luo Yang Hong	1
	bi-color				Hua Er Qian, Shima-nishiki	2
<b>27.</b> (+)	<b><u>Bi-color varieties</u> only: Flower: distribution of color (excluding color of blotch)</b>					
<b>PQ</b>	Type 1				Hua Er Qiao	1
	Type 2				Shima-nishiki	2
	Type 3				Hua Er Qiao	3
<b>28.</b> (*)	<b><u>Bi-color varieties</u> only: Flower: color (excluding color of blotch)</b>					
<b>PQ</b>	color 1: RHS Colour Chart (indicate reference number)					
<b>29.</b>	<b><u>Bi-color varieties</u> only: Flower: color (excluding color of blotch)</b>					
<b>PQ</b>	color 2: RHS Colour Chart (indicate reference number)					
<b>30.</b> (*)	<b><u>Single colored varieties only:</u> Flower: color (excluding color of blotch)</b>					
<b>PQ</b>	(e) RHS Colour Chart (indicate reference number)					

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>31.</b> (*)	<b>Petal: blotch at the base</b>					
<b>QL</b>	(f) absent				Zhao Fen	1
	present				Luo Yang Hong	9
<b>32.</b> (*)	<b><u>Only varieties without petal blotches:</u> Petal: change of intensity of color towards base</b>					
<b>QN</b>	(f) absent or very weak				Renkaku	1
	medium				Zhao Fen	3
	strong				Teni	5
<b>33.</b>	<b><u>Only varieties without petal blotches:</u> petal base : color in relation to outer petals</b>					
<b>QL</b>	(f) same				Yachiyotsubaki	1
	different				Teni	9
<b>34.</b>	<b>Petal (excluding blotch and basal zone): color</b>					
<b>PQ</b>	(e) RHS Colour Chart (indicate reference number)					
<b>35.</b>	<b>Petal: shape of blotch</b>					
<b>PQ</b>	(e) `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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>36</b>	<b>Petal: size of blotch</b>					
<b>QN</b>	very small				Hu Hong	1
	small				Luo Yang Hong	3
	medium				Xiao Hu Die	5
	large				Shu Sheng Peng Mo	7
	very large				Bao Gong	9
<b>37.</b>	<b><u>Only varieties with blotches at the base of petals:</u> Flower: color of blotches</b>					
<b>PQ</b>	(e) 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
<b>38.</b>	<b>Petal: incision of apex (excluding petaloid)</b>					
<b>(+)</b>						
<b>QN</b>	(f) weak				Cong Zhong Xiao	3
	medium				Luo Yang Hong	5
	strong				Zi Rong Jian Rong	7
<b>39.</b>	<b><u>Only varieties with crown and proliferate form:</u> Petal: shape (excluding petaloid)</b>					
<b>(+)</b>						
<b>PQ</b>	(f) circular					1
	obovate					2
	broad obovate					3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>40.</b>	<b>Stamen: main color of filaments</b>					
<b>PQ</b>	(e) 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
<b>41.</b> (*)	<b>Petaloid stamens: presence of petaloid stamens</b>					
<b>QL</b>	(e) absent				Renkaku	1
	present				Luo Yang Hong	9
<b>42.</b>	<b>Petaloid stamens: number</b>					
<b>QN</b>	(e) few				Yu Ban Bai	3
	medium				Luo Yang Hong	5
	many				Kun Shan Ye Guang	7
<b>43.</b>	<b>Petaloid stamens: conspicuousness of anthers</b>					
<b>QL</b>	(e) inconspicuous				Shou An Hong	1
	medium				Yao Huang	2
	conspicuous				Jin Xin Xue Lang	3
<b>44.</b> (+)	<b>Petaloid stamen: shape</b>					
<b>QL</b>	(e) stamen-like				Yin Si Guan Ding	1
	petal-like				Shou An Hong	9



	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>45.</b>	<b>Petaloid stamen: color in relation to outer petals</b>					
<b>QL</b>	(e) same				Shou An Hong	1
	different				Tao Yang Jin	9
<b>46.</b>	<b>Pistil: number</b>					
<b>QN</b>	(e) few				Shou An Hong	1
	medium				Zi Die Ying Feng	2
	many				Luo Yang Hong	3
<b>47.</b>	<b>Pistil: color of stigma</b>					
<b>PQ</b>	(e) light yellow				Renkaku, Yu Ban Bai,	1
	pink				Zhao Fen	2
	purple red				Luo Yang Hong	3
	purplish black				Ye Guang Bei	4
	black				Yan Long Zi Zhu Pan	5
<b>48.</b>	<b>Pistil: degree of carpel enclosing disc</b>					
(+)						
<b>QN</b>	(e) open				Qing Long Wo Mo Chi, Zhi Hong	3
	partly open				Hu Hong, Yan Long Zi Zhu Pan, Zi Die Ying Feng	5
	closed				Xue Hai Dan Xin	7
<b>49.</b>	<b>Pistil: density of hair on carpels</b>					
(+)						
<b>QN</b>	(e) absent or very sparse				Guo Qi Hong	1
	medium				High Noon	2
	dense				Luo Yang Hong	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>50.</b>	<b>Pistil: texture of disc</b>					
(+)						
<b>PQ</b>	(e) leathery				Luo Yang Hong	1
	fleshy				Guo Qi Hong	9
<b>51.</b>	<b>Pistil: color of disc</b>					
(*)						
(+)						
<b>PQ</b>	(e) yellowish white				Renkaku, Xue Lian	1
	pink				Zhao Fen	2
	purple red				Xue Hai Dan Xin	3
	dark purple				Yan Long Zi Zhu Pan	4
<b>52.</b>	<b>Pistil: petaloid</b>					
<b>PQ</b>	(e) absent				Yu Ban Bai	1
	present				Qing Long Wo Mo Ci	9
<b>53.</b>	<b><u>Only varieties with</u></b>					
(*)	<b><u>petaloid pistil:</u></b>					
	<b>Petaloid pistil: type</b>					
<b>PQ</b>	(e) only stigma				Huang Jin Cui	1
	partly petaloid				Juan Ye Hong	2
	completely petaloid				Zi Hong Zheng Yan	3
<b>54.</b>	<b><u>Only varieties with</u></b>					
	<b><u>petaloid pistil:</u></b>					
	<b>Petaloid pistil: color</b>					
	<b>in relation to outer</b>					
	<b>petals</b>					
<b>QL</b>	(e) same				Shou An Hong	1
	different				Kun Shan Ye Guang	2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>55.</b> (* (*)	<b><u>Only varieties with different petaloid pistil color from outer petals:</u></b> <b>Petaloid pistil : color</b>					
<b>PQ</b>	(e) 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
<b>56.</b>	<b>Flower: fragrance</b>					
<b>QN</b>	(e) weak				Yu Ban Bai	1
	medium				Luo Yang Hong	2
	strong				Guan Qun Fang	3
<b>57.</b> (* (+)	<b>Plant: attitude of flowers</b>					
<b>QN</b>	(e) upwards				Kao	1
	outwards				Rou Fu Rong	2
	downwards				Dou Lv	3
<b>58.</b> (+)	<b>Plant: position of flower in relation to foliage</b>					
<b>PQ</b>	(e) within				Cang Zhi Hong	3
	as/nearly same level				Cong Zhong xiao	5
	above				Kao	7
<b>59.</b> (*	<b>Plant: number of flowering branches(compared with total branches)</b>					
<b>QN</b>	(e) few				Wu Long Wo Mo chi	3
	medium				Hanakisoi	5
	many				Kao	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>60.</b>	<b>Seeds: formation of seeds</b>					
<b>QN</b>	(e) few				Shou An Hong	3
	medium				Taiyo	5
	many				Zhu Sha Lei	7
<b>61.</b>	<b>Flowering: number of flowering periods in one year</b>					
<b>QN</b>	(e) only 1				Luo Yang Hong	1
	1 or 2				Cang Zhi Hong	2
	2 only					3
	more than 2				High Noon	4
<b>62.</b>	<b>Flowering: time of beginning of the first flowering</b>					
<b>QN</b>	(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*

- (a) Plant: The observation of growth habit is better to be made during deciduous period, the height of it should be made during flowering period.
- (b) Mixed bud: Observations on the buds should be made on the first lateral bud on one-year old branch during the period after the leaves fallen and before ( ) first frost.
- (c) Branch: Observations on the branch should exclude basal shoots.
- (c1) Very young shoot: shorter than 10 cm, excluding flower buds
- (c2) Young shoot: longer than 10 cm.
- (d) Leaf and leaflet: Observations on the compound should be made on the third and fourth fully developed leaves from the end in current year's branch in flowering period.
- (d1) Observation on leaf color in the beginning of flowering
- (e) Flower: The observation on the flower should be made on the top flower on the main branch. The shape of flower bud should be made on the period when it will show the color, other observations should be made in the period of full bloom. Color should be observed on the middle part of the petal at the time of flower opening.
- (f) Observations should be made on petals from the outer row at time of flower opening,

### 8.2 *Explanations for individual characteristics*

#### Ad.1: Plant: growth habit



1  
upright

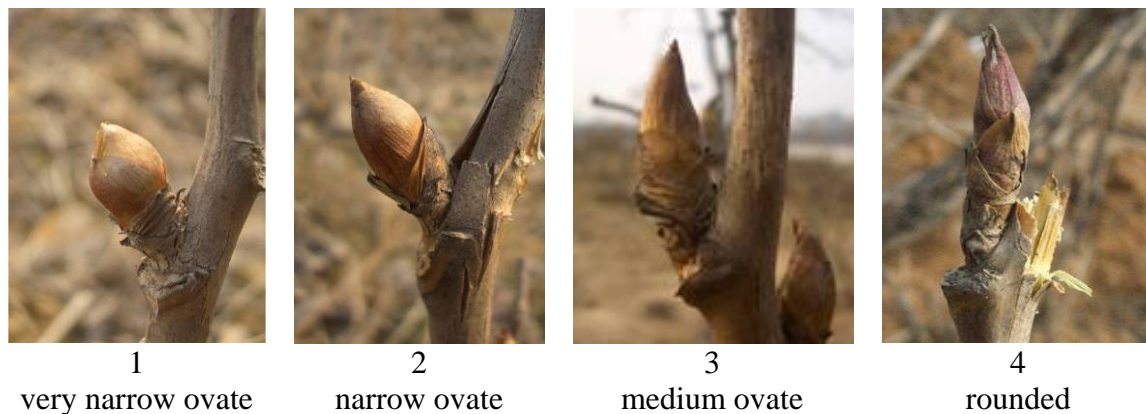


2  
semi-spreading



3  
spreading

Ad. 4: Mixed bud: shape



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

(c1)



Ad. 10: Compound leaf: attachment



**1**  
right angle attachment  
(approximately 90°)



**2**  
diagonal attachment (30°-50°)

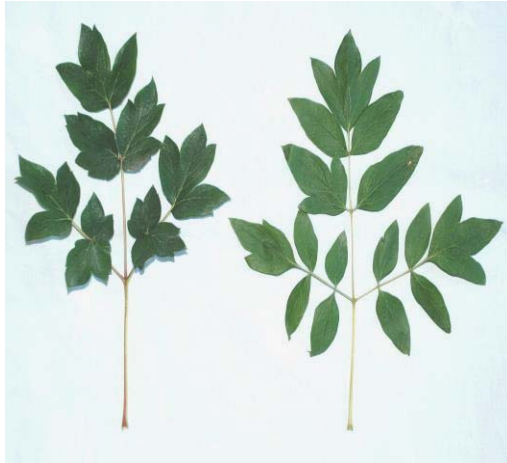


**3**  
diagonally upward  
attachment (< 30°)

Ad.11: Compound leaf: level of pinnation



1  
simple pinnate

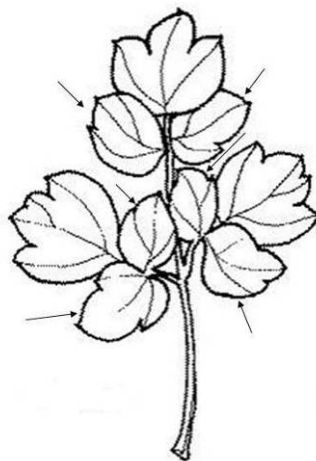


2  
bipinnate

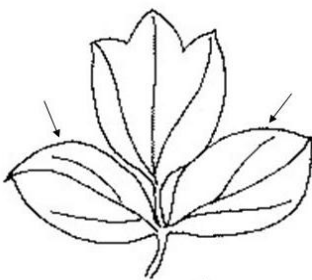


3  
tripinnate

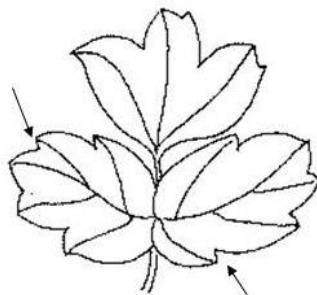
Ad. 17: Leaf: lateral leaflet



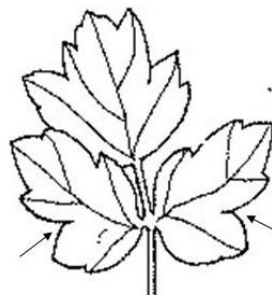
Ad. 18: Lateral leaflet: depth of lobing



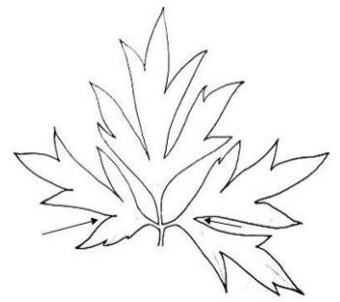
1  
absent or very shallow



3  
shallow



5  
medium



7  
deep

Ad. 20: Flower bud: shape



1  
oblate



2  
circular



3  
ovate



4  
elliptic

Ad. 22: Flower: number of types on one plant



1  
one only



2  
more than one



Ad. 23: Flower: predominant type



1. 单瓣型

1  
single form



2. 荷花型

2  
lotus form



3. 菊花型

3  
chrysanthemum form



4. 蔷薇型

4  
rose form



5. 牡丹型

6  
anemone



6. 金环型

7  
golden circle



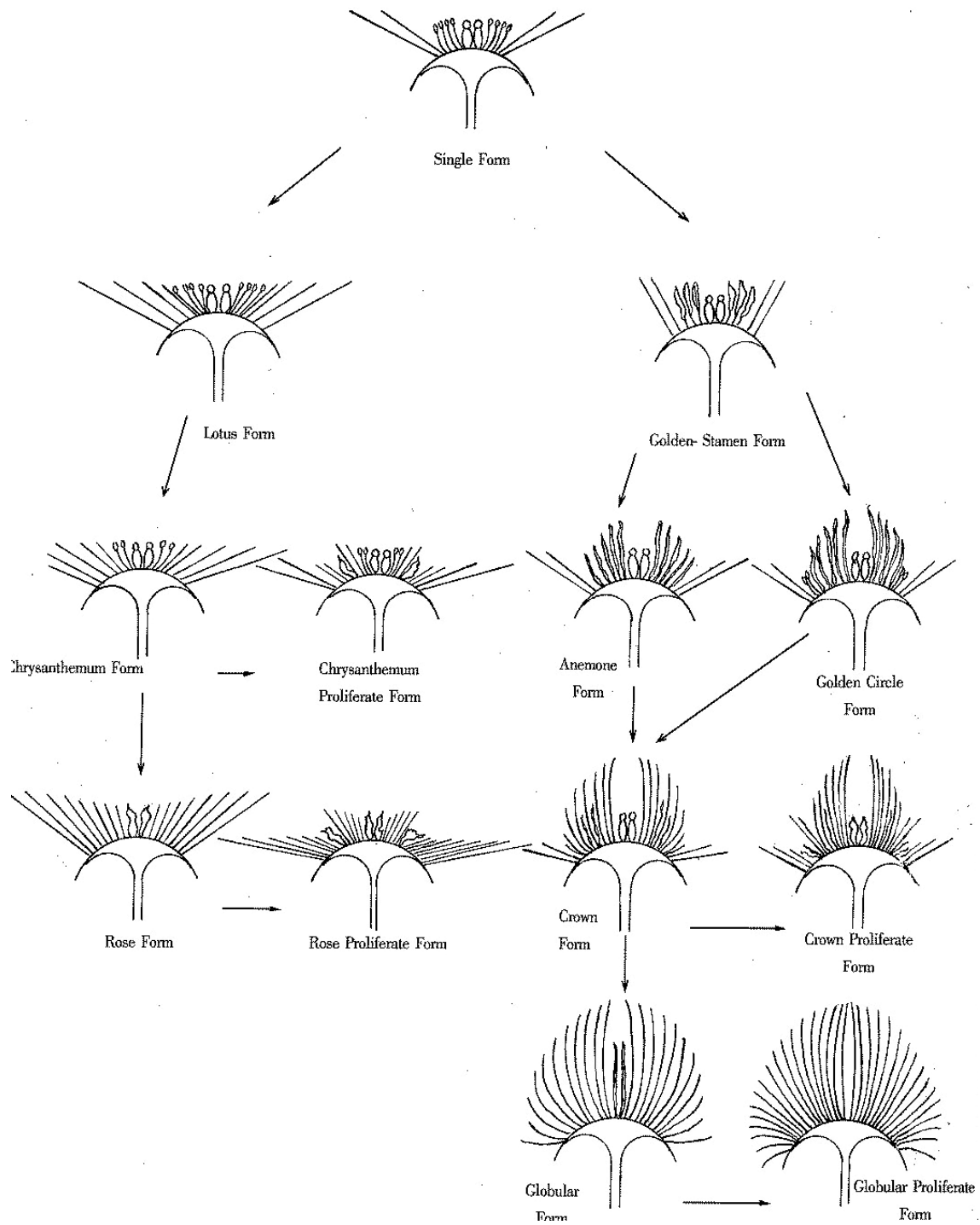
7. 皇冠型

8  
crown



8. 绣球型

9  
globular





1  
single form



6  
anemone form



2  
lotus form



8  
crown form



3  
chrysanthemum form



8  
crown form



4  
rose form



9  
globular form



10  
hundred proliferate form



11  
crown proliferate form

**Ad. 26: Flower: coloration**

Ad. 27: Bi-color varieties only: Flower: distribution of color (excluding color of blotch)



1  
type1



2  
type2



3  
type3

Ad. 38: Petal: incision of apex (excluding petaloid)



3  
weak



5  
medium



7  
strong

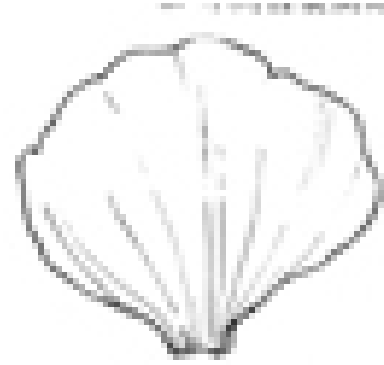
Ad. 39: Only varieties with crown and proliferate form: Petal: shape (excluding petaloid)



1  
circular



2  
obovate



3  
broad obovate

Ad. 43: Petaloid stamens: conspicuousness of anthers



1  
inconspicuous



3  
conspicuous

Ad. 44: Petaloid stamens: shape



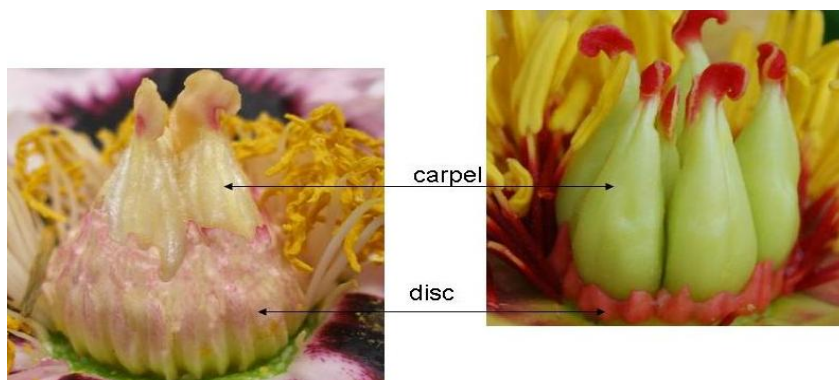
1  
stamen-like



9  
petal-like

Ad. 48: Pistil: degree of carpel-enclosing disc

Ad. 49: Pistil: density of hair on carpels



3  
open



5  
partly open



7  
closed

Ad. 50: Pistil: texture of disc



1  
leathery



9  
fleshy

Ad. 57: Plant: attitude of flowers



1  
upwards



2  
outwards



3  
downwards

Ad. 58: Flowering: position of flower in relation to foliage



3  
within



5  
as/nearly same level



7  
above

9. Bibliography

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

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

Rogers A., 1995: Peonies, Timber Press.

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



10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
<b>TECHNICAL QUESTIONNAIRE</b> 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 suffruticosa Andrews Sect. Moutan"/>	
1.2 Common name	<input type="text" value="Tree paeony"/>	
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)
- (b) partially known cross  [ ]  
(please state known parent variety(ies))
- (c) unknown cross  [ ]

4.1.2 Mutation  [ ]  
(please state parent variety)

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

4.1.4 Other  [ ]  
(please provide details)

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

- (a) grafted  [ ]
- (b) division  [ ]
- (c) other (state method)  [ ]

4.2.2 Seed  [ ]

4.2.3 Other  [ ]  
(please provide details)

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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
<b>5.1 Plant: growth habit</b> (1)		
upright	Kao, Shichifukujin,	1[ ]
semi-upright	Wu Long Peng Sheng	2[ ]
spreading	Zhao Fen	3[ ]
<b>5.2 Compound leaf: type</b> (12)		
small circular leaf	Zhu Hong Jue Lun	4[ ]
small long leaf	Shan Hu Tai, Yin Luo Bao Zhu	2[ ]
middle sized circular leaf	Cang Zhi Hong Kun Shan Ye Guang	3[ ]
middle sized long leaf	Luo Yang Hong, Zi Mei You Chun	4[ ]
large circular leaf	Qing Long Wo Mo Chi Shou An Hong	5[ ]
large long leaf	Bing Ling Zhao Hong Shi, Gong Yang Zhuang	6[ ]
<b>5.3 Lateral leaflet: depth of lobing</b> (18)		
absent or very shallow	Zui Xi Shi	1[ ]
shallow	Zhao Fen	3[ ]
medium	Luo Yang Hong	5[ ]
deep	High Noon	7[ ]

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note	
<b>5.4 Flower: predominant type</b> (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		5[ ]	
anemone	Yin Si Guan Ding	6[ ]	
golden circle	Fen Mian Tao Hua	7[ ]	
crown	Shou An Hong	8[ ]	
golbular	Fen Yu Qiu	9[ ]	
hundred proliferate	Jun Yan Hong	10[ ]	
crown proliferate	Xian Tao	11[ ]	
<b>5.5 Flower: diameter</b> (24)			
small	Pan Zhong Qu Guo	3[ ]	
medium	Luo Yang Hong	5[ ]	
large	Bai He Liang Chi, Xian Tao	7[ ]	
<b>5.6 Flower: coloration</b> (26)			
single	Luo Yang Hong	1[ ]	
bi-color	Hua Er Qian, Shima-nishiki	2[ ]	
<b>5.7 <u>Bi-color varieties only</u>: Flower: color (excluding color of blotch)</b> (28)			
color 1: RHS Colour Chart (indicate reference number)			
<b>5.7 <u>Bi-color varieties only</u>: Flower: color (excluding color of blotch):</b> (29)			
color 2: RHS Colour Chart (indicate reference number)			

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics		Example Varieties	Note
<b>5.8</b>	<b>Flower: main color</b>		
<b>(30)</b>			
	RHS Colour Chart (indicate reference number)		
<b>5.9</b>	<b>Petal: blotch at the base</b>		
<b>(31)</b>			
	absent	Zhao Fen	1[ ]
	present	Luo Yang Hong	9[ ]
<b>5.10</b>	<b>Flower: Only varieties without blotches at the base of petals: suffusion at base</b>		
<b>(29)</b>			
	absent	Renkaku	1[ ]
	present	ZhaoFen	9[ ]
<b>5.11</b>	<b>Flower:stamen: amount of petaloid stamens</b>		
<b>(36)</b>			
	absent	Renkaku	1[ ]
	(<20%) few	Yu Ban Bai	2[ ]
	(<20-95%) part	Luo Yang Hong	3[ ]
	(>95%) whole	Kun ShanYe Guang	4[ ]
<b>5.14</b>	<b>Pistil: color of disc</b>		
<b>(51)</b>			
	yellowish white	Renkaku, Xue Lian	1[ ]
	pink	Zhao Fen	2[ ]
	purple red	Xue Hai Dan Xin	3[ ]
	dark purple	Yan Long Zi Zhu Pan	4[ ]
<b>5.12</b>	<b>Only varieties with petaloid pistil: Petaloid pistil: type</b>		
<b>(53)</b>			
	only stigma	Huang Jin Cui	1[ ]
	partly petaloid	Juan Ye Hong	2[ ]
	completely petaloid	Zi Hong Zheng Yan	3[ ]

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics		Example Varieties	Note
<b>5.13</b>	<b>Only varieties with different petaloid pistil color from outer petals:</b>		
<b>(55)</b>	<b>Petaloid pistil : color</b>		
	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[ ]
	similar to original petal	Shou An Hong	5[ ]
<b>5.16</b>	<b>Plant: attitude of flowers</b>		
<b>(57)</b>			
	upwards	Kao	1[ ]
	outwards	Rou Fu Rong	2[ ]
	downwards	Dou Lv	3[ ]
<b>5.17</b>	<b>Plant: number of flowering branches (compared with total branches)</b>		
<b>(59)</b>			
	few	Wu Long Wo Mo chi	3[ ]
	medium	Hanakisoi	5[ ]
	many	Kao	7[ ]
<b>5.15</b>	<b>Flowering: time of beginning of the first flowering</b>		
<b>(62)</b>			
	early	Huo Lian Jin Dan	3[ ]
	medium	Luo Yang Hong	5[ ]
	late	High Noon	7[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

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

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the <b>similar</b> variety(ies)	Describe the expression of the characteristic(s) for <b>your</b> candidate variety
<i>Example</i>	<i>Flower color</i>	<i>red</i>	<i>orange red</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [ ] No [ ]

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

(If yes, please provide details)

7.3 Other information

7.3.1 Main use

(a) garden plant [ ]

(b) pot plant [ ]

(c) cut-flower [ ]

(d) other [ ]

(please provide details)

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

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

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



TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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9. Information on plant material to be examined or submitted for examination.

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

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

- |   |         |        |
|---|---------|--------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma)    | Yes [ ] | No [ ] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [ ] | No [ ] |
| (c) Tissue culture  | Yes [ ] | No [ ] |
| (d) Other factors   | Yes [ ] | No [ ] |

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

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature

Date

[End of document]