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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

GINKGO

UPOV Code(s): GINKG_BIL

Ginkgo biloba L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from China
to be considered by the
Technical Working Party for Ornamental Plants and Forest Trees
at its fifty-fifth session, to be held virtually
from 2023-06-12 to 2023-06-16

Disclaimer: this document does not represent UPOV policies or guidance

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Ginkgo biloba L.	Ginkgo, Maidenhair	Arbre aux quarante écus, Ginkgo	Ginkgo	Gingco, Ginkgo

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 *Ginkgo biloba* L.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of grafted plants.

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

vegetatively propagated varieties: 5 plants.

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

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

3. Method of Examination

3.1 Number of Growing Cycles

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

3.1.2 In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles.

3.1.3 The growing cycle is considered to be the duration of a single growing season, beginning with bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period ends with the swelling of new season buds.

3.1.4 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

3.2 Testing Place

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

3.3 Conditions for Conducting the Examination

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.

3.4 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 or Parts of Plants to be Examined

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

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

4.1.5 Method of Observation

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

MG: single measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants

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

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

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

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

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

4.2 Uniformity

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

4.2.2 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.4 For the assessment of uniformity of vegetatively propagated varieties, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 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 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: dwarf (characteristic 1)
(b) Plant: growth habit (characteristic 4)
(c) Leaf: shape (characteristic 8)
(d) Young leaf: color (characteristic 12)
(e) Only varieties with: Nut: symmetry: present: Nut: shape in lateral view through the ridge (excluding the ridge) (characteristic 26)

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 All relevant states of expression are presented in the characteristic.

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

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

1 Characteristic number

2 (*) Asterisked characteristic – see Chapter 6.1.2

3 Type of expression
QL Qualitative characteristic – see Chapter 6.3
QN Quantitative characteristic – see Chapter 6.3
PQ Pseudo-qualitative characteristic – see Chapter 6.3

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

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

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

7 Not applicable

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

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	**(*)**	**QL**	**VG**	**(+)**	**(a)**				
		Plant: dwarf							
		absent						Princeton Sentry	1
		present						Ming Princess	9
2.		**QN**	**MG/VG**		**(a)**				
		Only for varieties with: **Plant: dwarf: present:** **Plant: height**							
		very short						Mariken	1
		very short to short							2
		short						Barabits Nana	3
		short to medium							4
		medium						Heksenbezem Leiden	5
		medium to tall							6
		tall						Beijing Gold	7
		tall to very tall							8
		very tall						Menhir	9
3.		**PQ**	**VG**	**(+)**	**(a)**				
		Plant: shape							
		conic						Menhir	1
		cylindric						Tian Zhu	2
		ovoid							3
		globose						Globosa	4
		obloid							5
		semi-ellipsoid							6
4.	**(*)**	**PQ**	**VG**	**(+)**	**(a)**				
		Plant: growth habit							
		upright						Fastigiata	1
		semi-upright						Piedmont Pillar	2
		spreading						Horizontalis	3
		drooping						Mayfield	4
		weeping						Pendula	5
5.	**(*)**	**QL**	**VG**	**(+)**	**(a)**				
		Plant: chichi							
		absent						Fastigiata	1
		present						Tit	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.		**QN MG/VG**	**(+)**				
		Branch: length of internode					
		short				Leiden	1
		medium					2
		long				Dong Ting Huang	3
7.	**(*)**	**QL VG**	**(+)**	**(b)**			
		Leaf: attitude					
		upwards				Fastigiata	1
		downwards				Chui Ye, Saratoga	2
8.	**(*)**	**PQ VG**	**(+)**	**(b)**			
		Leaf: shape					
		only fan-shaped				Fastigiata	1
		only funnel-shaped				Tubifolia	2
		fan-shaped and terete				Santa Cruz	3
		fan-shaped and acicular				Song Zhen	4
9.		**QN MG**	**(+)**	**(b)**			
		Only varieties with (containing) fan-shaped leaves: Leaf blade: length					
		short				Zhai Guan	1
		medium				Fastigiata	2
		long				Heksenbezem Leiden	3
10.		**QN MG**	**(+)**	**(b)**			
		Only varieties with (containing) fan-shaped leaves: Leaf blade: width					
		narrow				Saratoga	1
		medium				Princeton Gold	2
		broad				Princeton Sentry	3
11.	**(*)**	**QL VG**		**(b)**			
		Leaf: variegation					
		absent				Blagon	1
		present				Santa Cruz	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	**(*)**	**PQ VG**	**(+)**				
		Young leaf: color					
		light yellow				Californian Sunset	1
		medium yellow				Wan Nian Jin	2
		yellow green					3
		green				Fastigiata	4
13.	**(*)**	**PQ VG**	**(+)**	**(b)**			
		Leaf: main color					
		yellow				Wan Nian Jin	1
		yellow green				Saratoga	2
		green				Fastigiata	3
14.		**QL VG**	**(+)**	**(b)**			
		Only varieties with: Leaf: variegation: present: Leaf: secondary color					
		white				Jade Butterflies	1
		yellow				Taishan Ban Ye	2
		green				Variegata	3
15.	**(*)**	**PQ VG**	**(+)**	**(b)**			
		Only varieties with (containing) fan-shaped leaves: Leaf: shape of leaf base					
		cuneate				Shannong Yin 2	1
		truncate				Piedmont Pillar	2
		cordate				Horizontalis	3
16.	**(*)**	**PQ MG**		**(b)**			
		Only varieties with (containing) fan-shaped leaves: Leaf: margin					
		repand					1
		serrate					2
		incision					3

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17.	**(*)**	**QN**	**VG**	**(+)**	**(b)**				
		<u>Only varieties with (containing) fan-shaped leaves:</u> Leaf blade: depth of incision							
		none or very shallow						Autumn Gold	1
		shallow						Princeton Sentry	2
		medium						Princeton Gold	3
		deep						Fairmount	4
		very deep						Wen Bi	5
18.	**(*)**	**QL**	**MG**	**(+)**	**(b)**				
		<u>Only varieties with (containing) fan-shaped leaves:</u> Leaf blade: number of incisions							
		one						Jade Butterflies	1
		five						Wen Bi	2
19.	**(*)**	**QL**	**VG**	**(+)**	**(c)**				
		Seed: position							
		only short branch						Shan Nong Guo 1	1
		short branch and leaf						Epiphylla	2
20.	**(*)**	**QL**	**VG**		**(c)**				
		Seed: color of sarcotesta							
		yellow						Tan-107	1
		yellow green						Yu Xiang	2
		orange						Qi Xing Guo	3
		black						Qi Xing Hai He	4
21.		**QN**	**VG**	**(+)**	**(c)**				
		Seed: bloom on sarcotesta							
		weak						Nan Lin Guo 1	1
		medium						Qi Xing Guo	2
		strong						Tan-107	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22.		**QN MG/MS**	**(+) (c)**				
		Nut: length					
		short				Shan Nong Guo 1	1
		medium				Shan Nong Guo 5	2
		long				Bian Fo Zhi	3
23.		**QN MG/MS**	**(+) (c)**				
		Nut: width in lateral view through the ridge					
		short				Jia Fo Zhi	1
		medium				Ma Ling-5	2
		long				An Yin-1	3
24.		**QN MG/MS**	**(+) (c)**				
		Nut: width in lateral view facing the ridge					
		short				Chang Nuo Bai Guo	1
		medium				Shan Nong Guo 5	2
		long				An Yin-1	3
25.		**QL VG**	**(+) (c)**				
		Nut: symmetry					
		absent				Xin Yu	1
		present				Shan Nong Guo 1	2
26.	**(*)**	**PQ VG**	**(+) (c)**				
		<u>Only varieties with:</u> **<u>Nut: symmetry:</u>** **<u>present:</u> Nut: shape in lateral view through the ridge (excluding the ridge)**					
		ovate				Jin Bing Wei	1
		oblate					2
		circular				Shan Nong Guo 1	3
		medium elliptic				Hai Yang Huang	4
		narrow elliptic				Jia Fo Zhi	5
		obovate				Shannong Guo 2	6
27.		**QL VG**	**(+) (c)**				
		Nut: pitting on sclerotesta					
		absent				Shan Nong Guo 5	1
		present				Qi Xing Guo	2

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
28.		**PQ VG**	**(+) (c)**				
		Nut: shape of apex					
		obtuse				Jin Zhui Zi	1
		rounded				Hai Yang Huang	2
		truncate				Qi Xing Guo	3
		retuse				Chang Nuo Bai Guo	4
29.	**(*)**	**PQ VG**	**(+) (c)**				
		Nut: shape of base					
		cuneate					1
		convex					2
		truncate					3
		concave					4
30.		**QN VG**	**(+) (c)**				
		Nut: position of ridge					
		absent					1
		upper				Gan Lan Guo	2
		up to middle				Hai Yang Huang	3
		whole				Qi Xing Guo	4
31.		**PQ VG**	**(+) (c)**				
		Nut: width of ridge					
		absent or narrow					1
		medium					2
		broad					3
32.	**(*)**	**PQ VG**	**(+) (c)**				
		Kernel: color					
		yellow white				Gui-048	1
		yellow green				Shen Nong 1	2
		green					3
33.	**(*)**	**QN MG/MS**	**(+)**				
		Time of beginning of leaf color change					
		early				Xin Yu	1
		medium				Shan Nong Guo 1	2
		late				Nan Lin Guo 5	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
34.	**(*)**	**QN** **MG/VG**	**(+)**				
		Time of beginning of seed maturity					
		early				Xin Yu	1
		medium				Shan Nong Guo 1	2
		late				Nan Lin Guo 5	3

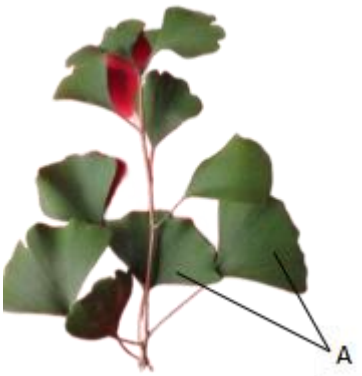
8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

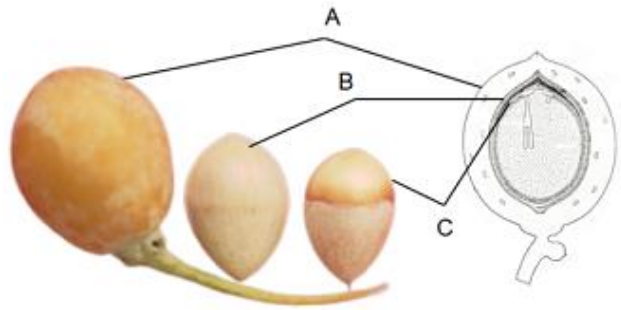
(a) Observations should be made on the whole mature plant in dormant period.

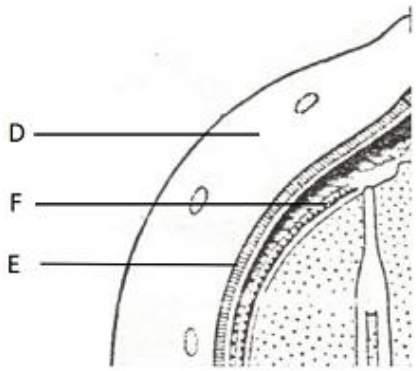
(b) Observations should be made on the 3rd or 4th fully developed leaf from the base of the current year branches in summer.



A: 3rd ~ 4th leaves from the base of the current year branches.

(c) Observations should made on the fully developed seeds in autumn.





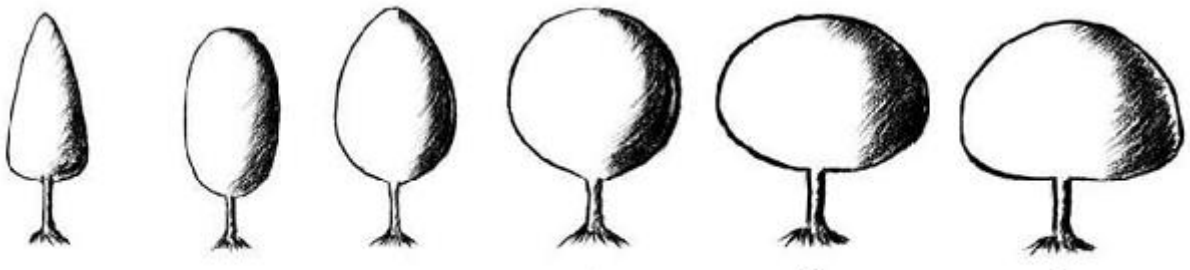
A: Seed
B: Nut
C: Kernel
D: Sarcotesta/ Outer seed coat
E: Sclerotesta/ Stony seed coat
F: Endotesta/ Inner seed coat

8.2 Explanations for individual characteristics

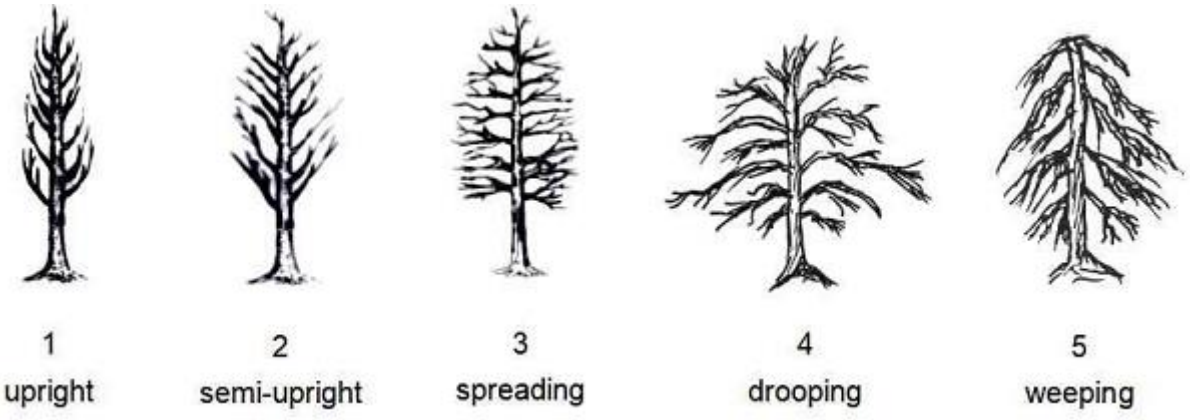
Ad. 1: Plant: dwarf

Mature tree, which is less than 6m in height, is regarded as dwarf form.

Ad. 3: Plant: shape

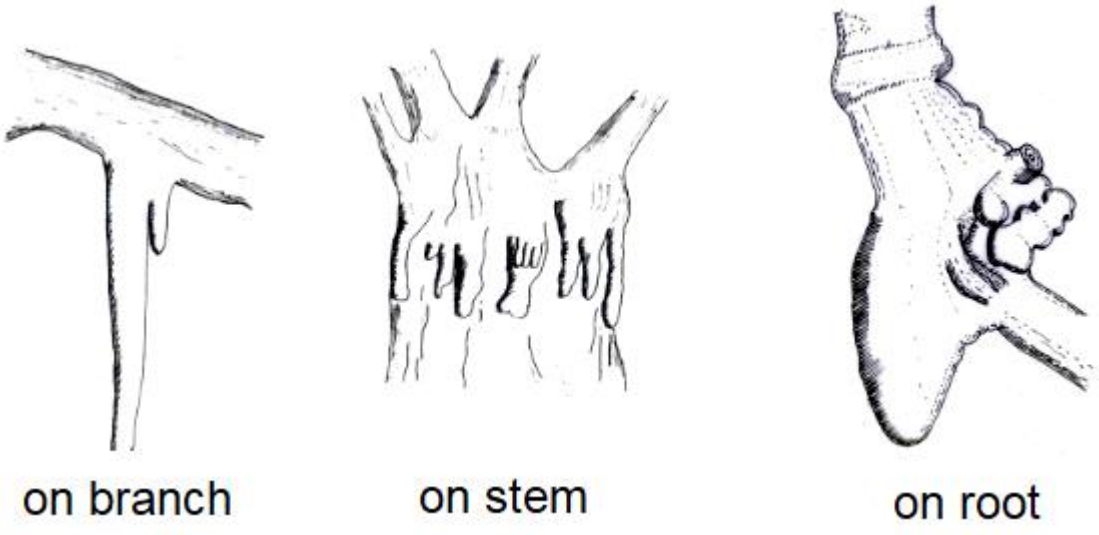


Ad. 4: Plant: growth habit



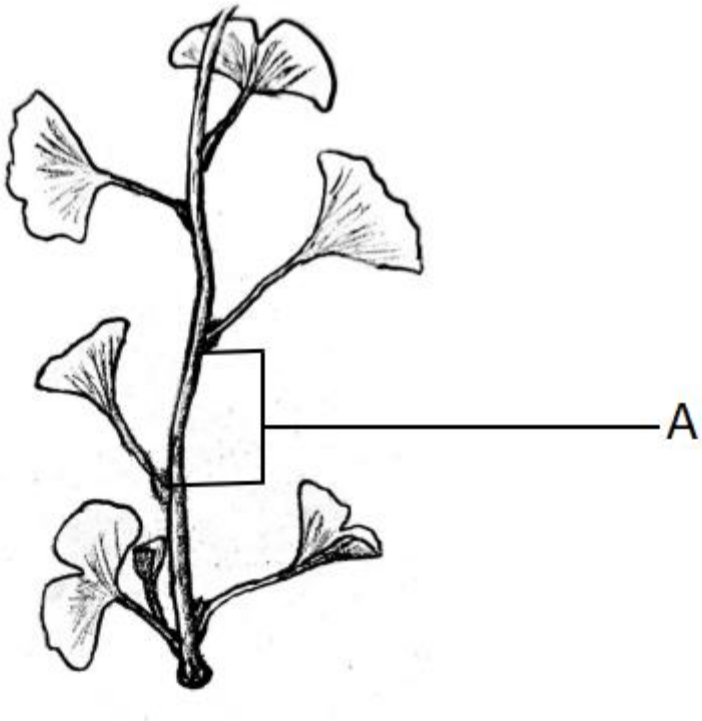
Ad. 5: Plant: chichi

Observations should be made on the mature trees.



Ad. 6: Branch: length of internode

Observations should be made on the one-year-old long branches when they cease growth in autumn.



A: Internode

Ad. 7: Leaf: attitude

1
upwards

2
downwards

Ad. 8: Leaf: shape

1
only fan-shaped

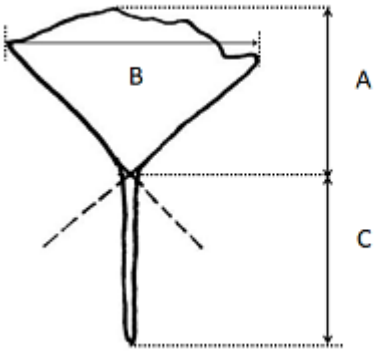
2
only funnel-shaped

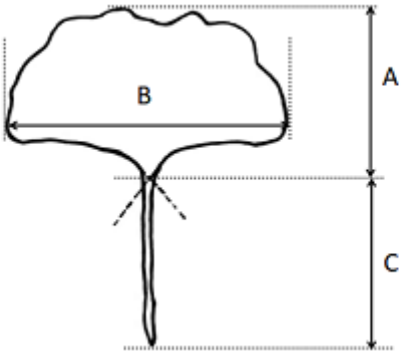
3
fan-shaped and terete

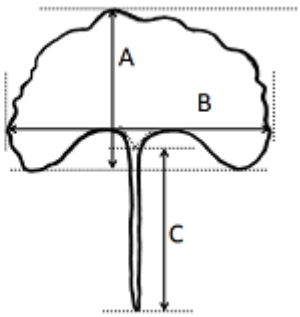
4
fan-shaped and acicular

Ad. 9: Only varieties with (containing) fan-shaped leaves: Leaf blade: length

Observations should made on the fan-shaped leaves.







A= Leaf blade: length
B= Leaf blade: width
C= Petiole: length

Ad. 10: Only varieties with (containing) fan-shaped leaves: Leaf blade: width

See Ad. 10

Ad. 12: Young leaf: color

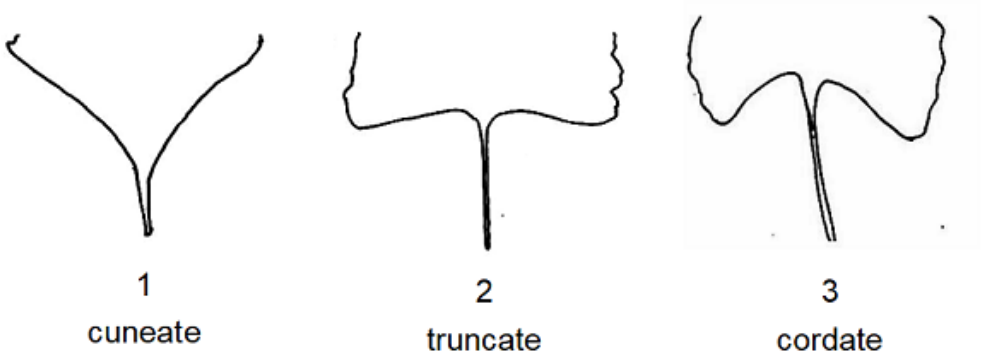
Observations should be made on young leaves in spring.

Ad. 13: Leaf: main color

The main color is the color with the largest surface area. The secondary color is the color with the second largest surface area. In cases where the areas of the main and secondary color are too similar to reliably decide which color has the largest area, the darkest color is considered to be the main color.

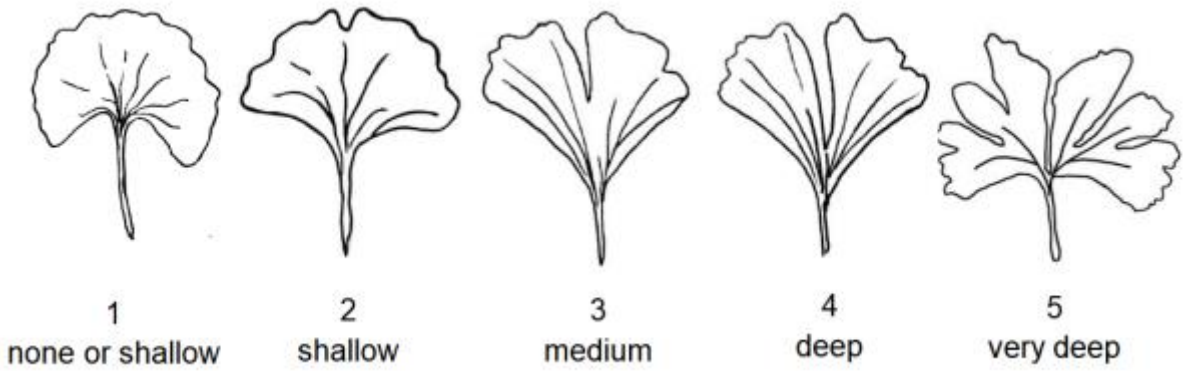
Ad. 14: Only varieties with: Leaf: variegation: present: Leaf: secondary color

Ad. 15: Only varieties with (containing) fan-shaped leaves: Leaf: shape of leaf base

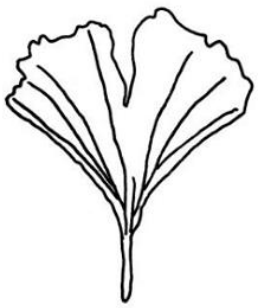


Ad. 17: Only varieties with (containing) fan-shaped leaves: Leaf blade: depth of incision

Observations should be made on the deepest incision.



Ad. 18: Only varieties with (containing) fan-shaped leaves: Leaf blade: number of incisions



1
one

2
five

Ad. 19: Seed: position

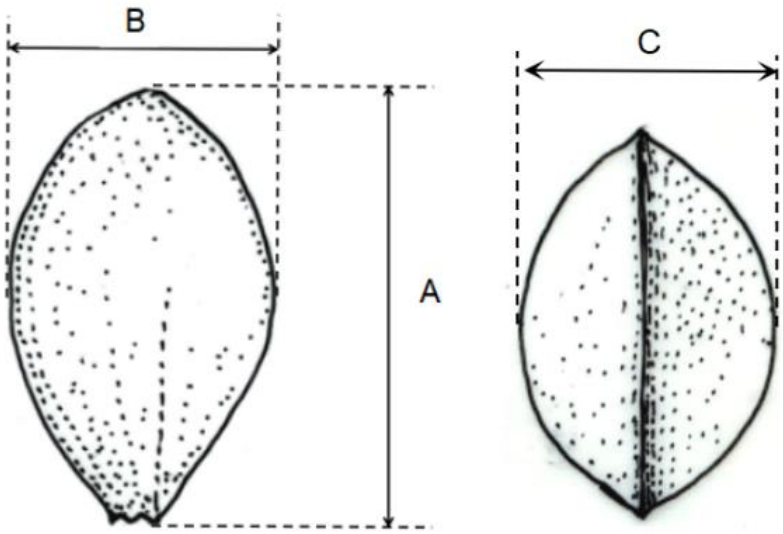
1
only short branch

2
short branch and leaf

Ad. 21: Seed: bloom on sarcotesta

The bloom is the waxy layer that can be removed by rubbing.

Ad. 22: Nut: length



A=Nut: length
B=Nut: width in lateral view through the ridge
C=Nut: width in lateral view facing the ridge

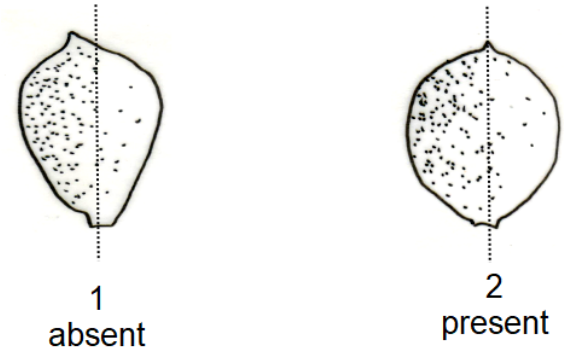
Ad. 23: Nut: width in lateral view through the ridge

See Ad. 24

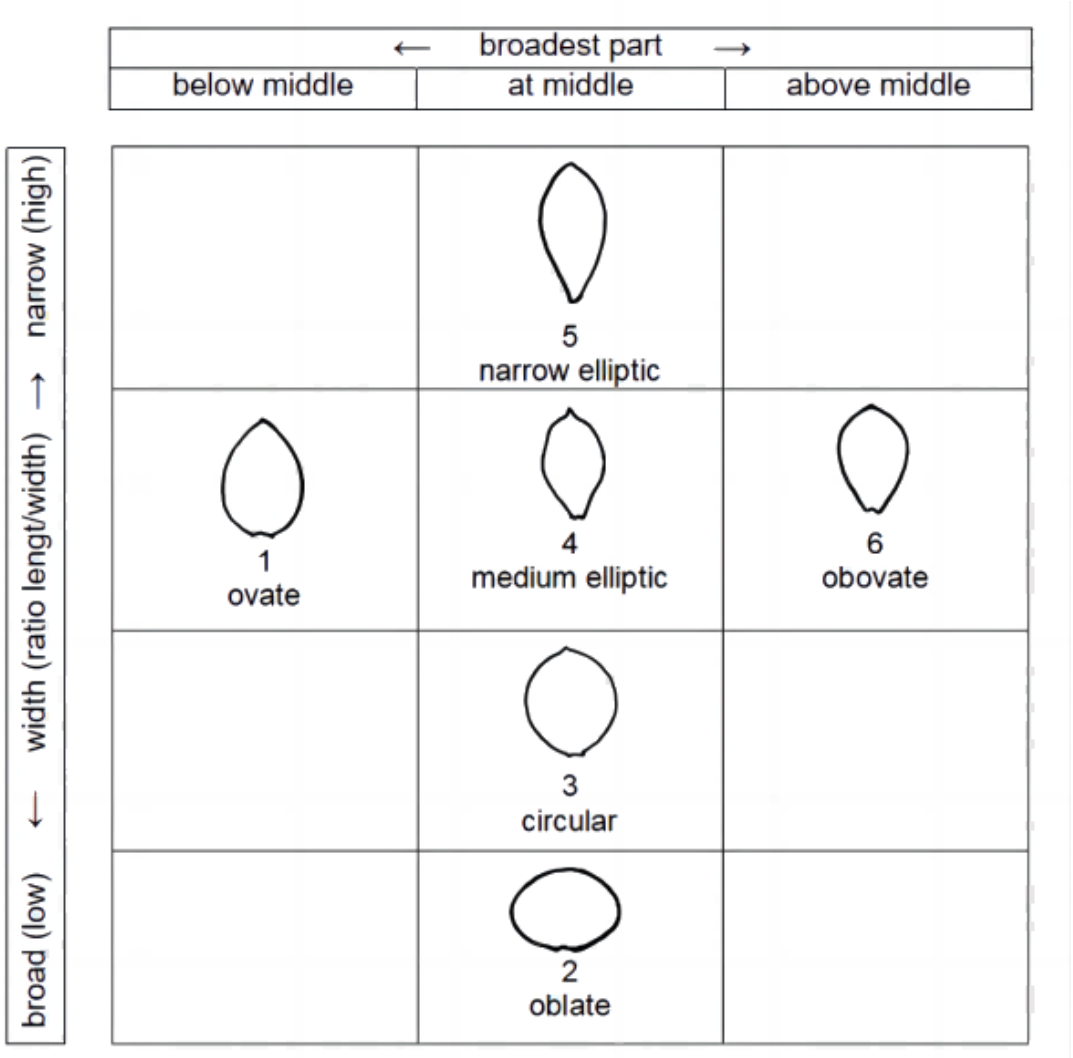
Ad. 24: Nut: width in lateral view facing the ridge

See Ad. 24

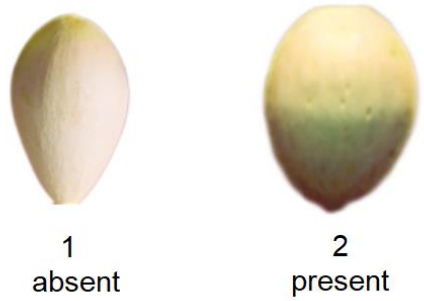
Ad. 25: Nut: symmetry



Ad. 26: Only varieties with: Nut: symmetry: present: Nut: shape in lateral view through the ridge (excluding the ridge)



Ad. 27: Nut: pitting on sclerotesta



1 absent

2 present

Ad. 28: Nut: shape of apex

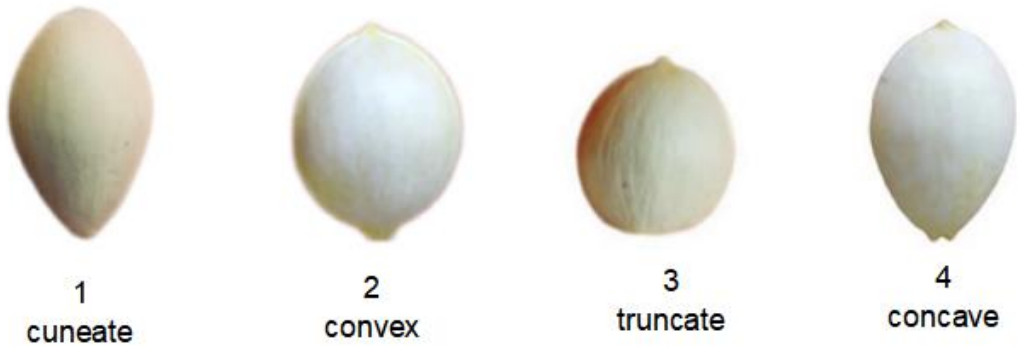
1 obtuse

2 rounded

3 truncate

4 retuse

Ad. 29: Nut: shape of base



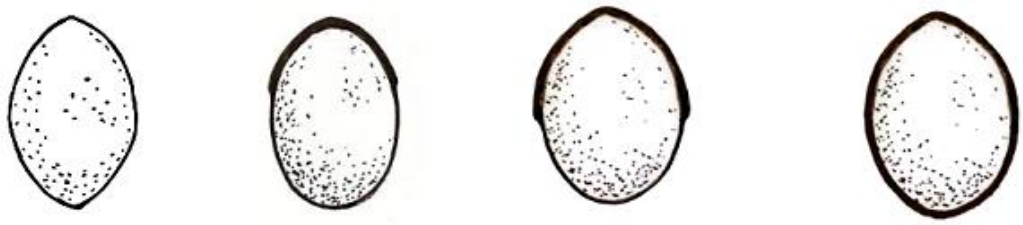
1 cuneate

2 convex

3 truncate

4 concave

Ad. 30: Nut: position of ridge



1 absent

2 upper

3 up to middle

4 whole

Ad. 31: Nut: width of ridge

1
absent or narrow

2
medium

3
broad

Ad. 32: Kernel: color

Observations should be made on the half-cut kernels.

Ad. 33: Time of beginning of leaf color change

The time of beginning of leaf color change is determined when 30% of leaves have changed color in autumn.

Ad. 34: Time of beginning of seed maturity

The time of beginning of seed mature is determined when 30% of sarcotesta have changed color.

9. Literature

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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	*Ginkgo biloba* L.
1.2	Common name	Ginkgo, Maidenhair

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:

#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 variety)

(……..……..…) x (……..……..…)

female parent male parent

(b) partially known cross [ ]

(please state known parent variety(ies))

(……..……..…) x (……..……..…)

female parent male parent

(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

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

4.1.4 Other [ ]
(Please provide details)

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

4.2 Method of propagating the variety

4.2.1 Other [ ]

(Please provide details)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

	Characteristics	Example Varieties	Note
5.1 (1)	**Plant: dwarf**		
	absent	Princeton Sentry	1 [ ]
	present	Ming Princess	9 [ ]
5.2 (4)	**Plant: growth habit**		
	upright	Fastigiata	1 [ ]
	semi-upright	Piedmont Pillar	2 [ ]
	spreading	Horizontalis	3 [ ]
	drooping	Mayfield	4 [ ]
	weeping	Pendula	5 [ ]
5.3 (5)	**Plant: chichi**		
	absent	Fastigiata	1 [ ]
	present	Tit	9 [ ]
5.4 (7)	**Leaf: attitude**		
	upwards	Fastigiata	1 [ ]
	downwards	Chui Ye, Saratoga	2 [ ]
5.5 (8)	**Leaf: shape**		
	only fan-shaped	Fastigiata	1 [ ]
	only funnel-shaped	Tubifolia	2 [ ]
	fan-shaped and terete	Santa Cruz	3 [ ]
	fan-shaped and acicular	Song Zhen	4 [ ]
5.6 (11)	**Leaf: variegation**		
	absent	Blagon	1 [ ]
	present	Santa Cruz	9 [ ]

	Characteristics	Example Varieties	Note
5.7 (12)	**Young leaf: color**		
	light yellow	Californian Sunset	1 [ ]
	medium yellow	Wan Nian Jin	2 [ ]
	yellow green		3 [ ]
	green	Fastigiata	4 [ ]
5.8 (13)	**Leaf: main color**		
	yellow	Wan Nian Jin	1 [ ]
	yellow green	Saratoga	2 [ ]
	green	Fastigiata	3 [ ]
5.9 (15)	**Only varieties with (containing) fan-shaped leaves: Leaf: shape of leaf base**		
	cuneate	Shannong Yin 2	1 [ ]
	truncate	Piedmont Pillar	2 [ ]
	cordate	Horizontalis	3 [ ]
5.10 (16)	**Only varieties with (containing) fan-shaped leaves: Leaf: margin**		
	repand		1 [ ]
	serrate		2 [ ]
	incision		3 [ ]
5.11 (17)	**Only varieties with (containing) fan-shaped leaves: Leaf blade: depth of incision**		
	none or very shallow	Autumn Gold	1 [ ]
	shallow	Princeton Sentry	2 [ ]
	medium	Princeton Gold	3 [ ]
	deep	Fairmount	4 [ ]
	very deep	Wen Bi	5 [ ]
5.12 (18)	**Only varieties with (containing) fan-shaped leaves: Leaf blade: number of incisions**		
	one	Jade Butterflies	1 [ ]
	five	Wen Bi	2 [ ]

	Characteristics	Example Varieties	Note
5.13 (19)	**Seed: position**		
	only short branch	Shan Nong Guo 1	1 [ ]
	short branch and leaf	Epiphylla	2 [ ]
5.14 (20)	**Seed: color of sarcotesta**		
	yellow	Tan-107	1 [ ]
	yellow green	Yu Xiang	2 [ ]
	orange	Qi Xing Guo	3 [ ]
	black	Qi Xing Hai He	4 [ ]
5.15 (26)	**Only varieties with: Nut: symmetry: present: Nut: shape in lateral view through the ridge (excluding the ridge)**		
	ovate	Jin Bing Wei	1 [ ]
	oblate		2 [ ]
	circular	Shan Nong Guo 1	3 [ ]
	medium elliptic	Hai Yang Huang	4 [ ]
	narrow elliptic	Jia Fo Zhi	5 [ ]
	obovate	Shannong Guo 2	6 [ ]
5.16 (29)	**Nut: shape of base**		
	cuneate		1 [ ]
	convex		2 [ ]
	truncate		3 [ ]
	concave		4 [ ]
5.17 (32)	**Kernel: color**		
	yellow white	Gui-048	1 [ ]
	yellow green	Shen Nong 1	2 [ ]
	green		3 [ ]
5.18 (33)	**Time of beginning of leaf color change**		
	early	Xin Yu	1 [ ]
	medium	Shan Nong Guo 1	2 [ ]
	late	Nan Lin Guo 5	3 [ ]
5.19 (34)	**Time of beginning of seed maturity**		
	early	Xin Yu	1 [ ]
	medium	Shan Nong Guo 1	2 [ ]
	late	Nan Lin Guo 5	3 [ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

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
Example	*Leaf: variegation*	*absent*	*present*

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

[#]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

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:

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.

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]