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TG/LYCIUM_BAR(proj.2)
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DATE: 2022-05-13

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

GOJI

UPOV Code(s): LYCIU_BAR; LYCIU_CHI; LYCIU_CYL; LYCIU_DAS; LYCIU_RUT; LYCIU_TRU; LYCIU_YUN

Lycium barbarum L.;
Lycium chinense Mill.;
Lycium cylindricum Kuang & A. M. Lu;
Lycium dasystemum Pojark.;
Lycium ruthenicum Murray;
Lycium truncatum Y. C. Wang;
Lycium yunnanense Kuang & A. M. Lu

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 Fruit Crops
at its fifty-third session, to be held virtually,
from 2022-07-11 to 2022-07-15

Disclaimer: this document does not represent UPOV policies or guidance

* 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.]

Alternative names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Lycium barbarum L., *Lycium halimifolium* Mill., *Lycium vulgare* Dunal	Barbary matrimony-vine, Chinese boxthorn, Chinese wolfberry, Duke of Argyll's teaplant, Duke of Argyll's teatree, Himalayan goji, Tibetan goji, goji-berry, Matrimony-vine		Bocksdorn	
Lycium chinense Mill.	Chinese Boxthorn, Chinese Matrimony-vine, Chinese Wolfberry, Duke of Argyle's Tea Tree, Wolfberry	Lyciet de Chine	Chinesischer Bocksdorn	
Lycium cylindricum Kuang & A. M. Lu				
Lycium dasystemum Pojark.				
Lycium ruthenicum Murray				
Lycium truncatum Y. C. Wang				
Lycium yunnanense Kuang & A. M. Lu				

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.

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Lycium barbarum* L., *Lycium chinense* Mill., *Lycium cylindricum* Kuang & A. M. Lu, *Lycium dasystemum* Pojark., *Lycium ruthenicum* Murray, *Lycium truncatum* Y. C. Wang and *Lycium yunnanense* Kuang & A. M. Lu.

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 rooted cuttings.

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

vegetatively propagated varieties: 5 rooted 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 two independent growing cycles.

3.1.2 The two independent growing cycles may be observed from a single planting, examined in two separate growing cycles.

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

3.1.4 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.

3.1.5 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.

4.2.3 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, 0 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) Leaf blade: shape (characteristic 12)
(b) Fruit: shape in lateral view (characteristic 22)
(c) Fruit: color (characteristic 23)

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)-(e) 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.	**(*)**	**PQ VG**	**(+)** **(a)**				
		Plant: growth habit					
		upright					1
		upright to spreading					2
		spreading					3
2.		**QN VG**	**(+)** **(a)**				
		Plant: number of basal shoots					
		few					1
		medium					3
		many					5
3.	**(*)**	**QN MG/VG**	**(+)**				
		Current-year shoot: length					
		short					1
		short to medium					2
		medium					3
		medium to long					4
		long				Ningqi 5 Hao, Ningqi 7 Hao	5
		long to very long					6
		very long					7
4.	**(*)**	**QN MG/VG**		**(b)**			
		Current-year shoot: length of internode					
		very short					1
		very short to short					2
		short				Ningnongqi 9 Hao	3
		short to medium					4
		medium					5
		medium to long					6
		long					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
5.	**(*)**	**QN VG**	**(+)** **(b)**				
		Current-year shoot: density of fruits					
		very sparse					1
		very sparse to sparse					2
		sparse					3
		sparse to medium					4
		medium					5
		medium to dense					6
		dense					7
6.	**(*)**	**QL VG**	**(b)**				
		Current-year shoot: presence of spines					
		absent					1
		present					9
7.		**QN MG/VG**	**(b)**				
		<u>Only for varieties with present spines</u>: Current-year shoot: length of spines					
		very short					1
		very short to short					2
		short				Ningqi 8 Hao	3
		short to medium					4
		medium				Ningqi 2 Hao, Ningqi 7 Hao	5
		medium to long					6
		long					7
		long to very long					8
		very long					9
8.		**PQ VG**	**(+)**				
		Bark: color					
		medium brown				Ningqi 5 Hao	1
		dark brown				Ningqi 1 Hao	2
		yellow brown				Ningqi 7 Hao	3
		grey brown				Ningnongqi 9 Hao	4

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
9.		**QN MG/VG**	**(+)**				
		One-year-old shoot: thickness					
		thin					1
		medium				Ningqi 1 Hao	2
		thick				Mengqi 1 Hao	3
10	**(*)**	**QN MG/VG**	**(+)**	**(c)**			
		Leaf blade: length					
		very short					1
		very short to short					2
		short					3
		short to medium				Ningqi 8 Hao	4
		medium					5
		medium to long					6
		long					7
		long to very long					8
		very long					9
11	**(*)**	**QN MG/VG**	**(+)**	**(c)**			
		Leaf blade: width					
		very narrow				Ningqi 5 Hao	1
		very narrow to narrow					2
		narrow				Ningqi 2 Hao	3
		narrow to medium					4
		medium					5
		medium to broad					6
		broad					7
12	**(*)**	**PQ VG**	**(+)**	**(c)**			
		Leaf blade: shape					
		linear					1
		lanceolate				Ningqi 7 Hao	2
		ovate					3

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13	**QN MG/VG**	**(c)**				
	Only for varieties with ovate leaf: Leaf blade: ratio length/width					
	very low					1
	very low to low					2
	low				Jingqi 4 Hao	3
	low to medium					4
	medium					5
	medium to high					6
	high					7
14	**PQ VG**	**(c)**				
	Leaf blade: color on upper side					
	light green				Mengqi 1 Hao	1
	medium green				Ningqi 1 Hao	2
	dark green				Ningqicai 1 Hao	3
	yellow green					4
15	**PQ VG**	**(+) (c)**				
	Leaf blade: shape of apex					
	narrow acute				Ningqi 5 Hao	1
	medium acute				Ningqi 1 Hao	2
	obtuse				Ningqi 7 Hao	3
	rounded					4
16	**QN MG/VG**	**(+) (d)**				
	Corolla: diameter					
	very small					1
	very small to small					2
	small				Ningnongqi 5 Hao	3
	small to medium					4
	medium				Jingqi 4 Hao	5
	medium to large					6
	large					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17		**QL VG**	**(d)**				
		Corolla: color of lobe					
		white				Baihua 2015	1
		purple				Ningqicai 1 Hao	2
18		**QN MG/VG**	**(+) (d)**				
		Corolla: length of tube					
		very short					1
		very short to short					2
		short				Ningqi 3 Hao, Ningqi 7 Hao	3
		short to medium				Ningqi 2 Hao, Ningqi 5 Hao	4
		medium					5
		medium to long					6
		long					7
19		**QL VG**	**(+) (e)**				
		Calyx: attachment					
		central					1
		lateral					2
20	**(*)**	**QN MG/VG**	**(+) (e)**				
		Fruit: length					
		very short					1
		short					2
		medium				Ningqi 5 Hao	3
		long					4
		very long					5
21	**(*)**	**QN MG/VG**	**(+) (e)**				
		Fruit: width					
		narrow					1
		narrow to medium				Ningqi 5 Hao, Ningqi 6 Hao, Ningqi 7 Hao	2
		medium					3
		medium to broad				Ningqicai 1 Hao	4
		broad					5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22	**(*)**	**PQ VG**	**(+) (e)**				
		Fruit: shape in lateral view					
		ovate					1
		oblate					2
		rhombic					3
		circular					4
		elliptic					5
23	**(*)**	**PQ VG**	**(e)**				
		Fruit: color					
		white					1
		yellow					2
		yellow orange					3
		orange					4
		orange red					5
		red					6
		medium purple					7
		dark purple					8
24		**QN VG**	**(+) (e)**				
		Fruit: length of stalk					
		very short					1
		very short to short					2
		short				Ningnongqi 5 Hao	3
		short to medium					4
		medium				Ningqi 1 Hao, Ningqi 6 Hao	5
		medium to long					6
		long					7
25		**PQ VG**	**(e)**				
		Fruit: color of stalk (including calyx)					
		only green					1
		only bluish green					2
		green & purple					3
		only blue					4

		English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
26	**(*)**	**QN**	**MG/VG**						
		Time of beginning of first fruit maturity							
		early							1
		medium							2
		late							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 dormant plants.

(b) Observations should be made on the middle third of a current-year's fruiting shoot, when the fruits have ripened in summer.

(c) Observations should be made on the fully developed leaves taken from the middle third of a current-year's fruiting shoot.

(d) Observations should be made on the fully ripened fruits taken from the middle third of a current-year's fruiting shoot

(e) Observations should be made on the fully ripened fruits taken from the middle third of a current-year's fruiting shoot.

8.2 Explanations for individual characteristics

Ad. 1: Plant: growth habit

1
upright

2
upright to spreading

3
spreading

Ad. 2: Plant: number of basal shoots

1
few

3
medium

5
many

Ad. 3: Current-year shoot: length

Observations should be made on the current-year fruiting shoot, when the fruits have ripened in summer.

Ad. 5: Current-year shoot: density of fruits

3
sparse

5
medium

7
dense

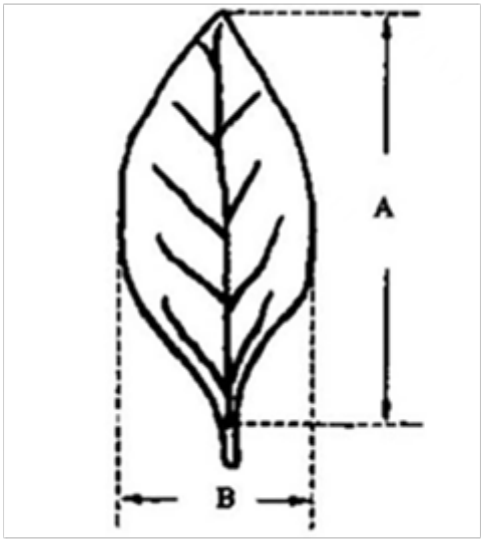
Ad. 8: Bark: color

Observations should be made on the middle third of three-year-old branch in dormant period.

Ad. 9: One-year-old shoot: thickness

Observations should be made on the middle third of one-year-old shoot in dormant period.

Ad. 10: Leaf blade: length

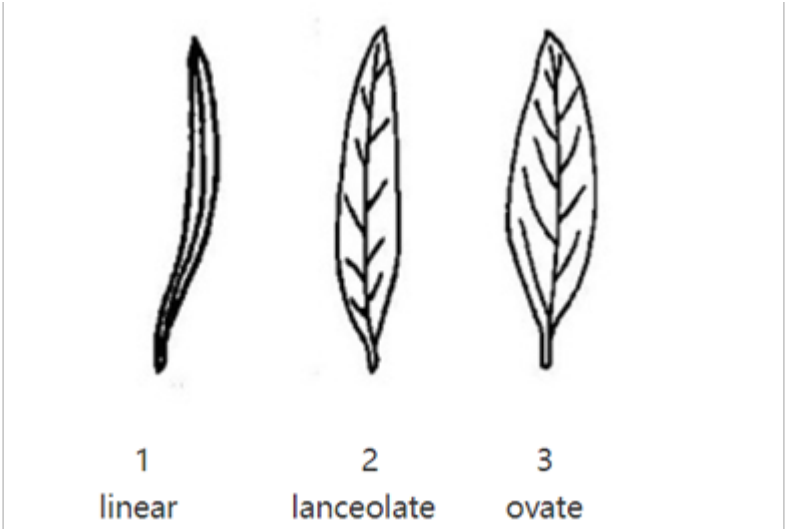


A= Plant: Length
B= Plant: width

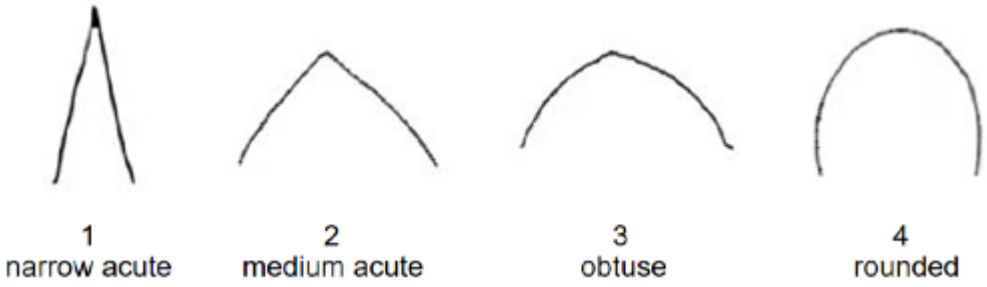
Ad. 11: Leaf blade: width

See Ad. 7.

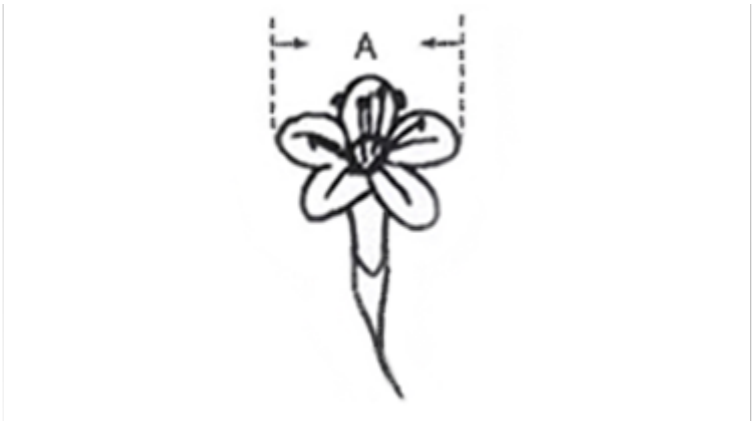
Ad. 12: Leaf blade: shape



Ad. 15: Leaf blade: shape of apex

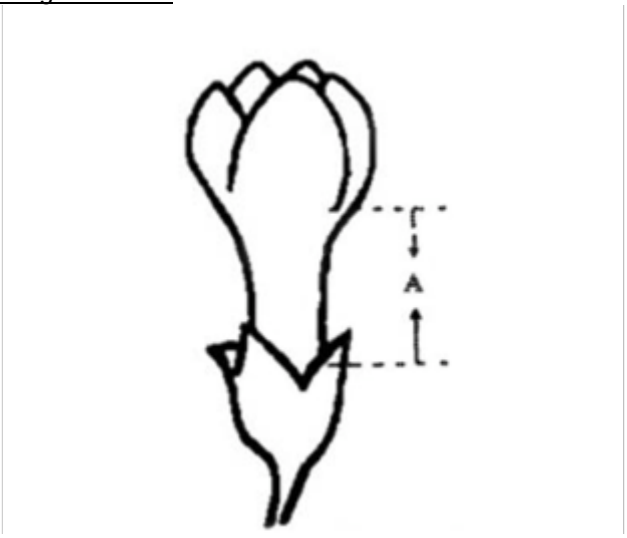


Ad. 16: Corolla: diameter



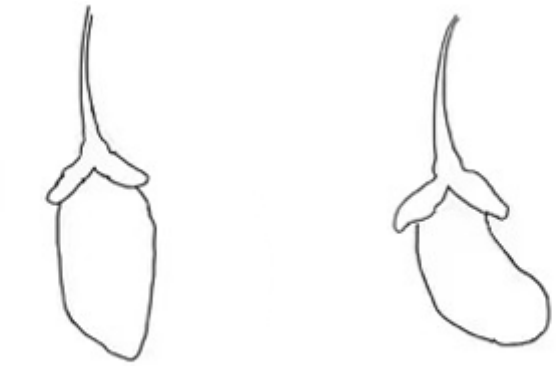
A=Corolla: diameter

Ad. 18: Corolla: length of tube



A= Corolla tube: length

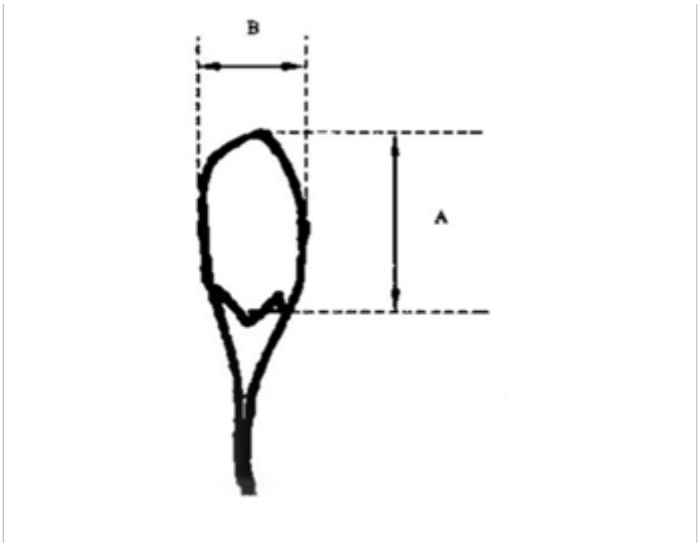
Ad. 19: Calyx: attachment



1
center

2
lateral

Ad. 20: Fruit: length

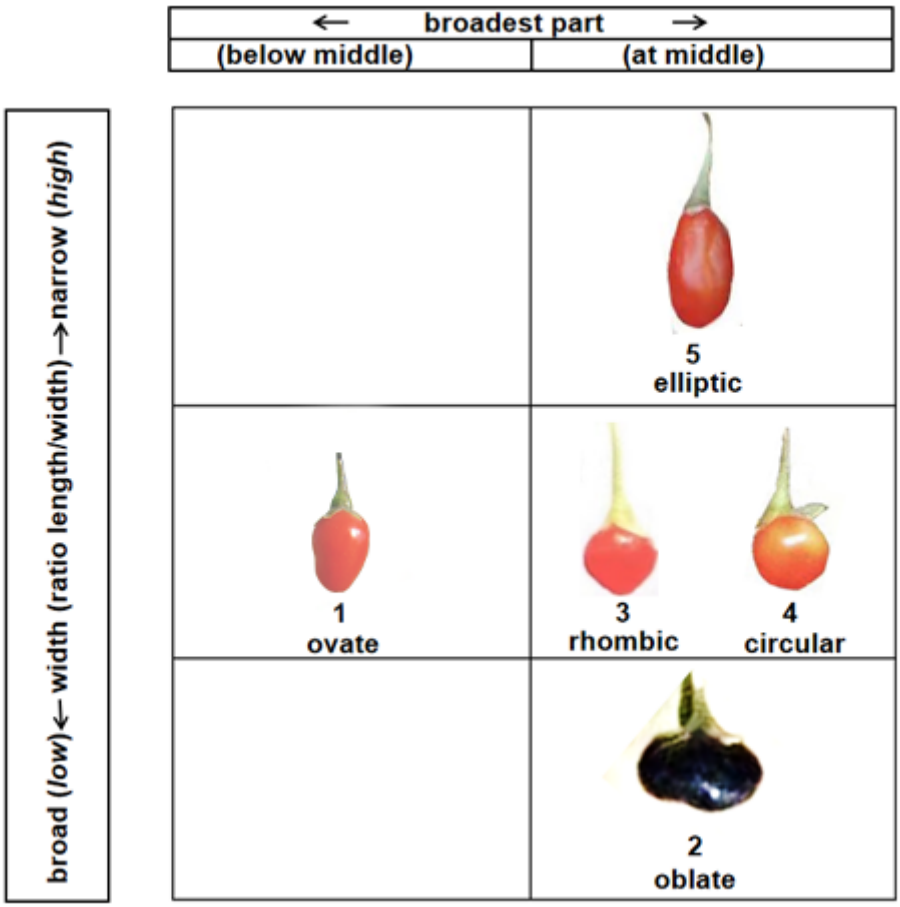


A= Fruit: length
B= Fruit: width

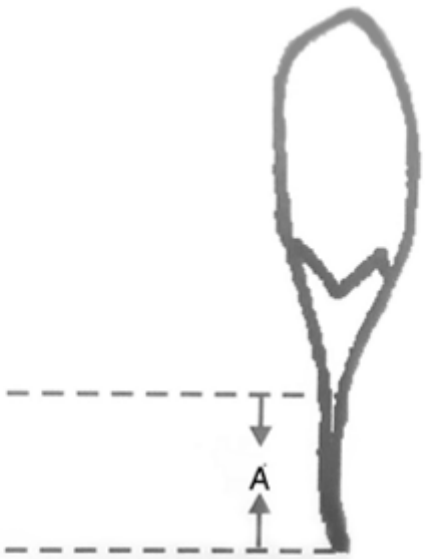
Ad. 21: Fruit: width

See Ad. 15.

Ad. 22: Fruit: shape in lateral view



Ad. 24: Fruit: length of stalk



A= Fruit stalk : length

9. Literature

Zhi-gang S., Hui-ying D., Huiqin M., 2012: Description specification and data standard of germplasm resources for *Lycium* L. China forestry publishing house. Beijing, 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

1.1.1	Botanical name	*Lycium barbarum* L.	[ ]
1.1.2	Common name	Barbary matrimony-vine, Chinese boxthorn, Chinese wolfberry, Duke of Argyll's teaplant, Duke of Argyll's teatree, Himalayan goji, Tibetan goji, goji-berry, Matrimony-vine	
1.2.1	Botanical name	*Lycium chinense* Mill.	[ ]
1.2.2	Common name	Chinese Boxthorn, Chinese Matrimony-vine, Chinese Wolfberry, Duke of Argyle's Tea Tree, Wolfberry	
1.3.1	Botanical name	*Lycium cylindricum* Kuang & A. M. Lu	[ ]
1.3.2	Common name		
1.4.1	Botanical name	*Lycium dasystemum* Pojark.	[ ]
1.4.2	Common name		
1.5.1	Botanical name	*Lycium ruthenicum* Murray	[ ]
1.5.2	Common name		
1.6.1	Botanical name	*Lycium truncatum* Y. C. Wang	[ ]
1.6.2	Common name		
1.7.1	Botanical name	*Lycium yunnanense* Kuang & A. M. Lu	[ ]
1.7.2	Common name		

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.

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4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) Cuttings [ ]
(b) Other (state method) [ ]

4.2.2 Other [ ]
(Please provide details)

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

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

	Characteristics	Example Varieties	Note
5.1 (1)	**Plant: growth habit**		
	upright		1 [ ]
	upright to spreading		2 [ ]
	spreading		3 [ ]
5.2 (3)	**Current-year shoot: length**		
	short		1 [ ]
	short to medium		2 [ ]
	medium		3 [ ]
	medium to long		4 [ ]
	long	Ningqi 5 Hao, Ningqi 7 Hao	5 [ ]
	long to very long		6 [ ]
	very long		7 [ ]
5.3 (4)	**Current-year shoot: length of internode**		
	very short		1 [ ]
	very short to short		2 [ ]
	short	Ningnongqi 9 Hao	3 [ ]
	short to medium		4 [ ]
	medium		5 [ ]
	medium to long		6 [ ]
	long		7 [ ]
5.4 (5)	**Current-year shoot: density of fruits**		
	very sparse		1 [ ]
	very sparse to sparse		2 [ ]
	sparse		3 [ ]
	sparse to medium		4 [ ]
	medium		5 [ ]
	medium to dense		6 [ ]
	dense		7 [ ]

	Characteristics	Example Varieties	Note
5.5 (6)	**Current-year shoot: presence of spines**		
	absent		1 [ ]
	present		9 [ ]
5.6 (10)	**Leaf blade: length**		
	very short		1 [ ]
	very short to short		2 [ ]
	short		3 [ ]
	short to medium	Ningqi 8 Hao	4 [ ]
	medium		5 [ ]
	medium to long		6 [ ]
	long		7 [ ]
	long to very long		8 [ ]
	very long		9 [ ]
5.7 (11)	**Leaf blade: width**		
	very narrow	Ningqi 5 Hao	1 [ ]
	very narrow to narrow		2 [ ]
	narrow	Ningqi 2 Hao	3 [ ]
	narrow to medium		4 [ ]
	medium		5 [ ]
	medium to broad		6 [ ]
	broad		7 [ ]
5.8 (12)	**Leaf blade: shape**		
	linear		1 [ ]
	lanceolate	Ningqi 7 Hao	2 [ ]
	ovate		3 [ ]
5.9 (20)	**Fruit: length**		
	very short		1 [ ]
	short		2 [ ]
	medium	Ningqi 5 Hao	3 [ ]
	long		4 [ ]
	very long		5 [ ]

	Characteristics	Example Varieties	Note
5.10 (21)	**Fruit: width**		
	narrow		1 [ ]
	narrow to medium	Ningqi 5 Hao, Ningqi 6 Hao, Ningqi 7 Hao	2 [ ]
	medium		3 [ ]
	medium to broad	Ningqicai 1 Hao	4 [ ]
	broad		5 [ ]
5.11 (22)	**Fruit: shape in lateral view**		
	ovate		1 [ ]
	oblate		2 [ ]
	rhombic		3 [ ]
	circular		4 [ ]
	elliptic		5 [ ]
5.12 (23)	**Fruit: color**		
	white		1 [ ]
	yellow		2 [ ]
	yellow orange		3 [ ]
	orange		4 [ ]
	orange red		5 [ ]
	red		6 [ ]
	medium purple		7 [ ]
	dark purple		8 [ ]
5.13 (26)	**Time of beginning of first fruit maturity**		
	early		1 [ ]
	medium		2 [ ]
	late		3 [ ]
5.14	**Fruit: color**		
	white		1 [ ]
	red		2 [ ]
	yellow		3 [ ]
	purple		4 [ ]

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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
Example	*current-year shoot: presence of spines*	*present*	*absent*

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

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)"

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (http://www.upov.int/tgp/en/).

[The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

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]