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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

HAWTHORN

UPOV-Code: CRATA_

Crataegus L.

*

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Mexico

to be considered by the
Technical Working Party for Fruit Crops at its thirty-fifth session,
to be held in Marquardt (Potsdam), Germany, from July 19 to 23, 2004

Alternative Names:*

Latin	*English*	*French*	*German*	*Spanish*
Crataegus L.	Hawthorn	Aubépine	Weißdorn	Espino, Espinero, Manzanilla, Marjoleto, Marzoleto, Tejocote

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 guidelines ("Test Guidelines") should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as 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 *Crataegus* 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 graft sticks.

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

8 graft sticks
which should be tested on rootstock 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

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

3.1.2 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.

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

3.3.1 Stage of Development for the Assessment

The optimum stage of development for the assessment of each characteristic is indicated by a number in the second column of the Table of Characteristics. The stages of development denoted by each number are described at the end of Chapter 8.

3.3.2 Type of Observation – Visual or Measurement

The recommended method of observing the characteristic is indicated by the following key in the second column of the Table 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.

3.3.3 Type of Plot for Observation

The recommended type of plot in which to observe the characteristic is indicated by the following key in the second column of the Table of Characteristics:

A: spaced plants
B: special test.

3.3.4 Observation of Color by Eye

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 five 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 five plants or parts taken from each of five plants. In the case of parts of plants, the number to be taken from each of the plants should be two.

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) Vegetative shoot: presence of spines (characteristic 11);

(b) Leaf: length of petiole (characteristic 22);

(c) Flower: color of anthers (characteristic 35).

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 Section 6.1.2

QL Qualitative characteristic – see Section 6.3
QN Quantitative characteristic – see Section 6.3
PQ Pseudo-Qualitative characteristic – see Section 6.3

(a)–(g) See Explanations on the Table of Characteristics in Chapter 8, Section 8.1.

(+) See Explanations on the Table of Characteristics in Chapter 8, Section 8.2.

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(+)**	**VG A**	**Tree: shape**					
PQ	**(a)**	oblong					1
		spheroid					2
		semi spheroid					3
		ellipsoid					4
		semi ellipsoid					5
		ovoid					6
		obovate					7
2.	**MG A**	**Tree: height**					
QN	**(a)**	short					3
		medium					5
		tall					7
3.	**MG A**	**Tree: canopy area**					
QN	**(a)**	short					3
		medium					5
		tall					7
4. **(+)**	**VG A**	**tree: presence of central leader stem**					
QL	**(b)**	absent					1
		present					9
5.	**VG A**	**Tree: density of foliage**					
QL	**(a)**	scarce					3
		medium					5
		abundant					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. **(*)**	**VG** **A**	**Stem: surface**					
QL	**(b)**	smooth					1
		wrinkled					2
7. **(*)** **(+)**	**VG** **A**	**Stem: twisting**					
QL	**(b)**	absent					1
		present					9
8.	**MG** **A**	**Stem: diameter**					
PQ	**(b)**	small					3
		medium					5
		large					7
9. **(*)** **(+)**	**VG** **A**	**Branch: type of growth**					
QN	**(b)**	fastigiate					1
		upright					2
		spreading					3
		drooping					4
10.	**MG** **A**	**Branch: attitude**					
QN	**(b)**	semi erect					3
		horizontal					5
		semi drooping					7
11. **(*)**	**VG** **A**	**Vegetative shoot: presence of spines**					
QL	**(c)**	absent					1
		present					9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12.	**MG A**	**Vegetative shoot: number of spines**					
QN	**(c)**	few					3
		medium					5
		many					7
13.	**MG A**	**Vegetative shoot: length of spines**					
QN	**(c)**	short					3
		medium					5
		long					7
14.	**MG A**	**Vegetative shoot: length**					
QN	**(c)**	short					3
		medium					5
		long					7
15.	**MG A**	**Vegetative shoot: number of leaves**					
QN	**(c)**	few					3
		medium					5
		many					7
16.	**MG A**	**Leaf: blade area**					
QN	**(d)**	small					3
		medium					5
		large					7
17. (*)	**MG A**	**Leaf: length of blade**					
QN	**(d)**	short					3
		medium					5
		long					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18.	**MG A**	**Leaf: width of blade**					
QN	**(d)**	narrow					3
		medium					5
		broad					7
19. (*)	**MG A**	**Leaf : length/width ratio of blade**					
QN	**(d)**	small					3
		medium					5
		large					7
20.	**VG A**	**Leaf: color**					
PQ	**(d)**	light green					1
		medium green					2
		dark green					3
		green reddish					4
21.	**MG A**	**Leaf: attitude of petiole**					
QN	**(d)**	semi erect					3
		horizontal					5
		semi drooping					7
22. (*)	**MG A**	**Leaf: length of petiole**					
QN	**(d)**	short					3
		medium					5
		long					7
23.	**VG A**	**Leaf: pubescence**					
QL	**(d)**	absent					1
	(e)	present					9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.	**VG** **A**	**Leaf: surface texture**					
QL	**(d)**	smooth					1
		wrinkled					2
25.	**VG** **A**	**Leaf: view of cross section of blade**					
QL	**(d)**	plain					1
		curved					2
		twisting					3
26. **(+)**	**VG** **A**	**Leaf: incisions of blade margin**					
QL	**(d)**	absent					1
		crenate					2
		double crenate					3
		serrate					4
		double serrate					5
27. **(*)** **(+)**	**VG** **A**	**Leaf: presence of lobes**					
QL	**(d)**	absent					1
		present					9
28. **(+)**	**MG** **A**	**Flower: length**					
QN	**(f)**	short					3
		medium					5
		long					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
29. **(+)**	**MG A**	**Flower: diameter**					
QN	**(f)**	narrow					3
		medium					5
		broad					7
30.	**VG A**	**Flower: color of petals**					
PQ	**(f)**	white					1
		pink white					2
		pink					3
31. **(+)**	**VG A**	**Flower: attitude of petals**					
PQ	**(f)**	horizontal					1
		semi erect					2
		erect					3
32.	**VG A**	**Flower: arrangement of petals**					
QL	**(f)**	free					1
		touching					2
		overlapping					3
33.	**VG A**	**Flower: presence of incisions in sepals**					
QL	**(f)**	absent					1
		present					9
34.	**MG A**	**Flower: number of stamens**					
QN	**(f)**	few					3
		medium					5
		many					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
35.	**VG A**	**Flower: color of anthers**					
PQ	**(f)**	white					1
		light yellow					2
		green yellow					3
		light brown					4
		medium brown					5
		dark brown					6
		orange					7
		reddish					8
		purple					9
		grey					10
		black					11
36.	**VG A**	**Flower: shape of anther**					
QL	**(f)**	rounded					1
		elliptic					2
		narrow cordiform					3
		medium cordiform					4
37.	**VG A**	**Flower: position of stigmas relative to anthers**					
QL	**(f)**	below					1
		same level					2
		above					3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
38. **(+)**	**MG** **A**	**Flower: depth of flower calyx cavity**					
QN	**(f)**	shallow					3
		medium					5
		deep					7
39. **(*)** **(+)**	**MG** **A**	**Flower: diameter of calyx in middle part**					
QN	**(f)**	narrow					3
		medium					5
		broad					7
40. **(*)**	**MG** **A**	**Flower: length of pedicel**					
QN	**(f)**	short					3
		medium					5
		long					7
41.	**MG** **A**	**Flower: width of pedicel**					
QN	**(f)**	narrow					1
		medium					5
		broad					9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
42. (*)	**VG A**	**Fruit: color**					
PQ	**(g)**	yellow					1
		yellow with orange					2
		yellow with red					3
		light green					4
		green					5
		orange					6
		orange with red					7
		brown					8
		medium red					9
		dark red					10
		purple					11
		black					12

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
43. **(+)**	**VG** **A**	**Fruit: shape**					
PQ	**(g)**	globose					1
		subglobose					2
		globose conical					3
		transverse ellipsoid					4
		obloid					5
		high obloid					6
		truncate globose					7
		ellipsoid					8
		broad ellipsoid					9
		narrow obovoid					10
		medium obovoid					11
		broad obovoid					12
		truncate obovoid					13
		truncate broad obovoid					14
44. **(+)**	**VG** **A**	**Fruit: presence of neck**					
QL	**(g)**	absent					1
		present					9
45.	**MG** **A**	**Fruit: length**					
QN	**(g)**	short					1
		medium					5
		long					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
46.	**MG A**	**Fruit: width**					
QN	**(g)**	narrow					3
		medium					5
		broad					7
47. (*)	**MG A**	**Fruit: length/width ratio**					
QN	**(g)**	small					3
		medium					5
		large					7
48. (+)	**VG A**	**Fruit: asymmetry in transverse section**					
QL	**(g)**	absent					1
		present					2
49.	**VG A**	**Fruit: apex cavity**					
QL	**(g)**	closed					1
		open					2
50. (+)	**MG A**	**Fruit: depth of apex cavity**					
QN	**(g)**	shallow					3
		medium					5
		deep					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
51.	**VG A**	**Fruit: color of flesh**					
PQ	**(g)**	white					1
		yellow					2
		orange					3
		red					4
		green					5
52. (*)	**VG A**	**Fruit: brightness**					
QL	**(g)**	absent					1
		present					9
53.	**MG A**	**Fruit: density of lenticels**					
QN	**(g)**	scarce					3
		medium					5
		abundant					7
54.	**VG A**	**Fruit: texture of surface**					
QL	**(g)**	smooth					3
		medium					5
		rough					7
55.	**VG A**	**Fruit: aroma**					
QL	**(g)**	weak					1
		medium					2
		strong					3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
56.	**MG A**	**Endocarp: number**					
QN	**(g)**	few					1
		medium					2
		many					3
57.	**MG A**	**Endocarp: number of lobes**					
QN	**(g)**	few					1
		medium					2
		many					3
58. **(+)**	**MG A**	**Endocarp: length**					
QN	**(g)**	short					3
		medium					5
		long					7
59. **(+)**	**MG A**	**Endocarp: width**					
QL	**(g)**	narrow					3
		medium					5
		broad					7
60. **(*)**	**MG A**	**Endocarp: length/width ratio**					
QL	**(g)**	small					3
		medium					5
		large					7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
61.	**MG A**	**Time of flowering**					
QN		early					3
		medium					5
		late					7
62.	**MG A**	**Duration of flowering**					
QN		short					3
		medium					5
		long					7
63.	**MG A**	**Time of harvest**					
QN		early					3
		medium					5
		late					7

8. Explanations on the Table of Characteristics

8.1 Explanations covering several characteristics

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

(a) Tree: All observations should be made on foliated trees in spring.

(b) Tree, stem and branch: All observations should be made on bare trees in winter.

(c) Vegetative shoot: All observations on vegetative shoot should be made after the current season's growth has stopped.

(d) Leaf: All observations on the leaf should be made on mature leaves from branches on the outside of the tree which are neither bearing fruit nor showing signs of new flush. Leaves should be taken from the middle third of the current season's growth.

(e) Pubescence: All observations on pubescence should be made with the aid of a magnifying glass.

(f) Flower: All observations on the flower should be made during the first flower opening, at the start of anther dehiscence.

(g) Fruit and endocarp: All observations on the fruit and endocarp should be made on 10 typical fruits taken from a minimum sample of 20 fruits, at the time of maturity for harvest.

8.2 Explanations for individual characteristics

Ad. 1: Tree: shape

1
oblong

2
spheroid

3
semi spheroid

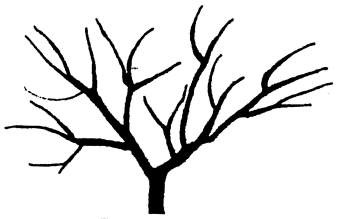
4
ellipsoid

5
semi ellipsoid

6
ovoid

7
obovate

Ad. 4: Plant: presence of central leader stem



1
absent

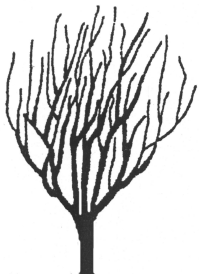
9
present

Ad. 7: Stem: twisting

1
absent

2
present

Ad. 9: Branch: type of growth



1
fastigiate

2
upright

3
spreading

4
drooping

Ad. 26: Leaf: incisions of blade margin

1
absent

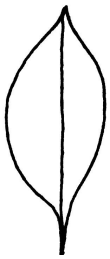
2
crenate

3
double crenate

4
serrate

5
double serrate

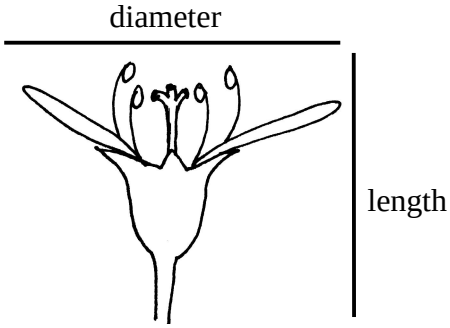
Ad. 27: Leaf: presence of lobes



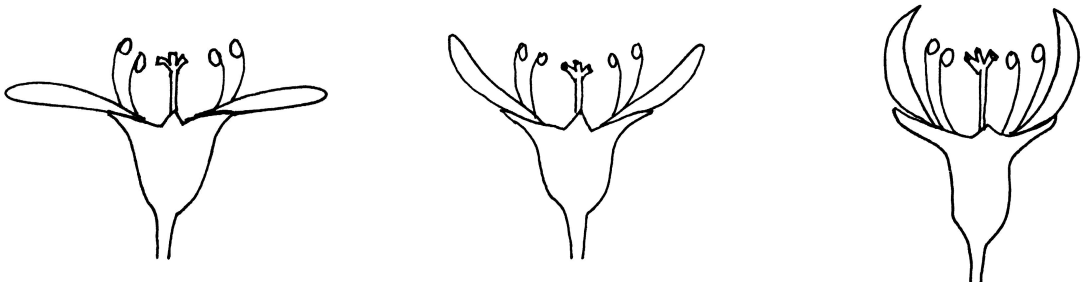
1
absent

2
present

Ad. 28: Flower: length
Ad. 29: Flower: diameter



Ad. 31: Flower: attitude of petals

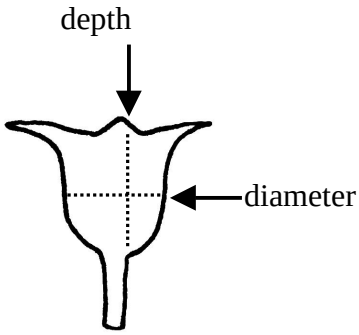


1
horizontal

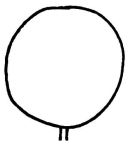
2
semi erect

3
erect

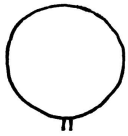
Ad. 38: Flower: depth of flower calyx cavity
Ad. 39: Flower: diameter of calyx in middle part



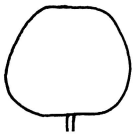
Ad. 43: Fruit: shape



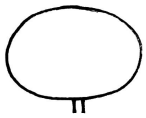
1
globose



2
subglobose

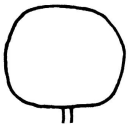


3
globose conical

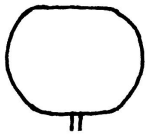


4
transverse ellipsoid

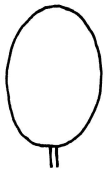
5
obloid



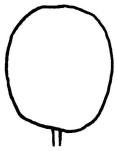
6
high obloid



7
truncate globose

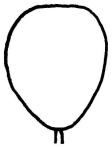


8
ellipsoid

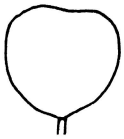


9
broad ellipsoid

10
narrow obovoid

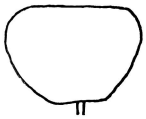


11
medium obovoid



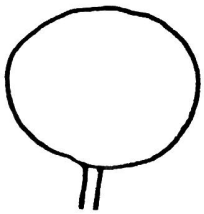
12
broad obovoid

13
truncate obovoid

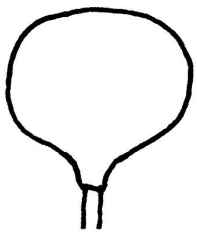


14
truncate broad obovoid

Ad. 44: Fruit: presence of neck



1
absent



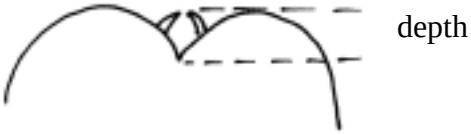
9
present

Ad. 48: Fruit: asymmetry in transverse section

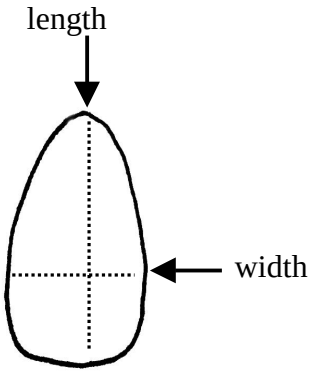
1
absent

2
present

Ad. 50: Fruit: depth of apex cavity



Ad. 58: Endocarp: length
Ad. 59: Endocarp: width



9. Literature

Borys, M.W., H. Leszcyñska-Borys, 1994: “Tejocote (*Crataegus* spp.) – planta para solares, macetas e interiores”. Revista Chapingo Serie Horticultura 1(2): 95-107.

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	*Crataegus* L.
1.2	Common name	HAWTHORN

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 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

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 (7)	**Stem: twisting**		
	absent		1[ ]
	present		9[ ]

[#] 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:

	Characteristics	Example Varieties	Note
5.2 (9)	**Branch: type of growth**		
	fastigiate		1[ ]
	upright		2[ ]
	spreading		3[ ]
	drooping		4[ ]
5.3 (11)	**Vegetative shoot: presence of spines**		
	absent		1[ ]
	present		9[ ]
5.4 (17)	**Leaf: length of blade**		
	short		3[ ]
	medium		5[ ]
	long		9[ ]
5.5 (39)	**Flower: diameter of calyx in middle part**		
	narrow		3[ ]
	medium		5[ ]
	broad		7[ ]

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

	Characteristics	Example Varieties	Note
5.6 (42)	**Fruit: color**		
	yellow		1[ ]
	yellow with orange		2[ ]
	yellow with red		3[ ]
	light green		4[ ]
	green		5[ ]
	orange		6[ ]
	orange with red		7[ ]
	brown		8[ ]
	medium red		9[ ]
	dark red		10[ ]
	purple		11[ ]
	black		12[ ]
5.7 (47)	**Fruit: length/width ratio**		
	small		3[ ]
	medium		5[ ]
	large		7[ ]

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	*Stem: twisting*	*e.g. note 1*	*note 9*
		e.g. absent	*present*

[#]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 Special conditions for the examination of the variety

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

Yes [ ] No [ ]

7.2.2 If yes, please give details:

7.3 Other information

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

[#] 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.

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 or pesticide) Yes [ ] No [ ]

(c) Tissue culture Yes [ ] No [ ]

(d) Other factors Yes [ ] No [ ]

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

……

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

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]