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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

PRUNUS-ROOTSTOCKS *

UPOV Code: PRUNU

(*Prunus* L.)

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from Germany

to be considered by the

Technical Working Party for Fruit Crops at its forty-third session,
to be held in Beijing, from July 30 to August 3, 2012

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Prunus L.	Prunus rootstocks			

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.

Other associated UPOV 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 These Test Guidelines apply to all varieties used as rootstocks of all species of *Prunus* L. If characteristics of the flower, the fruit or the seed are necessary to examine the varieties, the Test Guidelines for Almond TG/56, Apricot TG/70, Cherry TG/35, European Plum TG/41, Japanese Plum TG/84, Mume (Japanese Apricot) TG/160 or Peach, Nectarine TG/53 should be used for those characteristics, as appropriate.

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 plants on their own roots.

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

(a) 5 plants, for vegetatively propagated varieties, or
(b) 40 one-year-old seedlings for seed propagated varieties.

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

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

3. Method of Examination

3.1 Number of Growing Cycles

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

3.2 Testing Place

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

3.3 Conditions for Conducting the Examination

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.4 Test Design

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

3.5 Additional Tests

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.1.4 Number of Plants / Parts of Plants to be examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 5 plants or parts 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 second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

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

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

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

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

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

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

4.2 Uniformity

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

4.2.1 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-type is allowed. In case of a sample size of 40 plants, 2 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: vigor (characteristic 1)
(b) Leaf blade: length (characteristic 15)
(c) Leaf blade: shape (characteristic 18)
(d) Plant: flowers (characteristic 39)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS

and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 States of Expression and Corresponding Notes

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

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

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

6.3 Types of Expression

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

6.4 Example Varieties

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

6.5 Legend

(*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3
QN Quantitative characteristic – see Chapter 6.3
PQ Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

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

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

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

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(*)** **(+)**	**VG**	**Plant: vigor**					
QN	**(a)**	weak				Edabriz, Ferlenain	3
		medium				Brokforest, GM 61/1	5
		strong				Alkavo, F 12/1	7
2.	**VG**	**Plant habit**					
QN	**(a)**	upright				Colt	1
		spreading				Gisela 5	3
		drooping				*Prunus besseyi*	5
3.	**VG**	**Plant: branching**					
QN	**(a)**	weak				F 12/1, Ferciana	3
		medium				Pixy	5
		strong				Gisela 5	7
4.	**VG**	**One-year-old shoot: thickness**					
QN	**(a)**	thin				Edabriz, Gisela 5	3
		medium				Colt, Pixy	5
		thick				Brooks-60, F 12/1	7
5.	**VG/ MS**	**One-year-old shoot: length of internode (middle third of shoot)**					
QN	**(a)**	short				SL 64	1
		medium				Colt	3
		long				F 12/1	5
6.	**VG**	**One-year-old shoot: pubescence (upper third)**					
QL	**(a)**	absent				Pixy	1
		present				SL 64	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7.	**VG**	**One-year-old shoot: number of lenticels**					
QN	**(a)**	few				Colt, Fereley	3
		medium				Gisela 4, Pixy	5
		many				SL 64	7
8.	**VG**	**One-year-old shoot: anthocyanin coloration of apex**					
QN	**(a)**	absent or very weak				F 12/1	1
		weak				Fereley	2
		medium				Pixy	3
		strong				Hamyra	4
		very strong				Ferciana	5
9. **(+)**	**VG**	**One-year-old shoot: position of vegetative bud in relation to shoot**					
QN	**(a)**	adpressed				Hamyra	1
		slightly held out				Gisela 5	3
		markedly held out				F 12/1	5
10.	**VG**	**One-year-old shoot: size of vegetative bud**					
QN		small				SL 64	1
		medium				F 12/1	3
		large				Piku 1	5
11. **(*)** **(+)**	**VG**	**One-year-old shoot: shape of apex of vegetative bud**					
PQ	**(a)**	acute				Hamyra, Pixy	1
		obtuse				Gisela 5	2
		rounded				F 12/1	3
12. **(+)**	**VG**	**One-year-old shoot: size of vegetative bud support**					
QN	**(a)**	small				Hamyra	1
		medium				F 12/1	3
		large					5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
13. (*)	**VG**	**One-year-old shoot: branching (at the end of summer)**					
QN	**(a)**	weak				Felinem, Mayor	1
		medium				Adafuel	3
		strong				GF 677	5
14.	**VG**	**Young shoot: intensity of anthocyanin coloration of young leaf (during rapid growth)**					
QN		weak				Edabriz, Fereley, Hamyra	1
		medium				F 12/1	3
		strong				Colt	5
15. (*)	**VG/ MS**	**Leaf blade: length**					
QN	**(b)**	very short				Myrobalan B	1
		short				Edabriz, Weito T6	3
		medium				Piku 1	5
		long				F 12/1	7
		very long				GF 677	9
16.	**VG/ MS**	**Leaf blade: width**					
QN	**(b)**	very narrow				GF 677	1
		narrow				Myrobalan B	3
		medium				Fereley	5
		broad				Brooks-60, F 12/1	7
		very broad				Colt	9
17.	**VG/ MS**	**Leaf blade: ratio length/width**					
QN	**(b)**	very small				GM 61/1	1
		small				Gisela 5	3
		medium				F 12/1, Pixy	5
		large				Piku 3	7
		very large				GF 677	9

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
18. **(*)** **(+)**	**VG**	**Leaf blade: shape**					
PQ	**(b)**	narrow elliptic				GF 677	1
		elliptic				Colt, Fereley, Pixy	2
		circular				Adara, SL 64	3
		ovate				Edabriz, Gisela 5	4
		obovate					5
19. **(+)**	**VG**	**Leaf blade: angle at apex (excluding tip)**					
QN	**(b)**	acute				GF 677, Pixy	1
		right-angled				Edabriz	3
		obtuse				Colt, Fereley	5
20. **(*)** **(+)**	**VG**	**Leaf blade: length of tip**					
QN	**(b)**	short				Fereley	1
		medium				GM 61/1	3
		long				Colt, Ferlenain	5
21. **(*)** **(+)**	**VG**	**Leaf blade: shape of base**					
PQ	**(b)**	acute				Colt	1
		obtuse				F 12/1, Ferlenain	2
		truncate				SL 64	3
22.	**VG**	**Leaf blade: color of upper side**					
PQ	**(b)**	light green				Gisela 5, Pixy	1
		dark green				Colt	2
		red				Citation	3
		reddish brown				Rubira	4
23.	**VG**	**Leaf blade: glossiness of upper side**					
QN	**(b)**	weak				Hamyra	1
		medium				Fereley, Gisela 5	3
		strong				Colt	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24.	**VG**	**Leaf blade: pubescence of lower side at apex**					
QN	**(b)**	weak				Hamyra	1
		medium				Pixy	3
		strong				Weito T6	5
25. **(*)** **(+)**	**VG**	**Leaf blade: incisions of margin**					
QL	**(b)**	only crenate				Pixy	1
		both crenate and serrate				Adesoto, GF 1869	2
		only serrate				Gisela 5	3
26.	**VG**	**Leaf blade: depth of incisions of margin**					
QN	**(b)**	shallow				Edabriz	1
		medium				Piku 3	3
		deep				Colt	5
27. **(*)**	**VG/** **MS**	**Petiole: length**					
QN	**(b)**	short				Piku 3	1
		medium				Pixy	3
		long				GF 677	5
28. **QL**	**VG**	**Petiole: presence of pubescence of upper side**					
	(b)	absent				F 12/1	1
		present				Weito T6	9
29.	**VG**	**Petiole: intensity of pubescence of upper side**					
QN	**(b)**	weak				Colt	1
		medium				Hamyra	3
		strong				Weito T6	5
30. **(+)**	**VG**	**Petiole: depth of groove**					
QN	**(b)**	shallow				F 12/1	1
		medium				Gisela 5	3
		deep				Myrobalan B	5

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
31.	**VG/ MS**	**Leaf: ratio length of leaf blade/length of petiole**					
QN	**(b)**	small				Piku 1	3
		medium				Colt	5
		large				Fereley, GF 677	7
32.	**VG**	**Leaf: presence of stipules**					
QL	**(b)**	absent				Hamyra	1
		present				F 12/1, Weito T6	9
33.	**VG/ MS**	**Stipule: length**					
QN	**(b)**	short				Weito T6	1
		medium				Gisela 5, Pixy	3
		long				F 12/1	5
34. (*)	**VG**	**Leaf: presence of nectaries**					
QL	**(b)**	absent				Ferlenain, Hamyra	1
		present				GF 677, Pixy, St. Julien A	9
35. (*)	**VG**	**Varieties with nectaries only: Leaf: predominant number of nectaries**					
QL	**(b)**	one				Weiroot 158	1
		two				Gisela 5, Pixy	2
		more than two				Weito T6	3
36.	**VG**	**Leaf: position of nectaries**					
QN	**(b)**	predominantly on base of blade				Gisela 5	1
		equally distributed on base of blade and petiole				Colt	2
		predominantly on petiole				F 12/1	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37. (*)	**VG**	**Nectary: color**					
PQ	**(b)**	green				Pixy	1
		yellow				Weito T6	2
		red				Weiroot 158	3
		violet				Colt	4
38. (*)	**VG**	**Nectary: shape**					
QL	**(b)**	round				Gisela 5	1
		reniform				Colt	2
39. (*)	**VG**	**Plant: flowers**					
QL	**(c)**	absent				Brokforest	1
		present				Colt	9

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:

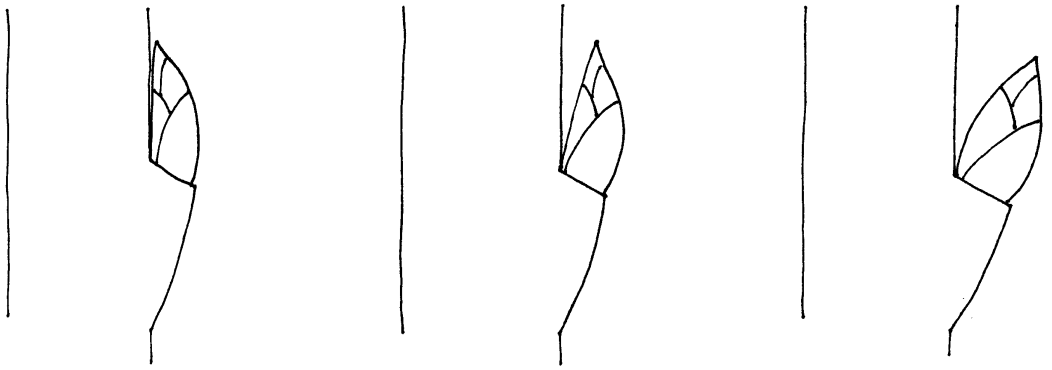
(a) All observations on the plant should be made in the dormant season.
(b) All observations on the leaf should be made at the stage of fully developed leaves on the upper third of typical one-year-old shoots.

8.2 Explanations for individual characteristics

Ad. 1: Plant: vigor

The vigor of the plant should be considered as the overall abundance of vegetative growth.

Ad. 9: One-year-old shoot: position of vegetative bud in relation to shoot

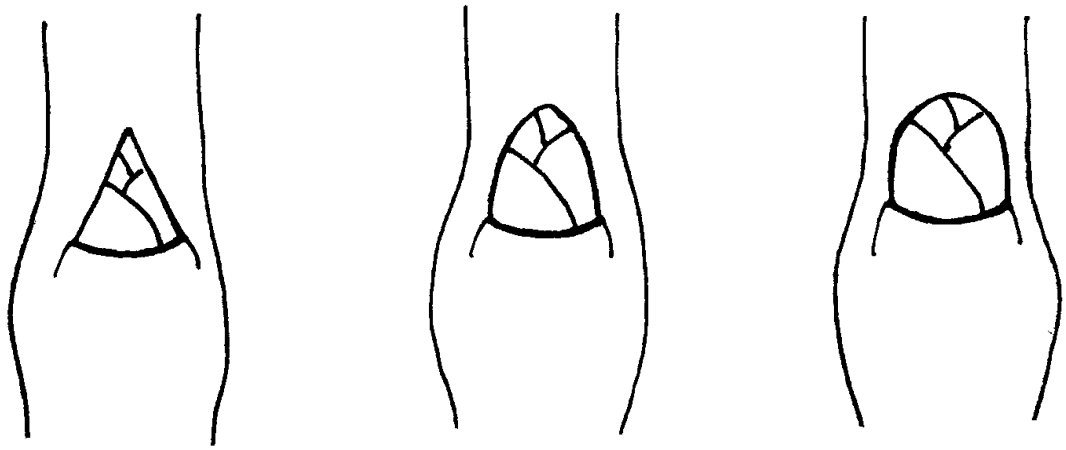


1
adpressed

3
slightly held out

5
markedly held out

Ad. 11: One-year-old shoot: shape of apex of vegetative bud

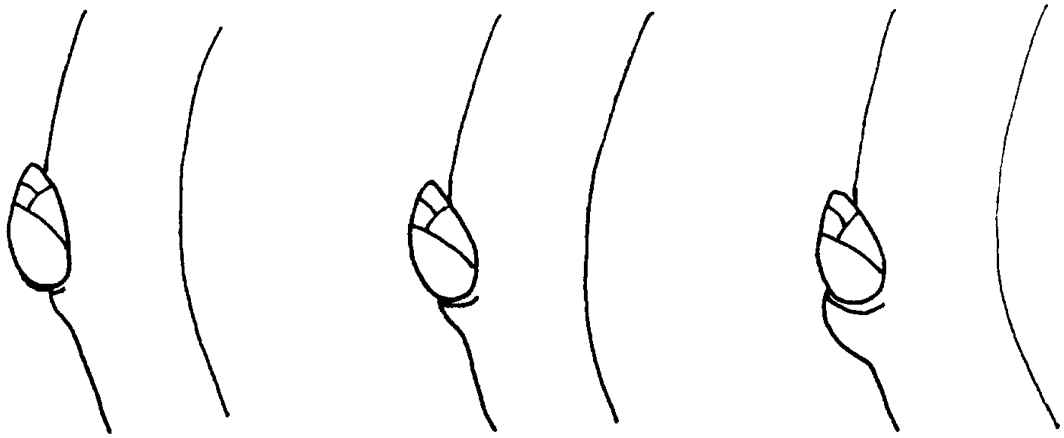


1
acute

2
obtuse

3
rounded

Ad. 12: One-year-old shoot: size of vegetative bud support

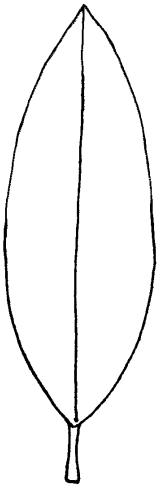


1
small

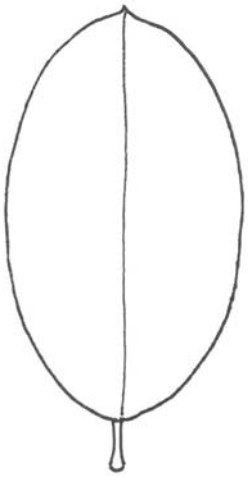
3
medium

5
large

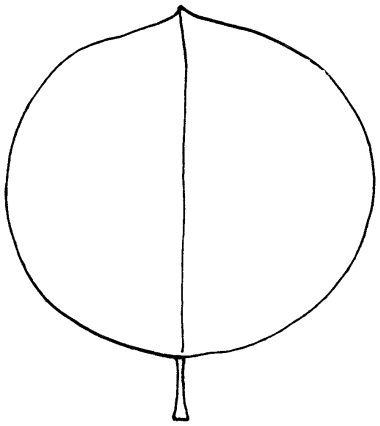
Ad. 18: Leaf blade: shape



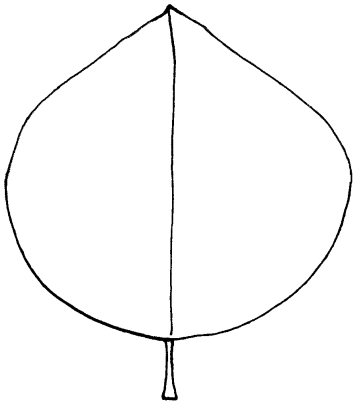
1
narrow elliptic



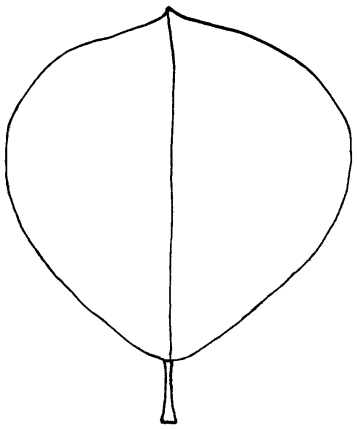
2
elliptic



3
circular

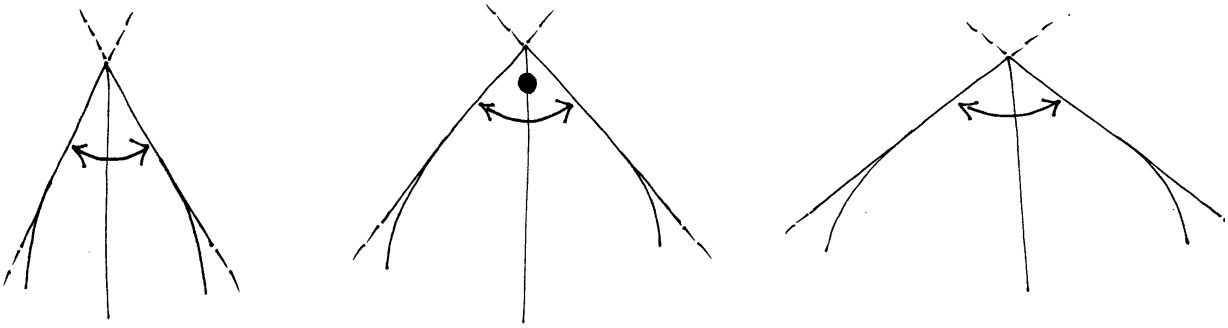


4
ovate



5
obovate

Ad. 19: Leaf blade: angle of apex (excluding tip)

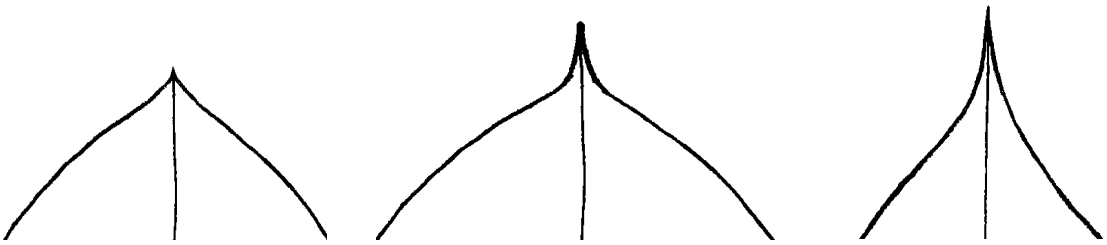


1
acute

3
right-angled

5
obtuse

Ad. 20: Leaf blade: length of tip

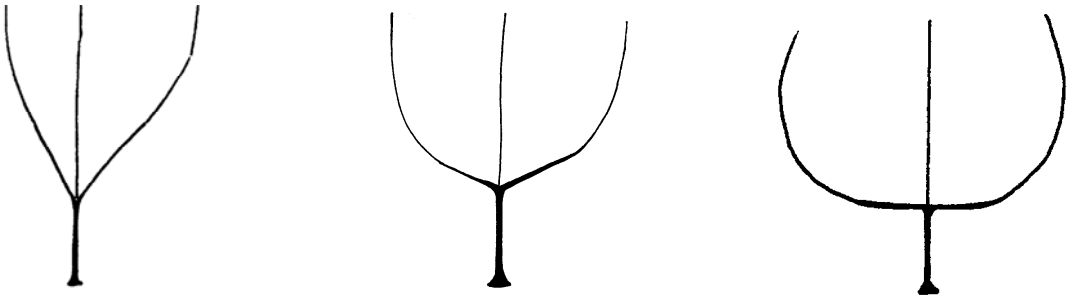


1
short

3
medium

5
long

Ad. 21: Leaf blade: shape of base



1
acute

2
obtuse

3
truncate

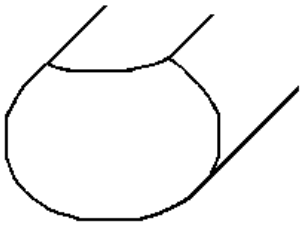
Ad. 25: Leaf blade: incisions of margin

1
only crenate

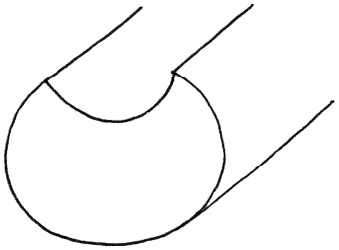
2
both crenate and serrate

3
only serrate

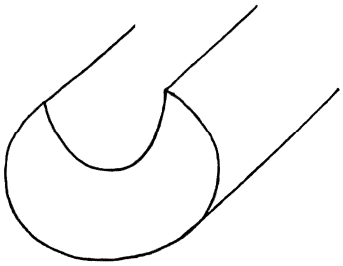
Ad. 30: Petiole: depth of groove



1
shallow



3
medium



5
deep

Explanations on the Example Varieties

Variety denomination	**Species**
Adafuel	*Prunus dulcis* (Mill.) D.A. Webb x *P. persica* (L.) Batsch.
Adara	*Prunus cerasifera* Ehrh., open pollinated
Adesoto	*Prunus domestica* L. *ssp. insititia* (L.) Schneid
Alkavo	(syn. **Al**tenweddinger **Ka**ukasische **Vo**gelkirsche) *Prunus avium* (L.) L.
Brokforest	(syn. M x M14) *Prunus mahaleb* L. x *Prunus avium* (L.) L.
Brooks-60	(syn. Broksec, M x M60) *Prunus mahaleb* L. x *Prunus avium* (L.) L.
Citation	*Prunus domestica* L. x *P. persica* (L.) Batsch.
Colt	*Prunus avium* (L.) L. x *P. pseudocerasus* Lindl.
Edabriz	*Prunus cerasus* L.
F 12/1	*Prunus avium* (L.) L.
Felinem	*Prunus persica* (L.) Batsch. x *P. dulcis* (Mill.) D.A. Webb
Ferciana	(*Prunus cerasifera* Ehrh. x *P. salicina* Lindl.) x (*P. domestica* L. x *P. persica* (L.) Batsch.)
Fereley	(*Prunus salicina* Lindl. x *P. cerasifera* Ehrh.) x *P. spinosa* L.
Ferlenain	*Prunus besseyi* L.H. Bailey x *P. cerasifera* Ehrh.
GF 677	*Prunus persica* (L.) Batsch. x *P. dulcis* (Mill.) D.A. Webb
GF 1869	*Prunus domestica* (L.) *x P. persica* (L.) *Batsch.*
Gisela 4	(syn. 473/10) *Prunus avium* (L.) L. x *P. fruticosa* Pall.
Gisela 5	(syn. 148/2) *Prunus cerasus* L. x *P. canescens* Bois
GM 61/1	*Prunus dawyckensis* Sealy
Hamyra	*Prunus cerasifera* Ehrh.
Mayor	*Prunus persica* (L.) Batsch. x *P. dulcis* (Mill.) D.A. Webb
Myrobalan B	*Prunus cerasifera* Ehrh.
Piku 1	(syn. Pi-Ku 4,20) *Prunus avium* (L.) L. x (*P. canescens* Bois x *P. tomentosa* Thunb. ex Murr.)
Piku 3	(syn. Pi-Ku 4,83) *Prunus. pseudocerasus* Lindl. x (*P. canescens* Bois x *P. incisa* Thunb. ex Murr.)
Pixy	*Prunus domestica* L. ssp. *insititia* (L.) Schneid.
Rubira	*Prunus persica* (L.) Batsch.
SL 64	(syn. 'Saint Lucie 64') *Prunus mahaleb* L.
St. Julien A	*Prunus domestica* L. ssp. *insititia* (L.) Schneid.
Weiroot 158	*Prunus cerasus* L.
Weito T6	*Prunus tomentosa* Thunb. ex Murr.

9. Literature

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Wertheim, S.J. (1998): Rootstock Guide. Publication no. 25, Fruit Research Station Wilhelminadorp, NL.

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	*Prunus* L.
1.2	Common name	Prunus rootstock

1.2.	Species	P. armeniaca L.	1 [ ]
		P. avium (L.) L.	2 [ ]
		P. cerasifera Ehrh.	3 [ ]
		P. cerasus L.	4 [ ]
		P. domestica L.	5 [ ]
		P. dulcis (Mill.) D.A. Webb (P. amygdalus Batsch)	6 [ ]
		P. mahaleb L.	7 [ ]
		P. persica (L.) Batsch	8 [ ]
		P. salicina Lindl.	9 [ ]
		other species (please specify)	10 [ ]
		interspecific hybrid (please specify)	11 [ ]

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)

(……..……..) x (……..……..)
female parent male parent

(b) partially known cross [ ]
(please state known parent variety(ies))

(……..……..) x (……..……..)
female parent male parent

(c) unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

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

4.1.4 Other [ ]
(please provide details)”

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

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings [ ]

(b) *in vitro* propagation [ ]

(c) other (state method) [ ]

4.2.2 Seed [ ]

4.2.3 Other [ ]”
(please provide details)”

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

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: vigor**		
	very weak		1[ ]
	weak to very weak		2[ ]
	weak	Edabriz, Ferlenain	3[ ]
	weak to medium		4[ ]
	medium	Brokforest, GM 61/1	5[ ]
	medium to strong		6[ ]
	strong	Alkavo, F 12/1	7[ ]
	strong to very strong		8[ ]
	very strong		9[ ]
5.2 (15)	**Leaf blade: length**		
	very short	Myrobalan B	1[ ]
	very short to short		2[ ]
	short	Edabriz, Weito T6	3[ ]
	short to medium		4[ ]
	medium	Piku 1	5[ ]
	medium to long		6[ ]
	long	F 12/1	7[ ]
	long to very long		8[ ]
	very long	GF 677	9[ ]
5.3 (18)	**Leaf blade: shape**		
	narrow elliptic	GF 677	1[ ]
	elliptic	Colt, Fereley, Pixy	2[ ]
	circular	Adara, SL 64	3[ ]
	ovate	Edabriz, Gisela 5	4[ ]
	obovate		5[ ]

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

	Characteristics	Example Varieties	Note
5.4 (39)	**Plant: flowers**		
	absent	Brokforest	1[ ]
	present	Colt	9[ ]

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	*Plant: flowers*	*absent*	*present*
Comments:			

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 Utilization as rootstock for

P. armeniaca L.	1 [ ]
P. avium (L.) L.	2 [ ]
P. cerasifera Ehrh.	3 [ ]
P. cerasus L.	4 [ ]
P. domestica L.	5 [ ]
P. dulcis (Mill.) D.A. Webb (P. amygdalus Batsch)	6 [ ]
P. mahaleb L.	7 [ ]
P. persica (L.) Batsch	8 [ ]
P. salicina Lindl.	9 [ ]
other species (please specify)	10 [ ]

7.3 Other information

A representative color image of the variety should accompany the Technical Questionnaire.

8. Authorization for release

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

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

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

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”.

……

9.3 Has the plant material to be examined been tested for the presence of virus or other pathogens?

Yes [ ]
(please provide details as specified by the Authority)

No [ ]

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

Applicant’s name

Signature Date

[Annex follows]

OBSERVATIONS AND COMMENTS TO DOCUMENT TG/187/2(PROJ.1)

Char. 3	**ZA**: Does it correspond with 13. one year old shoot branching? If a plant has the tendency for branching then the one year old shoot will also have the tendency of feathering/branching. Considering deleting 13.
Char. 5	**ZA**: To move middle third of shoot to explanations.
Char. 6	**DE**: to check whether truly QL. **ZA**: To move upper third to explanations. **QZ**: To read "presence of".
Char. 8	**DE**: to check whether to prefer absent or weak (1), medium (3), and strong (5); further to consider deleting, as it corresponds closely with char. 14. **ZA**: To delete “of apex” and including on sunny side; observing the characteristic on the one year old shoot on the sunny side.
Char. 13	**DE**: to consider the term "feathering" instead of "branching". ZA: Consider changing to Young shoot: anthocyanin coloration with the states 1 absent or very weak, 2 weak, 3 medium, 4 strong, 5 very strong; to have anthocyanin coloration the characteristic is observed for both the amount and the intensity of the anthocyanin coloration.
Char. 15	**QZ**: To delete the asterisk.
Char. 17	**ZA**: Change the notes from very slightly elongated to very strongly elongated; proposing new characteristic Leaf blade: attitude in relation to shoot 1 upwards, 3 outwards, 5 downwards
Car. 18	**ZA**: Considering the deletion of narrow elliptic it is been covered in the ratio. Change the order of the shapes according to tgp14.
Char. 19	**ZA**: Change the wording to Leaf blade: angle of apex. Move excluding tip to explanations.
Char. 22	**ZA**: Propose to change red to medium red and to insert dark red.
Char. 23	**ZA**: Propose to have state 1 absent or very weak.
Char. 24	**QZ**: To read "intensity of".
Char. 25	**ZA**: To delete “only”.
Char. 28	**DE**: Consider to delete "presence of".
Char. 29	**ZA**: Considering changing intensity to density.
Char. 31	**ZA**: Consider changing to Leaf: length of petiole relative to blade length.
Char. 32	**ZA**: Explanation of when the observation should be made. Perhaps it should be early in the leaf development, because later the stipule is not that easy to observe.
Char. 35	**ZA**: Propose to delete. Not consistent. Do you consider both the nectaries of the petiole and the base of the leaf?
Char. 39	ZA: Plant: flowers Explanation at Ad. 39.
8.1	**DE**: for (c) to add explanation for flower or to do so under 8.2, Ad. 39. Alternatively: to read (a) All observations on the plant should be made in the dormant season; (b) All observations on the one-year-old shoot should be made on well-developed shoots at midlength, in the dormant season; (c) All observations on the young shoots should be made during rapid growth; (d) All observations on the leaf should be made at the stage of fully developed leaves on the upper third of typical one-year-old shoots. **ZA**: All observations on the leaf should be made on the middle third of typical one-year - old shoot
Explanations on the example varieties	**QZ**: In case particular hybrids may be given a species name of their own (e.g. Prunus ×persicoides (Ser.) M. Vilm. & Bois instead of: Prunus persica (L.) Batsch. x P. dulcis (Mill.) D.A. Webb), this one should be indicated, with its parentage added in brackets.

[End of Annex and of document]