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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

APRICOT *

UPOV-Code: PRUNU_ARM

Prunus armeniaca L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Hungary

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:*

Botanical name	*English*	*French*	*German*	*Spanish*
Prunus armeniaca L. *Armeniaca vulgaris* Lam.	Apricot	Abricotier	Aprikose Marille	Albaricoquero

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 *Prunus armeniaca* 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 one-year-old grafts, budsticks or dormant shoots for grafting.

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

5 trees (one-year-old grafts) or
3 budsticks or
5 dormant shoots for grafting, sufficient to propagate 5 trees.

The rootstock to be used is specified by the competent authority.
IT-FR proposal: 8 trees instead of 5
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. The growing cycle is considered to be the duration of a single growing season, beginning with bud burst, 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.

3.4 Test Design

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

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

3.5 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations should be made on 5 plants or parts taken from each of 5 plants. In the case of parts of plants, the number to be taken from each of the plants should be 3. In particular, in the case of fruit and stone characteristics, observations should made on 25 fruits, five taken from each of five trees.

IT-FR: proposed 25 – 30 leaves, fruits and stones instead 25 fruits and stones (comment: If the objective is to appreciate the variability between tree we need to take in hand a representative sample on each of them which means 25 to 30 organs x nb of trees. If the objective is only the characterization of the cultivar, a biaised sample according to § 8.1 is fully appropriate = so 25 to 30 organs taken from all the trees. We have to take care of the biais introduced during sampling because if we want to introduced an equal precision at each level it would be particularly heavy to perform and in addition it would take at least a year more: the number of equivalent fruits able to be picked at the 4th and 5th years could not be sufficient...)

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-type is allowed.
IT-FR proposal: For the assessment of uniformity, (comment: impossible to be addressed in fruit tree) an acceptance probability of at least 95 % should be applied (have a look on results to be sure of the consistency...). In the case of a sample size of 5 plants, no off-type is allowed. Comments: These indication perfectly adapted to crops on which opulations are analysed are not really in line with fruit tree experimentation. On a theoretical point of view the problem is: do we want to address the variability between trees or not? If so, come back to 3.5)

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) Fruit: size (characteristic 29);
(b) Fruit: ground color of skin (characteristic 45);
(c) Fruit: amount of over color of skin (characteristic 46);
(d) Fruit: color of flesh (characteristic 49);
(e) Time of beginning of flowering (characteristic 56);
(f) Time of beginning of fruit ripening (characteristic 57).

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.
IT-FR: (if it is so, how should it be possible to examine the cvs?).

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
IT-FR comment to PQ: (we have some difficulties in managing such traits…)

(a) – (d) 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. (a)	**Tree: vigor**					
(+)						
QN	very weak				Sub-zero	1
	weak				Ninfa, Polonais	3
	medium				Rouge du Roussillon, Peeka, Canino, Bergeron	5
	strong				Palsteyn, Portici, Pisana, Earle Orange, Magyar kajszi	7
	very strong				Monaco Bello, Moniquí, Viceroy, Ceglédi bíbor	9
2. (a)	**Tree: habit**					
(+)						
PQ	fastigiate				Japan's Early	1
	upright				Reale d'Imola, Harcot	2
	spreading				Canino, Blenheim, Hargrand, Magyar kajszi	3
	drooping				Pisana, Palsteyn, Polonais, Vesna	4
	weeping					5

IT-FR proposal: To have it as a QN and the states are: fastigiate (1), upright (3), spreading (5), drooping (7), weeping (9).
HU: supports the proposal because there are many transitional forms.

3. (a)	**Tree: degree of branching**					
(+)						
QN	weak				Earle Orange, Roxana	3
	medium				San Castrese, Bergeron, Magyar kajszi	5
	strong				Prevete, Veecot, Harlayne	7

IT-FR comment: Interesting trait but very difficult to measure. On which shoots is it observed?

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
4. **(*)**	**(a)**	**Tree: distribution of flower buds**					
PQ		predominantly on spurs				Nugget, Sun Glo, Earle Orange	1
		equally on spurs and on one-year-old shoots				San Castrese, Canino, Bergeron, Veecot	2
		predominantly on one-year-old shoots				Amal, Ouardi, Roxana	3
5. **(*)**		**Young shoot: anthocyanin coloration of apex (during rapid growth)**					
QN		weak				Perla, Blenheim, Hargrand, Samarkandskij rannij	3
		medium				San Castrese, Polonais, Sun Glo	5
		strong				Ohaicos, Canino, Ceglédi bíbor, Roxana	7
6. **(+)**	**(a)**	**One-year-old shoot: color on sunny side**					
PQ		yellow brown				Grandir, Bebeco	1
		red brown				Palsteyn, Polonais, Veecot	2
		purple brown				Blenheim, Harcot	3

IT-FR proposal: To insert the characteristic One-year old shoot: feathering with states of expression: slight, medium, much. HU does not support it although it was in the old guidelines, but there is a close correlation between this characteristic and char. 3. It is hard to check it in nursery.

IT- FR proposal: After this characteristic to insert a new one: Flowering shoot: ratio number of flower buds/number of leaf buds with states of expressions: low, medium, high. HU does not support this char. Because we should decide how long flowering shoots to be observed. This char. Is influenced highly by site, year, weather conditions, mainly quantity of rainfall.

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7.	**(a)**	**One-year-old shoot: size of bud support**					
QN		small				Canino, Vitillo, Harcot	3
		medium				Palsteyn, Portici, Hargrand, Magyar kajszi	5
		large				Hamidi, Roxana, Ceglédi arany	7
8.	**(b)**	**Leaf blade: length**					
QN		short				Early Biady, Perla, Samarkandskij rannij	3
		medium				Rouge du Roussillon, Canino, Portici, Veecot	5
		long				Moniquí, A. Vecchioni, Ceglédi arany, Roxana	7
9.	**(b)**	**Leaf blade: width**					
QN		narrow				Rouget de Sernhac, Monaco Bello, Ceglédi bíbor, Veecot	3
		medium				Canino, Vitillo, Harcot, Veecot	5
		broad				Moniquí, Pisana, Ceglédi Piroska	7
10.	**(b)**	**Leaf blade: ratio length/width**					
QN		very small				Canino, Portici, Búlida[1]	1
		small				Cafona, Hargrand	3
		medium				San Castrese, Harcot	5
		large				A. Vecchioni, Rouget de Sernhac, Ceglédi bíbor	7
		very large				Colorado Temprano, Noemi	9

[1] IT-FR remark: I think it is necessary to introduce cultivars word diffused or very diffused in the countries where the apricot culture is more spread! It is impossible to have like reference cultivar unknown. For instance many people cite Bulida, but I am sure that only Spanish people know the true Bulida, other people may be know Canino, sometimes called Bulida improperly.

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11.	**(b)**	**Leaf blade: intensity of green color of upper side**					
QN		light				Velasquez, San Castrese, Veecot	3
		medium				Canino, Flaming Gold, Harcot, Ceglédi óriás	5
		dark				Moniquí, A. Vecchioni, Earle Orange	7
12. **(+)**	**(b)**	**Leaf blade: shape of base**					
PQ		acute				Rouget de Sernhac, San Francesco, Ceglédi bíbor	1
		obtuse				Portici, Bhart, Magyar kajszi	2
		truncate				Canino, Perla, Blenheim, Bergeron	3
		cordate				Búlida, Moniquí	4
13. **(+)**	**(b)**	**Leaf blade: angle of apex (excluding tip)**					
QN		acute				San Castrese	3
		right-angled				Canino, Ceglédi óriás	5
		moderately obtuse				Portici, Polonais, Bergeron	7
		strongly obtuse				Moniquí, Hargrand	9

ZA: Alternatively this could be a PQ characteristic

14.	**(b)**	**Leaf blade: length of tip**					
QN		absent or very short				Alpha	1
		short				Moniquí, Harmat, Bhart	3
		medium				Magyar kajszi	5
		long				Ivonne Liverani, Roxana	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15. (b) (+)	**Leaf blade: incisions of margin**					
PQ	crenate				Canino, San Castrese, Verdun	1
	bicrenate				Búlida, Ninfa, Bhart	2
	serrate				Vitillo	3
	biserrate				Hamidi, San Francesco, Roxana, Rakovszky	4
16. (b)	**Leaf blade: undulation of margin**					
QN	weak				Palsteyn, Portici, Harcot	3
	medium				Nonno, Blenheim, Roxana	5
	strong				San Francesco, Piet Cillié, Polonais	7
17. (b) (+)	**Leaf blade: profile in cross section**					
QN	straight or weakly concave				Rouget de Sernhac, San Castrese, Earle Orange	1
	moderately concave				Moniquí, Dulcinea, Bergeron,	2
	strongly concave				Polonais	3

IT-FR proposal: Use the following states of expression instead of the above mentioned: acute, right almost right, obtuse, flat. HU comment: It enough to have only three states of expression. It is hard to find clear distinctness if we have to many states.

18. (b) (*)	**Petiole: length**					
QN	short				Moniquí, Ninfa, Veecot	3
	medium				Canino, Cafona, Bergeron, Hargrand	5
	long				Reale d'Imola, Búlida, Skopska Krupna	7

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19.	**(b)**	**Leaf: ratio length of blade /length of petiole**					
QN		small				Pisana, Rouget de Sernhac, Earle Orange, Harcot	3
		medium				Portici, Hâtif Colomer, Rouge du Roussillon, Bergeron	5
		large				Monaco Bello, Moniquí, Bebeco, Flaming Gold	7
20.	**(b)**	**Petiole: thickness**					
QN		thin				San Castrese, Flaming Gold, Veecot	3
		medium				Portici, Harcot	5
		thick				Búlida, Moniquí, Reale d'Imola, Ceglédi arany	7
21.	**(b)**	**Petiole: anthocyanin coloration of upper side**					
QN		weak				Cibo del Paradiso	3
		medium				San Castrese, Bebeco, Bhart	5
		strong				Canino, Early Biady, Harogem, Ceglédi bíbor	7
22. **(*)**	**(b)**	**Petiole: predominant number of nectaries**					
PQ		none or one				Sant' Ambrogio, Rouget de Sernhac, Mandulakajszi	1
		two or three				Cafona, Magyar kajszi, Veecot	2
		more than three				Canino, Moniquí, Pisana	3

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
23.	**(b)**	**Petiole: size of nectaries**					
QN		small				San Francesco, Alpha, Yerevani,	3
		medium				San Castrese, Tilton, Ceglédi óriás	5
		large				Canino, Pisana, Early Biady, Harmat	7
24. **(*)** **(+)**	**(c)**	**Flower: diameter**					
QN		small				Portici, Hâtif Colomer, Borsi rózsa	3
		medium				Reale d'Imola, Polonais Magyar kajszi	5
		large				San Castrese, Hargrand, Harmat	7
25.	**(c)**	**Flower: position of stigma relative to anthers**					
QN		below				Canetta, Harmat	1
		same level				Portici, Hargrand	2
		above				Canino, Pisana, Polonais	3
26. **(+)**	**(c)**	**Petal: shape (excluding claw)**					
PQ		broad elliptic				Sant' Ambrogio,	1
		circular				Luizet, Harcot	2
		oblate				Canino, Vitillo, Polonais,	3

IT-FR proposal: Restaurer l'ordre précédent sinon gros risque d'erreur. J'ai l'impression qu'il y a une erreur sur l'ancien descripteur, votre avis !!!! IT is necessary that the people look to the figures at pag. 35 before to correct! I think most of people don't know this character and they change some time descriptions and some time figures! I propose to change the name of figure 1: oblong. It is more clear and finally we can correct an old mistake. HU comment: this proposal is not in line with shape policy of UPOV!

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27. **(+)**	**(c)**	**Petal: color on lower side**					
PQ		white				Cafona, Polonais	1
		light pink				San Castrese, Magyar kajszi	2
		dark pink				Harcot	3
28.	**(c)**	**Petal: length of claw**					
QN		short				Canino, Pisana, Polonais	3
		medium				Early Biady, Monaco Bello, Harcot	5
		long				Cafona, Harmat	7

IT-FR comment: A éliminer trop difficile à mesurer. I think this is a trait very difficult to appreciate. Not useful. HU proposal: You have not to measure it. Estimation is not difficult and good enough.

29. **(*)**	**(d)**	**Fruit: size**					
QN		very small				Menace, Haggith, Zard	1
		small				Patriarca Temprano, Hâtif Colomer, Borsi rózsa	3
		medium				Cafona, Canino, Harcot	5
		large				Moniquí, Portici, Ceglédi bíbor	7
		very large				Pisana, Palsteyn, Hargrand, Ceglédi óriás	9

IT proposal: weight could be added, at least a range. HU: this proposal is opposite with basic principles of UPOV

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
30. (d) (+)	**Fruit: shape in lateral view**					
PQ	oblong				Portici, Sundrop, Blenheim	1
	elliptic				Precoce d'Imola, Wenatchee, Yerevani	2
	circular				Ouardi, Ninfa, Polonais, Earle Orange	3
	oblate				Patriarca Temprano, Nugget, Korai zamatos	4
	triangular				Luizet	5
	ovate				Pisana, Bergeron	6
	obovate				Trevatt, Harcot, Harmat,	7
	oblique rhombic				Vulcan, Canino	8
IT proposal: char. 30/31 oblong shape should be changed according to our proposal HU: this proposal relates to drawing						
31. (d) (+)	**Fruit: shape in ventral view**					
PQ	oblong				Baracca, Hâtif Colomer, Veecot, Hargrand	1
	elliptic				Flaming Gold, Bella d'Imola, Sant' Ambrogio, Yerevani	2
	circular				Rouge du Roussillon, San Castrese, Polonais, Viceroy	3
	oblate				Nugget	4
	triangular				Reale d'Imola, Luizet, Mandulakajszi	5
	ovate				Canino, Fracasso, Bergeron,	6
	obovate				Portici, Harcot, Harmat	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32. (d)	**Fruit: height**					
(+)						
QN	short				Patriarca Temprano, Sayeb, Samarkandskij rannij	3
	medium				Bebeco, Canino, Polonais, Bergeron	5
	long				Vitillo, Goldrich, Mandulakajszi	7
ZA: Normally we say 'short/medium/tall' for height. (In some cases 'low/medium/high'). For length we say 'short/medium/long'. Please check with Peter Button. In case you decide to change 'height' to 'length', then char. 35 should change accordingly. HU: TWF decided to insert this new characteristic with above states at last session.						
33. (d)	**Fruit: lateral width**					
(+)						
QN	narrow				Cerasiello, Harmat, Samarkandskij rannij	3
	medium				Cafona, Bhart, Bergeron	5
	broad				Moniquí, Vitillo, Hargrand	7
34. (d)	**Fruit: ventral width**					
(+)						
QN	narrow				Hâtif Colomer, Cerasiello, Harlayne	3
	medium				Bebeco, Palummella, Bhart	5
	broad				Moniquí, Goldrich, Ceglédi arany	7
35. (d)	**Fruit: ratio height/ventral width**					
(+)						
QN	small				Patriarca Temprano, Monaco Bello, Korai zamatos	3
	medium				Rouge du Roussillon, Canino, Cafona, Magyar kajszi	5
	large				Hâtif Colomer, Vitillo, Bergeron	7

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
36. (d) (+)	**Fruit: ratio lateral width/ventral width**					
QN	small				Maria Ferez, Mandorlon, Vesna	3
	medium				Rouge du Roussillon Luizet, Pisana, Bergeron	5
	large				Henderson, Borsi rózsa	7

IT-FR proposal : Proposition d'inversion pour rester sur le code antérieur : Ratio ventral width/lateral width. (Fruit : rapport épaisseur/ largeur. Frutto: rapporto spessore/larghezza.) I think the proposition of J.M. is correct: many people did not understand the change and the references are confused. HU: This is the cause why we have to change the original denomination of this characteristic (Fruit: ratio thickness/breadth). In the literature of apricot thickness and bredth are used often in opposite meaning. Ventral width is where you can find the suture, looking at the drawing on page 18 of TG/70/3 this is breadth=largeur=Breite, this means which have been till nowdays breadth will be ventral width in the future. Contrary to it Löschnig and Passecker (1954) says thickness is side where the suture can be found. That is why we should keep the wording lateral width and ventral width. Please, compare the relevant drawing of TG/70/3 with that of our draft, we can keep the old notes if we do not follow your proposal to change lateral width with ventral width.

37. (d)	**Fruit: symmetry in ventral view**					
PQ	symmetric				Canino, Hâtif Colomer, Portici, Polonais, Magyar kajszi	1
	slightly asymmetric				Boccuccia, Royal, Ceglédi óriás	2
	clearly asymmetric				Reale d'Imola, Borsi rózsa	3
38. (d) (*)	**Fruit: depth of suture**					
QN	shallow				Rouge du Roussillon, Ninfa, Magyar kajszi	3
	medium				Monaco Bello, Pineapple, Bergeron	5
	deep				Portici, Henderson, Dima, Kech-pshar	7

IT-FR proposal: prominent (1) with example variety Priboto

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
39. (*)	**(d) Fruit: depth of stalk cavity**					
QN	shallow				Rouge du Roussillon, San Castrese, Harlayne	3
	medium				Vitillo, Blenheim, Magyar kajszi	5
	deep				Canino, Hâtif Colomer, Palsteyn, Ceglédi óriás	7
40. (*) (+)	**(d) Fruit: shape of apex**					
PQ	acute				Reale d'Imola, Mandulakajszi	1
	rounded				Goldrich, Portici, Luizet, Bergeron	2
	truncate				Bella d'Immola, Hâtif Colomer, Hargrand	3
	retuse				San Castrese, Perfection, Early Ril	4
IT-FR proposal: To change the order of states of expression: retuse (1) truncate (2) rounded (3) acute (4).						
41.	**(d) Fruit: presence of mucron**					
QL	absent				San Castrese, Canino, Blenheim	1
	present				Pisana, Bhart	9
ZA: I understood 'mucron' to be 'mucro'. (I also checked it in the Oxford Dictionary.) HU: Mucron is used according to TG/70/3 TWF decided to read mucro instead of mucron in 2000. Then in 2002 TWF decided to read mucron instead of mucro. Dear colleagues of English mother tongue, you should decide in this question for ever.						
42.	**(d) Fruit: surface**					
QL	smooth				Rouge du Roussillon, Palsteyn, Portici, Bergeron	1
	bumpy				Canino, Nonno, Ceglédi óriás	2

		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
43.	**(d)**	**Fruit: skin pubescence**					
QL		absent				Glattschalige Frühmarille	1
		present				Canino, Magyar kajszi, Bergeron	9
44.	**(d)**	**Fruit: glossiness of skin**					
QN		absent or weak				Moorpark, Korai zamatos	1
		medium				Canino, Bergeron	2
		strong				Cluthagold, Sun Glo	3

IT-FR proposal: Trop difficile à mesurer! I agree with the difficulty to estimate this character. HU: We agree with the IT-FR proposal, regarding this fact and that there is a close correlation between skin pubescence and glossines of skin we could delete this character.

45. **(*)**	**(d)**	**Fruit: ground color of skin**					
PQ		white				San Nicola, Shirazskij belyj	1
		yellowish				Moniquí, Piet Cillié, Vitillo, Yerevani	2
		yellow green				Grüne Spätmarille, Kaisi Ashtarak, Sateni Karmir	3
		light orange				Rouge du Roussillon, Canino, Portici, Hargrand, Goldcot	4
		medium orange				Pisana, Hâtif Colomer, Luizet, Veecot	5
		dark orange				Harogem, Harcot, Bhart	6

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
46. (*)	**(d) Fruit: amount of over color of skin**					
QN	absent or very low				Moniquí, Maria Matilde, Yerevani	1
	low				Cafona, Canino, Goldrich	3
	medium				Portici, Hâtif Colomer, Palsteyn, Magyar kajszi	5
	high				Pisana, Bhart, Bergeron	7

IT-FR proposal: (préciser les modalités d'observation % de la surface?) How to quantify the amount of overcolor? HU: You can estimate % of surface, and afterwards you should transfer the results into states of expression regarding the example varieties.

47.	**(d) Fruit: hue of over color of skin**					
PQ	orange red					1
	red					2
	pink					3
	purple					4

IT-FR proposal: J'ai un problème car OK si on mesure mais sinon le cade n'est pas en progression!! A mesurer pour ceux qui le peuvent. We are not able to measure this character! HU comment: We should only estimate this characteristic!

48.	**(d) Fruit: intensity of over color of skin**					
QN	light				Búlida, Canino, San Castrese, Harmat	3
	medium				Portici, Cape Early, Magyar kajszi	5
	dark				Bella d'Imola, Bhart, Bergeron, Ceglédi bíbor	7

IT-FR proposal: They want to keep the characteristic 43 from TG 70/3 (Fruit: distribution of anthocyanin coloration of the skin) with states: isolated flecks (spots) (1), solid flush (2), covered all over with very small dots. Example varieties are: Rouge du Roussillon(1), Bergeron(2), Moniquí(3). HU comment: This characteristic can be changed slightly it is influenced highly by light conditions. Fungi and russeting can cause many small dots on the surface of skin, that is why we intended not keep this characteristic in the new guidelines.

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
49. (*)	**(d) Fruit: color of flesh**					
PQ	whitish green				Amban	1
	white				Cibo del Paradiso, Mouchbah Mourry, Spitak	2
	cream				Moniquí, Malatya, Patriarca Temprano, Barese	3
	light orange				San Castrese, Canino, Harmat, Yerevani	4
	medium orange				Rouge du Roussillon, Pisana, Screara, Harglow	5
	dark orange				Francese, Palsteyn, Hâtif Colomer, Harcot	6
50.	**(d) Fruit: texture of flesh**					
QN	fine				Fracasso, Peeka, Harlayne	3
	medium				Canino, Piet Cillié, Magyar kajszi	5
	coarse				Búlida, Precoce d'Imola, Bergeron	7
51.	**(d) Fruit: firmness of flesh**					
QN	very soft				Viceroy, Sant' Ambrogio	1
	soft				Alessandrino, Goldcot	3
	medium				Rouge du Roussillon, San Castrese, Piet Cillié, Magyar kajszi	5
	firm				Palsteyn, Bella d'Imola, Bergeron	7
	very firm				Boccuccia Liscia, Harogem, Borsi rózsa, Čačansko Zlato	9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
52. (d)	**Fruit: weight of stone relative to weight of fruit**					
QN	low				Badami, San Castrese, Bergeron,	3
	medium				Portici, Blenheim, Hâtif Colomer	5
	high				Reale d'Imola, Borsi rózsa	7

IT-FR proposal: Peut-être aurait-il fallu créer une variable poids du noyau. I agree with J.M.A. it is more easy to weight the stone than to do the ratio. How to quantify this characteristic? HU comment: This ratio is more typical for a variety than the stone weight alone! Fruit weight has a strong influence on stone weight. You can measure weight of stone and weight of fruit, and afterwards you should transfer the results into states of expression regarding the example varieties.

53. (d) (*)	**Fruit: adherence of stone to flesh**					
QN	absent or very weak				Peeka, Ninfa, Hargrand, Bergeron	1
	weak				Canino, Nonno, Rouge du Roussillon, Sirena	3
	medium				Cafona, Tardif de Bordaneil	5
	strong				Precoce di Toscana, Comandor,	7

IT-FR comment: Préciser la quantification! Est-ce l'adhérence à la carène?

54. (d) (*) (+)	**Stone: shape in lateral view**					
PQ	oblong				Rouge du Roussillon, Palsteyn, Bella d'Imola	1
	elliptic				Vitillo, Bergeron	2
	circular				Canino, Monaco Bello, Eten Bey, Hargrand	3
	ovate				Portici, Magyar kajszi, Goldcot	4
	obovate				Harcot, Harmat	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
55. (d)	**Stone: bitterness of dry kernel**					
QN	absent or weak				Reale d'Imola, Moniquí Bergeron, Magyar kajszi, Harcot	1
	medium				Bella d'Imola, Palsteyn, Harlayne	2
	strong				Canino, Prevete, Viceroy Borsi rózsa	3
IT: bitter/not bitter are enough						
56. (*) (+)	**Time of beginning of flowering**					
QN	very early				Bakour, Ninfa, Currots, Harmat	1
	early				Hâtif Colomer, Canino, San Castrese, Harcot	3
	medium				Moniquí, Portici, San Francesco, Magyar kajszi	5
	late				Boccuccia Liscia, Polonais, Bergeron, Harlayne	7
	very late				Harglow, Skromnyj, Zard	9

IT – FR comment: This character change according the climate of the area. In the southern countries the flowering period of cultivars has a long range (almost 20-30 days) and the distribution of cvs depend of chilling and heating requirements. In the northern countries the range is very narrow (7-10 days) and is related to the heating requirement.
It would be better to indicate the julian date of flowering. HU comment: Regarding the fact that the length of apricot flowering period depends highly from the location of testing site it is better to keep these states of expression without using dates.

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
57. (*) (+)	**Time of beginning of fruit ripening**					
QN	very early				Patriarca Temprano, Ninfa, Rutbhart, Samarkandskij rannij	1
	early				Rouget de Sernhac, Hâtif Colomer, Monaco Bello, Bhart	3
	medium				Moniquí, San Castrese, Canino, Harcot	5
	late				Pisana, Polonais, Bergeron, Harlayne	7
	very late				Larqueen, Tardif de Bordaneil type 2, Borsi rózsa	9

IT-FR comment: This descriptor must be only for European people or world wide able ? In the last case it will be necessary to indicate the Julian date. The same thing can be done for the time of flowering. HU comment: We should use these guidelines worldwide, that is why we must keep these states where the example varieties are used as benchmarks.

IT-FR proposal: To keep Leaf: autumn color and Season of leaf fall from the old guidelines. HU proposal: Not to keep these characteristics. One of our colleagues in IT-Fr has similar opinion: "I do not agree with this character (Leaf: autumn color): it change with the climatic condition of the area" Season of leaf fall can not be observed in northern countries growing apricot because leaf fall will caused by early frosts in many years.

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/One-year-old shoot: Unless otherwise stated, all observations on the tree and on the one-year-old shoot should be made during winter, on trees that have fruited at least once.

(b) Leaf: Unless otherwise stated, all observations on the leaf should be made in summer on fully developed leaves from the middle third of a well developed current season's shoot.

(c) Flower: Unless otherwise stated, all observations on the flower should be made on fully developed flowers at the beginning of anther dehiscence.

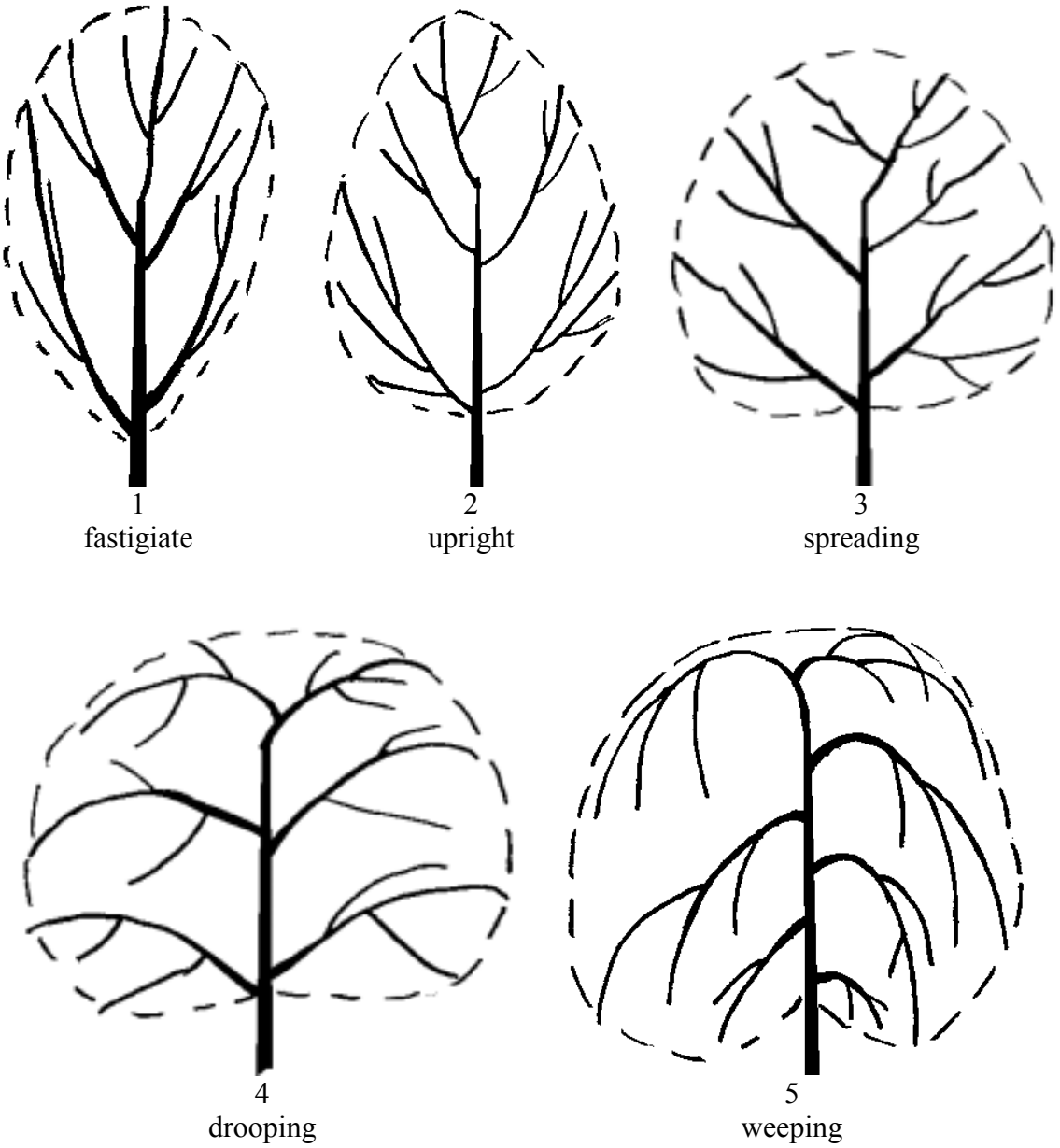
(d) Fruit/Stone: All observations on the fruit and stone should be made on 25 fruits, five from each of five trees.

8.2 Explanations for individual characteristics

Ad. 1: Tree: vigor

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

Ad. 2: Tree: habit



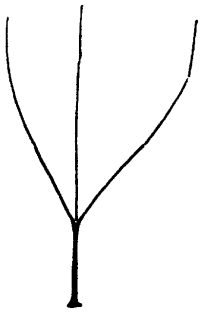
Ad. 3: Tree: degree of branching

Observations should be carried out on scaffold branches with the degree of branching being indicated by the density of lateral branches and shoots, excluding fruiting shoots.

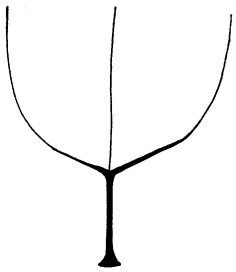
Ad. 6: One-year-old shoot: color on sunny side

Observations should be carried out in the middle of one-year-old primary shoots.

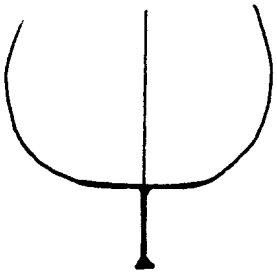
Ad. 12: Leaf blade: shape of base



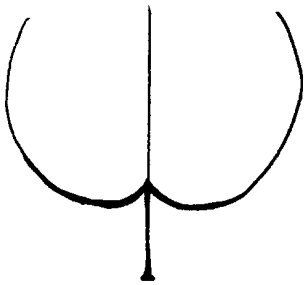
1
acute



2
obtuse

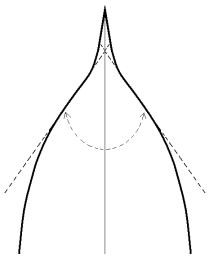


3
truncate

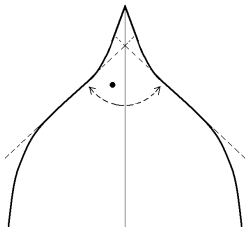


4
cordate

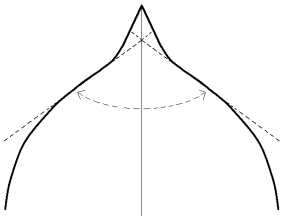
Ad. 13: Leaf blade: angle of apex (excluding tip)



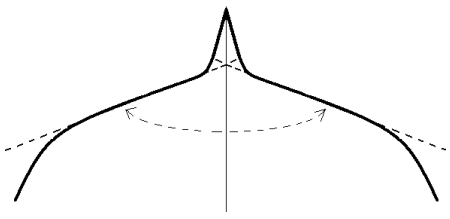
1
acute



2
right-angled

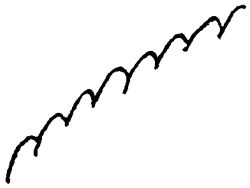


3
moderatly obtuse

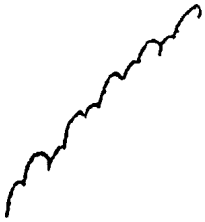


4
strongly obtuse

Ad. 15: Leaf blade: incisions of margin

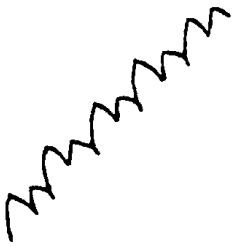


1
crenate



2
bicrenate

3
serrate



4
biserrate

Ad. 17: Leaf blade: profile in cross section

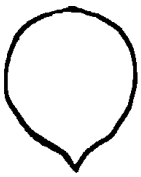
Leaves observed should be on spurs or at base of flowering shoots.

Ad. 24. Flower: diameter

Observations or measurements should be carried out on flowers with petals pressed into horizontal position.

Ad. 26: Petal: shape (excluding claw)

1
broad elliptic



2
circular

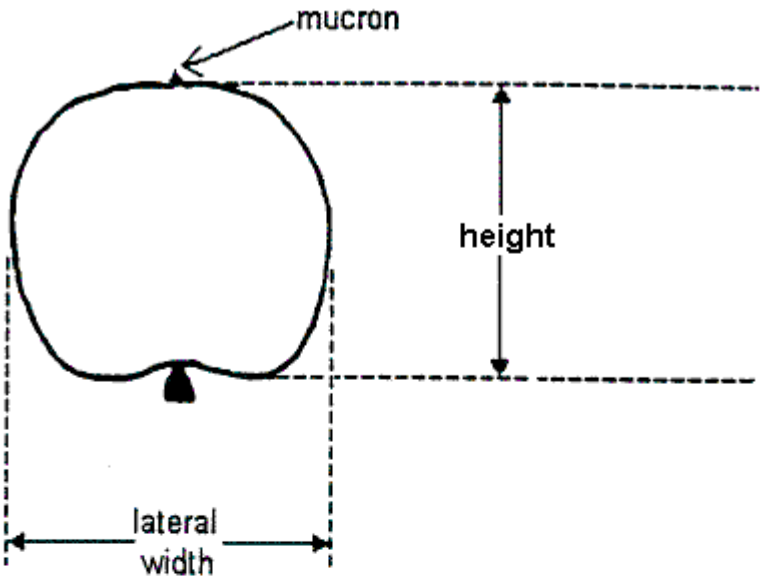
3
oblate

Ad. 27: Petal: color on lower side

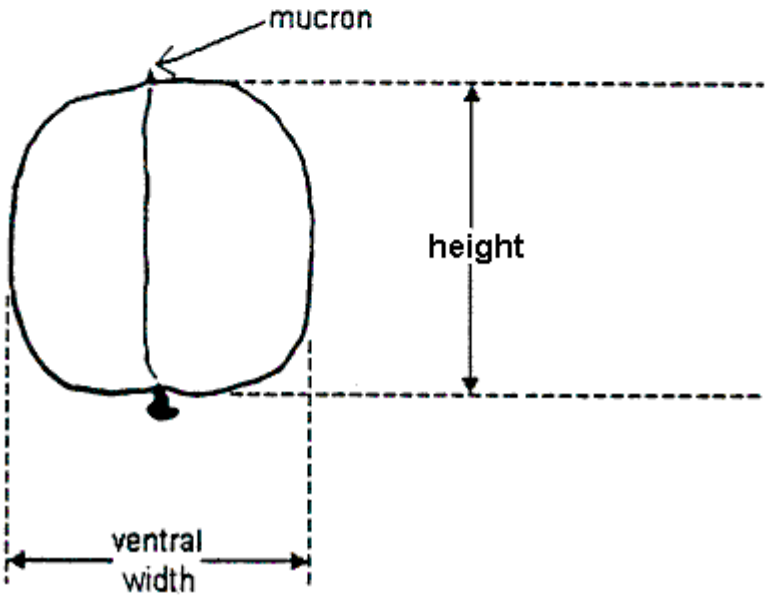
Observations should be carried out just after opening of sepals on the lower side.

Ad. 30: Fruit: shape in lateral view
Ad. 31: Fruit: shape in ventral view
Ad. 32: Fruit: height
Ad. 33: Fruit: lateral width
Ad. 34: Fruit: ventral width
Ad. 35: Fruit: ratio height/ventral width
Ad. 36: Fruit: ratio lateral width/ventral width

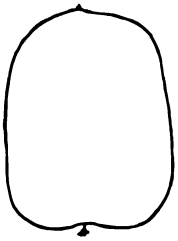
Lateral view



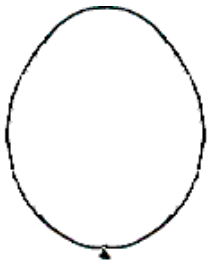
Ventral view



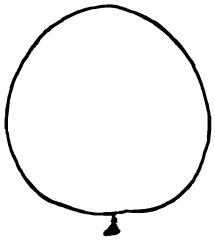
Ad. 30: Fruit: shape in lateral view
Ad. 31: Fruit: shape in ventral view



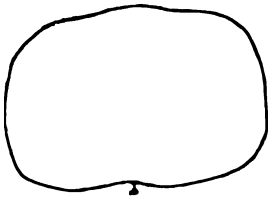
1
oblong



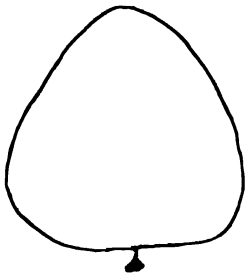
2
elliptic



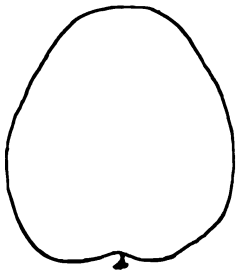
3
circular



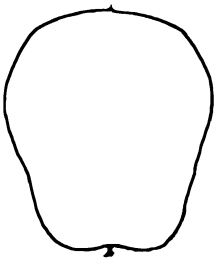
4
oblate



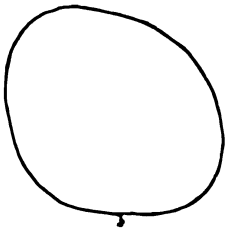
5
triangular



6
ovate



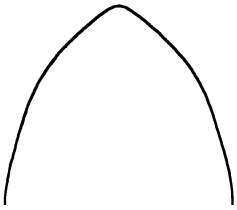
7
obovate



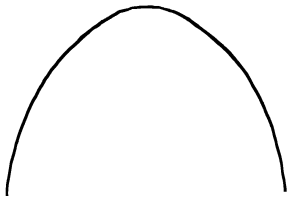
8
oblique rhombic

Ad. 40: Fruit: shape of apex

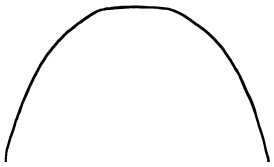
Observations should be carried out on fruits in lateral cross-section.



1
acute



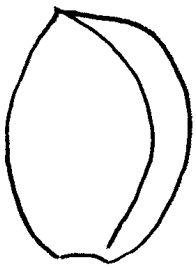
2
rounded



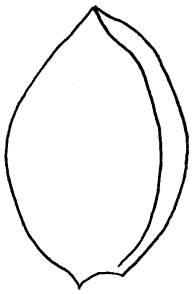
3
truncate

4
retuse

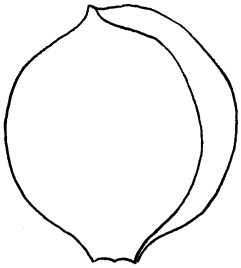
Ad. 54: Stone: shape in lateral view



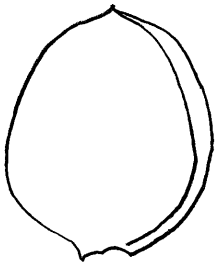
1
oblong



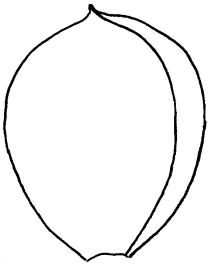
2
elliptic



3
circular



4
ovate



5
obovate

Ad. 56: Time of beginning of flowering

When 5-10% open flowers can be observed.

Ad. 57: Time of beginning of fruit ripening

When 5-10% ripen fruits can be observed. Fruit ripening should be considered as the time of eating ripeness, when the fruit is most easily removed.

Synonym(s) of Example Varieties

Example Varieties	Synonym(s)
Sant' Ambrogio	Ambrosia, Saint Ambroise
Bhart	NJA 32
Borsi rózsa	Kecskemeter rose, Ružova neskora, Trandafirii tirzi
Čačacansko zlato	Čačak's Gold
Earle Orange	Erle Orange, Stark Earli Orange
Goldrich	Sungiant
Magyar kajszi	Hungarian Best, Ungarische Beste, Meilleur d'Hongrie, Klosterneuburger Aprikose, Krasnoshchokij, Velkopavlovická, Mađarska najbolja, Cea mai bună de Ungaria
Pineapple	Ananas-Marille, Abricot d'Ananas, Ananasnyj
Rutbhart	Early Blush
Sateni Karmir	Tabarza
Yerevani	Shalakh

9. Literature

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10. Technical Questionnaire

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

	Application date: (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Subject of the Technical Questionnaire

1.1 *Latin Name*	*Prunus armeniaca* L.
1.2 Common Name	APRICOT

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

4.2.1 Vegetative propagation

(a) budding or grafting [ ]

(b) other (state method) [ ]

4.2.2 Other [ ]
(please provide details)

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

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

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 (29)	**Fruit: size**		
	very small	Menace, Haggith, Zard	[1]
	small	Patriarca Temprano, Hâtif Colomer, Borsi rózsa	[3]
	medium	Cafona, Canino, Harcot	[5]
	large	Moniquí, Portici, Ceglédi bíbor	[7]
	very large	Pisana, Palsteyn, Hargrand, Ceglédi óriás	[9]
5.2 (45)	**Fruit: ground color of skin**		
	white	San Nicola, Shirazskij belyj	[1]
	yellowish	Moniquí, Piet Cillié, Vitillo, Yerevani	[2]
	yellow green	Grüne Spätmarille, Kaisi Ashtarak, Sateni Karmir	[3]
	light orange	Rouge du Roussillon, Canino, Portici, Hargrand, Goldcot	[4]
	medium orange	Pisana, Hâtif Colomer, Luizet, Veecot	[5]
	dark orange	Harogem, Harcot, Bhart	[6]
5.3 (46)	**Fruit: amount of over color of skin**		
	absent or very low	Moniquí, Maria Matilde, Yerevani	1
	low	Cafona, Canino, Goldrich	3
	medium	Portici, Hâtif Colomer, Palsteyn, Magyar kajszi	5
	high	Pisana, Bhart, Bergeron	7

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

	Characteristics	Example Varieties	Note
5.4 (49)	**Fruit: color of flesh**		
	whitish green	Amban	[1]
	white	Cibo del Paradiso, Mouchbah Mourry, Spitak	[2]
	cream	Moniquí, Malatya, Patriarca Temprano, Barese	[3]
	light orange	San Castrese, Canino, Harmat, Yerevani	[4]
	medium orange	Rouge du Roussillon, Pisana, Screara, Harglow	[5]
	dark orange	Francese, Palsteyn, Hâtif Colomer, Harcot	[6]
5.5 (56)	**Time of beginning of flowering**		
	very early	Bakour, Ninfa, Currots, Harmat	[1]
	early	Hâtif Colomer, Canino, San Castrese, Harcot	[3]
	medium	Moniquí, Portici, San Francesco, Magyar kajszi	[5]
	late	Boccuccia Liscia, Polonais, Bergeron, Harlayne	[7]
	very late	Harglow, Skromnyj, Zard	[9]

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

	Characteristics	Example Varieties	Note
5.6 (57)	**Time of beginning of fruit ripening**		
	very early	Patriarca Temprano, Ninfa, Rutbhart, Samarkandskij rannij	[1]
	early	Rouget de Sernhac, Hâtif Colomer, Monaco Bello, Bhart	[3]
	medium	Moniquí, San Castrese, Canino, Harcot	[5]
	late	Pisana, Polonais, Bergeron, Harlayne	[7]
	very late	Larqueen, Tardif de Bordaneil type 2, Borsi rózsa	[9]

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	*Fruit: size*	*small*	*medium*

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 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.

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.

[#] 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:

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".

……

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]