

UPOV

TG/53/6 Rev. (proj.2)

ORIGINAL: English

DATE: 2007-06-21

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

PEACH, NECTARINE^a*(see endnote)*

UPOV Code: PRUNU_PER

Prunus persica (L.) Batsch

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by an expert from France**to be considered by the**Technical Working Party for Fruit Crops**at its thirty-eighth session, to be held in Jeju, Republic of Korea, from 9 to 13 July, 2007*

Alternative Names: *

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Prunus persica</i> (L.) Batsch, <i>Persica vulgaris</i> Mill., <i>Prunus</i> L. subg. <i>Persica</i> ,	Peach	Brugnonier, Pêcher	Pfirsich, Pfirsichbaum	Abridor, Duraznero, Durazno, Melocotonero

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. SUBJECT OF THESE TEST GUIDELINES.....	3
2. MATERIAL REQUIRED	3
3. METHOD OF EXAMINATION.....	3
3.1 Number of Growing Cycles	3
3.2 Testing Place	3
3.3 Conditions for Conducting the Examination.....	3
3.4 Test Design	4
3.5 Number of Plants / Parts of Plants to be Examined.....	4
3.6 Additional Tests	5
4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY	5
4.1 Distinctness	5
4.2 Uniformity.....	5
4.3 Stability	5
5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL.....	6
6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS	6
6.1 Categories of Characteristics.....	6
6.2 States of Expression and Corresponding Notes.....	7
6.3 Types of Expression.....	7
6.4 Example Varieties	7
6.5 Legend.....	7
7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTÈRES/MERKMALSTABELLE/TABLA DE CARACTERES.....	8
8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS	28
9. LITERATURE	33
10. TECHNICAL QUESTIONNAIRE	35

1. Subject of these Test Guidelines

These Test Guidelines apply to all vegetatively propagated fruit varieties of peach and nectarine of the species *Prunus persica* (L.) Batsch.

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 [...]

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

- 5 budsticks with sufficient buds to propagate 5 trees (to be sent at budding time);
- 5 dormant shoots for grafting, sufficient to propagate 5 trees (to be sent at grafting time); or
- 5 trees grafted on appropriate peach rootstock to be selected by the competent authorities

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.

3.3.2 In particular, it is essential that the [trees] / [plants] produce a satisfactory crop of fruit in each of the two growing cycles.”

3.3.3 Unless otherwise stated, all observations on the leaf should be made on fully developed leaves in the central third of a current season shoot.

3.3.4 All observations on the nectaries (glands) should be made on leaves as soon as they are fully developed.

3.3.5 All observations on the flowering shoot and the flower should be made in the central third of the shoot.

3.3.6 Unless otherwise indicated, all observations on the flower should be made on fully opened flowers at the beginning of anther dehiscence. The time of beginning of flowering is reached when 10% of the flowers on the tree are fully opened. The end of flowering is reached at 90% petal fall.

3.3.7 All observations on the fruit should be made on fruits mature for eating.

3.3.8 All observations on the stone should be made on the dry stone after removal of the flesh.

3.3.9 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”

3.3.10 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 5 [plants] /[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 { y }.

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) Tree: size (characteristic 1)
- (b) Flower: type (characteristic 10)
- (c) Petiole: nectaries (characteristic 30)
- (d) Fruit: pubescence (characteristic 45)
- (e) Fruit: ground color of flesh (characteristic 50)
- (f) Stone: adherence to flesh (characteristic 62)
- (g) Time of beginning of flowering (characteristic 65)
- (h) Time of maturity for consumption (characteristic 67)

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 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: single measurement of a group of plants or parts of plants – see Chapter 3.3.1

MS: measurement of a number of individual plants or parts of plants – see Chapter 3.3.1

VG: visual assessment by a single observation of a group of plants or parts of plants – Chapter 3.3.1

VS: visual assessment by observation of individual plants or parts of plants” –see Chapter 3.3.1

(a)-{x} 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 ejemplos	Note/ Nota
1. (*)	Tree: size	Arbre: taille	Baum: Grosse			
	very small	très petit	sehr klein		Bonanza	1
	small	petit	klein		Richaven	3
	medium	moyen	mittel		Robin	5
	large	grand	grosse		Redhaven	7
	very large	très grand	sehr grosse		Champion	9
2. (+)	Tree: vigor	Arbre: vigueur	Baum: Wuchsstarke			
QN	weak	faible	gerring		J. H. Hale	3
	medium	moyenne	mittel		Robin	5
	strong	forte	stark		Springtime	7
3. (*) (+)	Tree: habit	Arbre: port	Baum: Wuchsform			
	upright	dressé	aufrecht		Nectarose, Pillar	1
	upright to spreading				Fairhaven, Redwing	2
	spreading	étalé	breitwuchsig		Elegant Lady, O'Henry Albertina	3
	drooping	retombant	uberhangend		Scarlet O'Hara, Coconut Ice	4
	weeping	très retombant	lang uber-hangend		Biancopenulo	5
4.	Flowering shoot: thickness (excluding brindilles)	Rameau mixte: grosueur (a léxclusion des brindilles)	Bluttrieb: Dicke (ohne Durztriebe)			
	thin	fin	dunn		Mayred	3
	medium	moyen	mittel		Redhaven	5
	thick	gros	dick		Lizzie, Flavorcrest	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
4a to check if characteristic “tendency to produce on brindilles” is necessary. France: not necessary, can be added in the observations if needed.					
5.	Flowering shoot: length of internodes (as for 4)	Rameau mixte: longueur des entrenoeuds (comme pour 4)	Bluttrieb: Lange der Internodien (wie unter 4)		
	very short	très courts	sehr kurz	Bonanza	1
	short	courts	kurz	June Gold, Merrill Sundance	3
	medium	moyens	mittel	Redhaven	5
	long	longs	lang	Fairhaven	7
	very long	très longs	sehr lang		9
6. (*)	Flowering shoot : anthocynin coloration (as for 4, side away from sun)	Rameau mixte: pigmentation anthocyanique (comme pour 4, coté ensoleillé exclu)	Wahrer Fruchttrieb : Anthocyanfarbung (wie unter 4, nicht auf der Sonnenseite)		
	absent	absente	fehlend	De flor doble blanca	1
	present	présente	vorhanden	Springtime	9
7. (*)	Flowering shoot : intensity of anthocyanin coloration of the sunnyside (as for 6)	Rameau mixte: intensité de la pigmentation anthocyanique (comme pour 6)	Wahrer Fruchttrieb: Dichte der Blütenknospen (wie unter 4)		
	weak	faible	gering	Springtime	3
	medium	moyenne	mittel	Fuzalode	5
	strong	forte	stark	Robin, Sanguine Chanas	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
---------	----------	---------	---------	--	---------------

**Remarks from NZ and Brazil for the low variability in their material for this characteristic, but not in the European one (pascal)
 Datas inserted for information for the drafters.**

8. (*)	Flowering shoot: density of flower buds (as for 4)	Rameau mixte: densité des boutons floraux (comme pour 4)	Wahrer fruchttrieb: vorwiegende Anordnung der Bluternknospen (wie unter 4)		
	very sparse	très peu dense < 10 fleurs/m		Monline	1
	sparse	peu dense 10 a 20 fleurs/m	locker	O'Henry, Bigtop	3
	medium	moyenne 20 a 30 fleurs/m	mittel	Michelini, Richlady, Mélina	5
	dense	dense 30 a 40 fleurs/m	dicht	Redhaven, Jade	7
	very dense	très dense >40 fleurs/m		Amrking, Harco	9

NZ proposes to delete (France can accept the deletion)

9.	Flowering shoot: general distribution of flower buds (as for 4)	Rameau mixte> repartition générale des boutons floraux (comme pour 4)	Wahrer Fruchttrieb> vorwiegende Anordnung der Blutenknospen (wie unter 4)		
	single	isolés	einzeln	Flavortop	1
	in groups of two or more	Par deux ou plus	Doppelt oder zu mehreren	Redhaven, Sundred, Tejon	2

Canada observations

10. (*) (+)	Flower: type	Fleur: type	Blute: typ		
	non-showy = campanulate	campanulée	campanulaceen typ	Springtime	1
	showy = rose type	rosacée	rosaceen typ	Robin	2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
11. (*)	Calyx: color of inner side (opened flower, before falling of petals)	Calice: couleur de la face interne (fleur épanouie, avant la chute des petals)	Kelch : Farbe der Innenseite (geöffnete Blüte, vor dem Abfallen der Blütenblätter)			
	greenish yellow	Jaune verdâtre	grünlichgelb		Robin	1
	orange	orangée	orange		Redhaven	2
12. (*)	Corolla: predominant color (inner side)	Corolle: couleur prédominante (face interne)	Blutendrone : vorwiegende Farbe (Innenseite)			
	white	blanc	weiss		Bianco Pendulo, De flor doble blanca	1
	very light pink	rose très pale	sehr hellrosa		cardinal	2
	light pink	rose pale	hellrosa		Michelini	3
	medium pink	rose moyen	mittelrosa		Fuzalode	4
	dark pink	rose foncé	dunkelrosa		Vivian	5
	violet pink	rose violacé	violettrosa		Candor	6
	red	rouge	rot		Red Flower Peach	7
Char 12 to check if the states “very light pink”and “light pink”can be combined, the same for “dark pink”and “violet pink”. NZ and France propose to split inot two characteristics:						
Flower: predominant colour (inner side) 1 white, 2 p ink, 3 red and 4 violet						
Flower: intensity of colour (inner side) (excluding white petals) 3 light, 5 medium and 7 dark.						
13. (*)	Petal: shape	Pétale forme	Blütenblatt: form			
	narrow elliptic	elliptique étroit	breit elliptisch			1
	broad elliptic	elliptique large	breit elliptisch		Earlibelle	2
	circular	rond	rund		Springtime	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
14. (*)	Petal: size	Pétale: taille	Blütenblatt: Grosse			
	very small	très petit	sehr klein		Redhaven	
	small	petit	klein		Shasta	
	medium	moyen	mittel		Robin, Sunhigh	
	large	grand	gross		Michelini	
	very large	très grand	sehr gross		Veteran	
15. (*)	Flower: number of petals	Pétales: nombre de pétales	Blütenblätter: Anzahl			
	five	cinq	funf		Redhaven	1
	more than five	plus de cinq	mehr als funf		Red Flower Peach	2
To be placed after characteristic 10						
16.	Stamens: position compared to petals	Etamines: position par rapport aux petals	Staubgefasse : Stellung im Verhältnis zu den Blütenblättern			
	below	au-dessous	unterhalb		Loring	1
	at same level	au meme niveau	auf gleicher hohe		Robin, springtime	2
	above	au-dessus	oberhalb		Redhaven	3
To check by France if it can be deleted (Brazil and France agrees)						
17. (*)	Stigma: position compared to anthers	Stigmate: position par rapport aux antheres	Narbe : Stellung im Verhältnis zu den Antheren			
	below	au-dessous	unterhalb		Vivian	
	same level	au meme niveau	auf gleicher hohe		Crimson Gold	
	above	au-dessus	oberhalb		Fuzalode	
18. (*)	Anthers: pollen	Antheres: pollen	Antheren: Pollen			
	absent	absent	fehlend		J. H. Hale	
	present	présent	vorhanden		Redhaven	

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
NZ, DE proposes to delete as directly correlated with Character 45					
France: exact, but it's easy and evident to observe 45 and it takes few time for 19.					
19. (*)	Ovary: pubescence	Ovaire: pubescence	Fruchtknoten: Behaarung		
	absent	absente	fehlend	Fuzalode	1
	present	présente	vorhanden	redhaven	9
20.	Stipule: length (on fully expanded leaf on young shoot)	Stipule: longueur (feuille complètement développée sur jeune rameau)	Junger Trieb : Lange des Nebenblattes (vollentwickeltes Blatt)		
	short	court	kurz	Redhaven	3
	medium	moyen	mittel	Robin	5
	long	long	lang	Dixired	7
Brazil observations difficult to be considered.					
21. (*)	Leaf blade: length	Limbe longueur	Blattspreite: Lange		
	short	court	kurz		3
	medium	moyen	mittel		5
	long	long	lang		7
22. (*)	Leaf blade: width	Limbe: largeur	Blattspreite: Breite		
	narrow	étroit	schmal		3
	medium	moyen	mittel		5
	broad	large	breit		7
23. (*)	Leaf blade : ratio length/width	Limbe: rapport longueur/largeur	Blattspreite: verhältnis lange/breite		
	low	petit	klein	Mountaingold	3
	medium	moyen	mittel	Early Sungrand	5
	high	grand	gross	Springtime, Vivian	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
24.	Leaf blade: shape in cross section	Limbe: forme en section transversale	Blattspreite : Form im Querschnitt			
	concave	concave	konkav		Merrill Gemfree	1
	flat	droite	eben		Mayred	2
	convex	convexe	konvex			3
25.	Leaf blade : recurvature of apex	Limbe: courbure de léxtrémité	Blattspreite: Umbiegung der Spitze			
	absent	absente	fehlend		Merrill Sundance	1
	present	présente	vorhanden		Flavortop	9
NZ and France propositions below						
Brazil wants to delete state 2, France disagrees						
DE: keep the original situation						
26.	Leaf blade: angle at base	Limbe: angle au sommet	Blattspreite: Winkel an der Spitze			
	acute = small < 85°	aigu	spitz		Springtime	1
	acute to obtuse = medium 85° - 90°				Redhaven	2
	obtuse = large up to 95°	obtus	stumpf		Merrill	3
Proposal to delete (Brazil)						
DE: harmonize the presentation with char 26: from acute to obtuse.						
27.	Leaf blade: angle at apex	Limbe: angle au sommet	Blattspreite: Farbe			
	small	petit	klein		Red June	3
	medium	moyen	mittel		Earlired	5
	large	grand	gross		Merrill Franciscan	7
28.	Leaf blade: color	Limbe: couleur	Blattspreite: farbe			
	greenish yellow	jaune verdâtre	grünlichgelb		Redhaven	1
	green	vert	grün		Robin	2
	purplish red	rouge pourpre	purpurrot		Rubira	3

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
Add 28a.	Leaf blade: red mid-vein on the lower side	Nervure principale rouge face inférieure	Blattspreite : rote Hauptader auf der Unterseite			
	absent	absente	fehlend		Redhaven	1
	present	présente	vorhanden		Sanguine Chanas	9

To be placed after 31 (France and NZ)

29.	Petiole: length	Pétiole: longueur	Blattstiel: Lange			
	short	court	kurz		Redhaven	3
	medium	moyen	mittel		Genadix 7	5
	long	long	lang		Andross	7

See NZ comments and France answer on note VIII Ad 30

30. (*)	Petiole: nectaries	Pétiole: nectaires	Blattstiel:nektarien			
	absent	absente	fehlend		Tejon	1
	present	présente	vorhanden		Redhaven	9

31. (*) (+)	Petiole: shape of nectaries	Pétiole: forme des nectaires	Blattstiel: form der nektarien			
	round	circulaires	rund		Springtime	1
	reniform	réniiformes	Nieren-formig		Redhaven	2

NZ proposes to delete

32.	Petiole: predominant number of nectaries	Pétiole: nombre predominant de nectaires	Blattstiel : uberwiegen de Anzahl Nektarien			
	two	deux	zwei		Genadix 7	1
	more than two	plus de deux	mehr als zwei		Everts	2

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
---------	----------	---------	---------	--	---------------

France proposal fro 32 : New 32a and 33 a

32a Petiole: predominant number of nectarines: two (1); more than two (2)

33a Leaf: predominant number of nectarines: two (1); more than two (2)

33. (* (*)	Fruit: size	Fruit: taille	Frucht: Grosse		
	very small	très petit	sehr klein	Nectarine-Cerise	1
	small	petit	klein	Springtime, Maycrest	3
	medium	moyen	mittel	Sunhaven, Springlady, Jade	5
	large	grand	gross	Loring, Royalglory Bigtop	7
	very large	très grand	sehr gross	Comanche, Maillarbig	9

Conic shape to be considered (Brazil)

34, (* (*) (+)	Fruit: shape (in ventral view)	Fruit: forme (vue ventrale)	Frucht: form (in Bauchansicht)		
	broad oblate	aplatis large	breit abgeflacht	Bailou (Saturne). DELETE: Plate de Chine, Platicarpe??	1
	oblate	aplatis	abgeflacht	Robin	2
	round	rond	rund	Redwing	3
	ovate	ovale	eiformig	Cavalier	4
	broad elliptic	elliptique	large elliptisch	Elberta	5

See Ad Char 35 in table VIII (NZ and France comments)

35. (* (*)	Fruit: shape of pistil end	Fruit: forme de l'extrémité pistillaire	Frucht : form des Kelchendes		
	prominently pointed	fortement pointu	auffallend spitz	Jerseyland	1
	weakly pointed	faiblement pointu	leicht spitz	Springtime	2
	flat	plan	eben	Redhaven	3
	weakly depressed	faiblement en cuvette	leicht eingesenkt	Robin	4
	strongly depressed	fortement en cuvette	stark eingesenkt	Bailou Plate de Chine	5

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
36.	Fruit : symmetry (viewed from pistil end)	Fruit: symétrie (vue de l'extrémité pistillaire)	Frucht : Symmetrie (vom Kelchende aus gesehen)			
(+)	asymmetric	dissymétrique	asymmetrisch		Prococissima Morettini	1
	symmetric	symétrique	symmetrisch		Redhaven	2
37.	Fruit : prominence of suture	Fruit : proéminence de la suture	Frucht : Ausprägung der Naht			
	weak	faible	gering		Redhaven	3
	medium	moyenne	mittel			5
	strong	forte	stark		Precocissima Morettini	7
38.	Fruit : depth of stalk cavity	Fruit: profondeur de la cavité pédicellaire	Frucht : Tiefe der Stielhöhe			
(+)	shallow	Peu profonde	flach		Robin	3
	medium	moyenne	mittel			5
	deep	profonde	tief		Southland	7
39.	Fruit : width of stalk cavity	Fruit: largeur de la cavité pédicellaire	Frucht : Breite der Stielhöhe			
	narrow	étroite	schmal		Redhaven	3
	medium	moyenne	mittel			5
	broad	large	breit		Robin	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
---------	----------	---------	---------	--	---------------

To replace cream by a wording more adopted, and reorder the states/Brazil proposal light yellow for it.

40. (*)	Fruit: ground color	Fruit: couleur de fond	Frucht: grundfarbe		
	green	verte	grun	Rubberima	1
	cream green	vert creme	cremegrun	Carman	2
	greenish white	blanc verdatre	grunlichweiss	Morton	3
	cream white	blanc creme	cremeweiss	Michelini	4
	cream	creme	cremefarben	Amsden	5
	pink white	blanc rosé	rosaweiss	Précoce de Hale	6
	greenish yellow	jaune verdatre	grunlichgelb	Veteran	7
	cream yellow	jaune creme	cremegelb	Fuzalode	8
	yellow	jaune	gelb	Redhaven	9
	orange yellow	jaune orange	orangegelb	Redtop	10

NZ and France suggest the following states:

1 green, 2 whitish green, 3 near white (old 5), 4 greenish white (old 3), 5 yellowish white (old 4), 6 pinkish white, 7 greenish yellow, 8 whitish yellow, 9 yellow, 10 orange yellow

41.	Fruit: over color	Fruit: couleur du lavis	Frucht: Deckfarbe		
	absent	absente	fehlend		1
	present	présente	vorhanden		9

42.	Fruit: hue of over color	Fruit: teinte de la couleur du lavis	Frucht : ton der deckfarbe		
	orange red	rouge orangé	orangerot	Velvet	1
	pink	rosé	rosa	Genard	2
	pink red	rouge rosé	rosarot	Fuzalode	3
	light red	rouge clair	hellrot	Redtop	4
	medium red	rouge moyen	mittelrot	Red Diamond	5
	dark red	rouge foncé	dunkelrot	Redwing	6
	blackish red	rouge vineux		Monec, Monid	7

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
NZ and France					
-Character 42 changed states 1 orange red, 2 pink red, 4 red, 5 blackish red					
-Add New 42a Fruit: intensity of overcolour – light (3), medium (5), dark (7)					
43. (*)	Fruit: pattern of over color	Fruit: repartition de la couleur du lavis	Frucht: Ausbreitungs form der Deckfarbe		
	solid flush	en plages continues	ganzflächig	Flavorcrest	1
	striped	en stries	gestreift	Velvet	2
	mottled	moucheté	punktiert	Merill Sundance	3
	marbled	marbre	marmoriert	Genadix	4
44. (*)	Fruit: extent of over color	Fruit: extension de la couleur du lavis	Frucht : Ausbreitung der Deckfarbe		
	very small	très petit	sehr klein	Veteran	1
	small	petit	klein	Amsden	3
	medium	moyen	mittel	Redhaven	5
	large	grand	gross	Redtop, Delete : Suncrest	7
	very large	très grand	sehr gross	Rich Lady, Bigtop, Delete: Red Top	9
To replace the culti group by varietal denominations (Brazil...)					
45. (*)	Fruit: pubescence	Fruit: pubescence	Frucht: Behaarung		
	absent	absente	fehlend	Nectarine/Brugnon/Ne ktarine	1
	present	presente	vorhanden	Peach/Peche/Pfirsich	9

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
46. (*)	Fruit: density of pubescence	Fruit: thickness of skin	Frucht: Dichte der Behaarung		
very sparse	très faible	sehr gering		Merrill Gemfree	1
sparse	faible	gering		Suncrest	3
medium	moyenne	mittel		Dixired	5
dense	forte	stark		Earlyvee, Veteran	7
very dense	très forte	sehr stark		Arp Beauty, Triumph	9

NZ and France: New Char 46a. Fruit: glossiness (nectarines only) 1 absent or weak 2 medium 3 strong

47.	Fruit: thickness of skin	Fruit: épaisseur de l épiderme	Frucht : Dicke der Haut		
	thin	faible	dunn	Fuzalode	3
	medium	moyenne	mittel	Mme Girard	5
	thick	forte	dick	Carman	7

Brazil: adherent 1/non adherent 9

48.	Fruit: adherence of skin to flesh	Fruit: adherence de l'épiderme a la chair	Frucht : Haften der Haut am Fleisch		
	absent or very weak	nulle ou tres faible	fehlend oder sehr gering	Mme Girard	1
	weak	faible	gering	Redhaven	3
	medium	moyenne	mittel	Early Sungrand	5
	strong	forte	stark	Babygold 5	7
	very strong	très forte	sehr stark	Vivian	9

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
Melting (1/3/5/7), non melting (9) – see comments in 54 a from NZ, F and DE					
NZ and France: precise the stage of observation/France: after harvest (not at industrial harvest)					
49. (*)	Fruit: firmness of flesh	Fruit: fermeté de la chair	Frucht : Festigkeit des Fleisches		
	very soft	tres mole	sehr weich	Amsden, Delete : Tejon	1
	soft	molle	weich	Fairhaven : Delete : Amsden	3
	medium	moyenne	mittel	Redhaven, Delete : Fairhaven	5
	firm	ferme	fest	Redtop, Delete : Redhaven	7
	very firm	tres ferme	sehr fest	Vivian, Babygold	9
NZ and France suggest Fruit : predominant colour of flesh. (it is not really a ground colour)					
50. (*)	Fruit: ground colour of flesh	Fruit: couleur de fond de la chair	Frucht : Grundfarbe des Fleisches		
	greenish white	blanc verdâtre	grünlichweiss	Charles Roux	1
	white	blanche	weiss	Springtime	2
	cream white	blanc crème	cremeweiss	Michelini	3
	light yellow	jaune clair	hellgelb	Armking	4
	yellow	jaune	gelb	Early Sungrand	5
	orange yellow	jaune orange	orange gelb	Merril Franciscan	6
	orange	orange	orange	Sungold	7
	red	rouge	rot	Sanguine Chanas	8
51. (*)	Fruit : anthocyanin coloration directly under skin	Fruit: pigmentation anthocyanique sous- épidermique	Frucht : Anthocyanfärbung direkt unter		
	absent or very weakly expressed	absente ou tres faiblement exprimée	fehlend oder sehr gering ausgeprägt	Redhaven	1
	weakly expressed	faiblement exprimée	gering ausgeprägt		2
	strongly expressed	fortement exprimée	stark ausgeprägt	Sanguine Chanas	3

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
NZ and France suggest: states 1 absent or very weak, 3 weak, 5 medium, 7 strong and 9 very strong					
52. (*)	Fruit: anthocyanin coloration of flesh	Fruit: pigmentation anthocyanique de la chair	Frucht : Anthocyanfarbung des Fleisches		
absent or very weakly expressed	absente ou tres faiblement exprimée	fehlend oder sehr gering ausgepragt			1
weakly expressed	faiblement exprimée	gering ausgepragt			2
averagely expressed	moyennement exprimée				3
strongly expressed	fortement exprimée	stark ausgepragt			4
NZ and France suggest : states 1 absent or weak, 2 medium and 3 strong					
53. (*)	Fruit: anthocyanin coloration around stone	Fruit: pigmentation anthocyanique autour du noyau	Frucht : Anthocyanfarbung im Bereich des Steines		
absent or very weakly expressed	absente ou tres faiblement exprimée	fehlend oder sehr gering ausgepragt		Springtime	1
weakly expressed	faiblement exprimée	gering ausgepragt			2
strongly expressed	fortement exprimée	stark ausgepragt			3
NZ and France suggest New presentaiton for character 54 Fruit: flesh fiber 1 absent, 9 present.					
54.	Fruit: texture of the flesh	Fruit: texture de la chair	Frucht : Beschaffenheit des Fleisches		
not fibrous	non fibreuse	nicht faserig		Redhaven	1
fibrous	febreuse	faserig		Sunhigh	2

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
NZ proposal : New character 54 a					
Fruit: flesh type-melting (1), non melting (canning, pavié) (2), stony hard (crisp) (3)					
(France: as information, char 49 non melting = very firm/melting = 1/3/5/7)					
DE and F: to be discussed in relation with char 49 and not for 54					
55.	Fruit: sweetness or IR (% Brix)	Fruit: gout sucré	Frucht: Susse		
	low	faible IR <10	gering	Armking, Alexandra, Delete: Merrill Gemfree	3
	medium	moyen IR >10-13	mittel	Dixired, Redhaven	5
	high	fort IR >13	stark	Philp, (Bonbon) = Maillardou	7
See below the new proposal from france: values as for information for drafters					
56.	Fruit: acidity (Acidity titrable) in meq 100/ml	Fruit: acidité	Frucht: saure		
	very low <5	très faible		Nacre, Opale, Ambre, Kevina, Redwing	1
	low 5-8	faible	gering	Felicia, Big Boum, Bigtop, Emeraude. Delete: Redwing	3
	medium 8-12	moyenne	mittel	Redtop, O'Henry, Ryan Sun. Delete: Redtop	5
	high 12-15	forte	stark	Hermione, Primerose, Richmay, Orion. Delete: Armking	7
	very high >15	très forte		Armking, Red Robin, Maycrest, Star Bright, Bracid	9
57. (*)	Stone: size compared to fruit	Noyau: taille par rapport a celle du fruit	Stein : Grosse im verhältnis zur frucht		
	small	petit	klein	Robin	3
	medium	moyen	mittel	Redhaven	5
	large	gros	gross	Somervee	7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
58. (*) (+)	Stone : shape (in lateral view)	Noyau: forme (vue latérale)	Stein : form (in Seitenansicht)			
	oblate	aplati	abgeflacht		Saturne, Delete: Plate de Chine Platicarpa	1
	round	rond	rund		Robin	2
	elliptic	elliptique	elliptisch		Loring	3
	obovate	obovoide	verkehrt, eiförmig		Rubidoux	4
59.	Stone: intensity of brown color	Noyau: intensité de la couleur brune	Stein : Aussehen der Oberfläche			
	light	claire	hell		Robin	3
	medium	moyenne	mittel			5
	dark	foncée	dunkel		Vivian	7
60.	Stone : relief of surface	Noyau : relief de la surface	Stein : Aussehen der Oberfläche			
	small pits	petites cavités	kleine vertiefungen		Ribet	1
	large pits	grandes cavités	grosse vertiefungen		Dugelay	2
	grooves	sillons	furchen		Charles Roux	3
	pits and grooves	cavités et sillons	vertiefungen und furchen		Madame Girerd	4
NZ proposes to delete, linked with shape. France does not agree.						
61.	Stone: tendency of splitting (at peak harvest)	Noyau: tendance a la fente (en pleine récolte)	Stein : tendenz zur spaltung (zur haupternte)			
	absent or very low	nul ou très faible	fehlend oder sehr gering		Fairhaven	1
	low	faible	gering		Dixired	3
	medium	moyen	mittel		Springgold	5
	high	élevé	gross		Cardinal	7
	very high	très élevé	sehr gross		Earlired	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
62. (*)	Stone : adherence to flesh	Noyau : adherence a la chair	Stein : Anhaften am fleisch			
	absent	absente	fehlend		Fairhaven, Fuzalode	1
	present	présente	vorhanden		Sweet Gold, Vivian	9
63.	Stone : degree of adherence to flesh	Noyau: degré d'adhérence a la chair	Stein : Starke des Anhaftens am Fleisch			
	weak	faible	gering		Dixired	3
	medium	moyenne	mittel		Springcrest	5
	strong	forte	stark		Vivian	7
64.	Time of leaf bud burst	Epoque de début de floraison	Zeitpunkt des Bluhbegins			
	very early	tres précoce	sehr fruh		Sunred	1
	early	précoce	fruh		Springtime	3
	medium	moyenne	mittel		Redhaven	5
	late	tardive	spat		Genadix 7	7
	very late	tres tardive	sehr spat		Philp	9
Value and trade marks as for informations for drafters, all to be deleted after use by the group						
65. (*)	Time of beginning of flowering	Epoque de début de floraison	Zeitpunkt des Bluhbegins			
	very early	tres précoce < 1 mars*	sehr fruh		Sunred, Queen Red (Zaitolio) Earlytop (Zaibop)	1
	early	précoce 1-7 mars	fruh		Springtime, Richlady	3
	medium	moyenne 8-14 mars	mittel		Emeraude (Monnude) Bigtop (Zaitabo) Delete : Red Haven	5
	late	tardive 15-21 mars	spat		Laurired (Maillarlau) Sweetcap (Maillarflat). Delete: Philp	7
	very late	tres tardive > 21 mars	sehr spat		Summerqueen	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
66. (*)	Duration of flowering	Durée de floraison	Dauer der Blüte			
	short	courte	kurz		Philp	3
	medium	moyenne	mittel		Redhaven	5
	long	longue	lang		Springtime	7
67. (*)	Time of maturity for consumption (or for eating NZ)	Epoque de maturité pour la consommation	Zeitpunkt der Genuss-reife			
	very early	tres précoce	sehr früh		Springtime	1
	early	précoce	früh		Robin	3
	medium	moyenne	mittel		Fairhaven	5
	late	tardive	spät		Veteran	7
	very late	tres tardive	sehr spät		Firetime, Rubidoux	9
68.	Tendency to preharvest drop	Tendance a la chute avant la récolte	Neigung zum Fruchtfall vor der Ernte			
	absent or very weak	nulle ou tres faible	fehlend oder sehr gering		Redhaven	1
	weak	faible	gering		Shasta	3
	medium	moyenne	mittel		Vesuvio	5
	strong	forte	stark		Sudanell	7
	very strong	tres forte	sehr stark		Jeronimo	

English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplos	Note/ Nota
Caractere 67: Time of maturity: do we have to decline it by varietal group (peach, nectarine, pavia, brugnon)?					
1:	< 10 juin	very early		Ricmay, (Amanda) Zaibaro	
2:	10-24 juin			(Rubriich) Zainoar, (Anita) Zaitani	
3:	25-10 juil	early		Rich Lady, Redwing	
4:	11-25 juil			Diamond Princess, (Melina) Craucail	
5:	26-10 aout	medium		Zee Lady, Fantasia, Summer Bright	
6:	11-25 aout			(Big Sun) Maillarbig, savana red, (Mid gold) Zaimor	
7:	26-10 spet	late		(Sun Late) Zairova, (Gladys) Zailati, Western red, Fairlane	
8:	> 10			Tardibelle, (Honey Gold) Andgold	

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)
- (b)

8.2 *Explanations for individual characteristics*

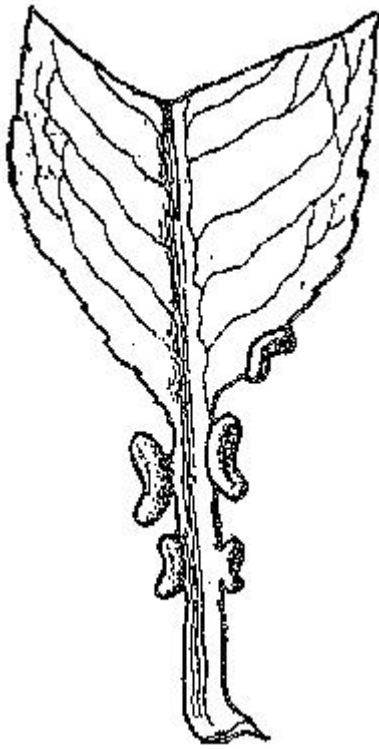
Char 2 Tree : vigor to give an explanation with a + (chapter 8) by M.Harsanyi (Hungary)

Char 3 Tree habit: to be observed the year before the main pruning, with a drawing as in the TG apricot and the TGP 142 1 2 p 29

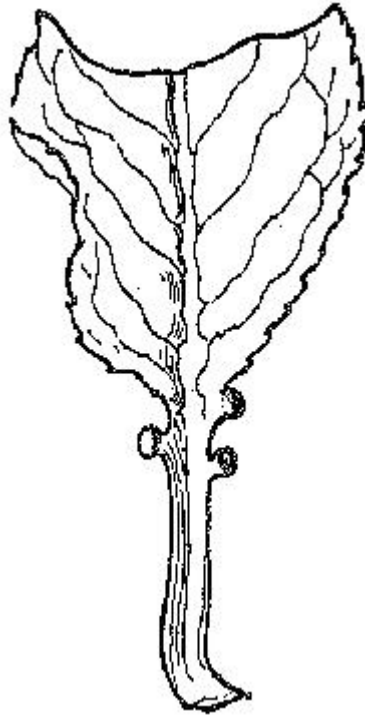
Char 10 Flower: type : to observe “just before opening”

Char 30

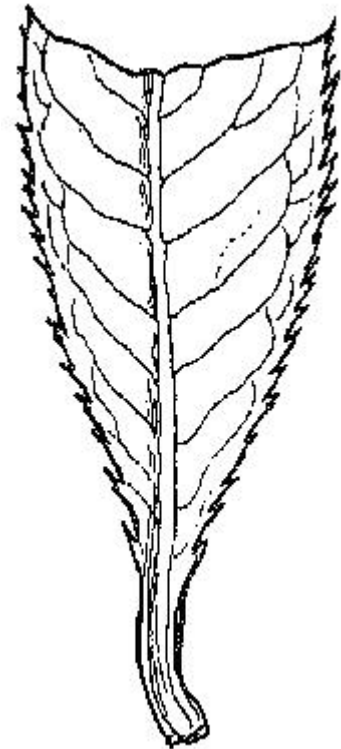
NZ comments: Nectaries are not only on the superior part of petiole, but also the leaf. France answer: More precisely on the base of the leaf (see at the end of this document: biblio. ref.: Handbook of peach and nectarine varieties – Performance in the Southeastern United States and index of names, W. R. Okie - United State Department of Agriculture - Agriculture Research Service - Agriculture Handbook Number 1714 – May 1998: page 12). This character, both on petiole and leaf, is fluctuant during the season ... So, the most important is that the shape and the number of glands, as well as the area (petiole/leaf), must be determined on adult, full-sized leaves of mature trees (*on the young leaves in growth, they are more or less well constituted and on too old leaves, they dry out and fall*), if possible in July for the UE countries, during a short period of one or two weeks for a set of varieties in experimentation / characterization.



nectaires réniformes



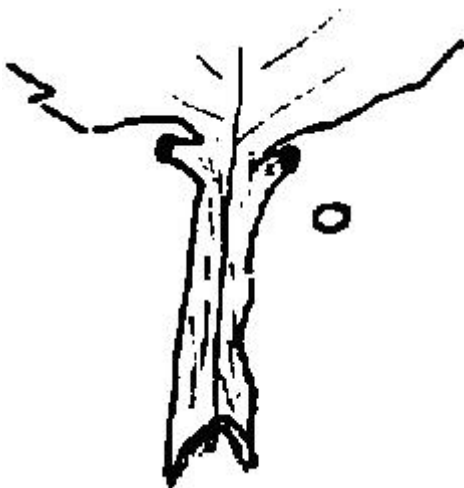
nectaires circulaires



absence de nectaire

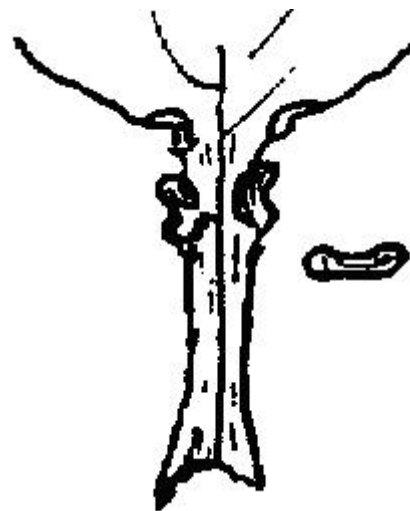
Ad/Add./Zu 31

Petiole: shape of nectaries/Pétale: forme des nectaires/Blattstiel: Form der Nektarien



1

Round/circulaires/rund

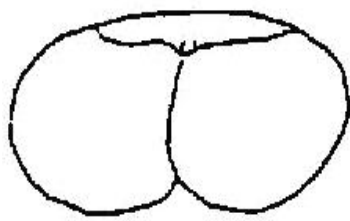


2

Reniform/réniformes/ruerenformig

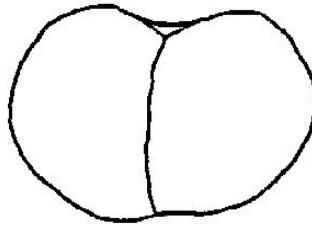
Ad/Add./Zu 34

Frucht: shape (in ventral view)/Fruit: forme (vue ventrale)/Frucht: Form (in Bauchansicht)



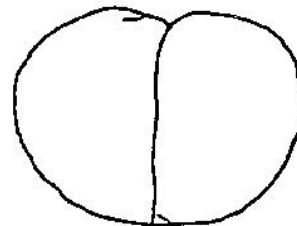
1

broad oblate/aplati large/breit
abgeflacht



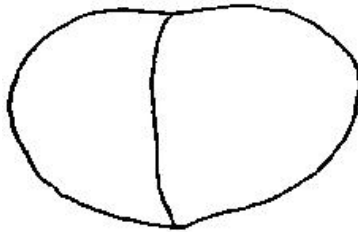
2

oblate/aplati/abgeflacht



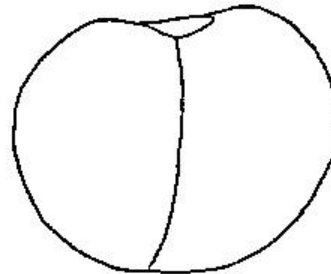
3

round/rond/rund



4

ovate/ovale/eifomig



5

elliptic/elliptique/elliptisch

Ad char 35 Fruit: shape of pistil

NZ comment: Character 35: This is not clear because a fruit can have a mucron and a depression

France: If you have a depression, it's difficult to consider that you have also a mucron ... or then, it's not really a mucron, in the sense agreed up to here by most of the peach specialists. Errors excepted in my part, I don't see inserted the "mucron mention" in the descriptors of the character 35? Otherwise, yes, we can also consider that the mucron is a depression towards the outside ...

NZ comment: (is it pointed or depressed?) and depression is correlated to the suture (character 37).

France: I do not agree with this last remark ...

NZ comment: There are really two characters in one.

France: I don't think that and I'm not in agreement with the next suggestion. For me, concerning "Fruit: shape of pistil end", 1: prominently pointed corresponds to a strong mucron (like "Armking" cultivated under greenhouse or Jerseyland) and 2: weakly pointed corresponds at a very little mucron like observed in the nectarines/brugnon "Zairupe - Super Crimson[®]"; "Zailavor - Flavorgold[®]" or "Siver King - Prita[®]"

NZ comment: Suggest

Fruit: shape of pistil end (excluding mucrons) 1 pointed 2 flat 3 depressed

new character 34a Fruit: mucron 1 absent 9 present

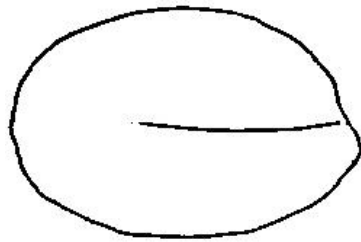
France: Why not suggest rather to modify the Character 34 as,

Fruit: shape (in ventral view) which could be merge (or not) with the Character 35, by proposing the classification included at the end of this document? (ref.: Handbook of peach

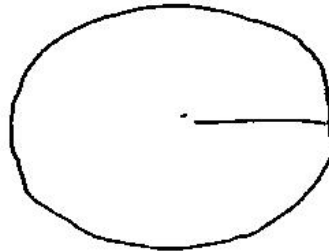
and nectarine varieties – Performance in the Southeastern United States and index of names, W. R. Okie - United State Department of Agriculture - Agriculture Research Service - Agriculture Handbook Number 1714 – May 1998: page 17).

Ad/Add./Zu 36

Fruit: symmetry (viewed from pistil end)/Fruit: symétrie (vue de l'extrémité pistillaire)/
Frucht: Symmetrie (vom Kelchende aus gesehen)



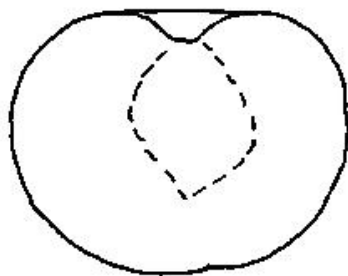
1
asymmetric/dissymétrique/
asymmetrisch



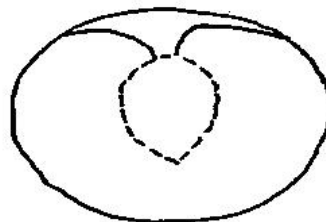
2
symmetric/symétrique/
symmetrisch

Ad/Add./Zu 38

Fruit: depth of stalk cavity/Fruit: profondeur de la cavité pédicellaire/Frucht: Tiefe der
Stielhöhle



3
shallow/peu profonde/flach



7
deep/profonde/tief

Ad/Add./Zu 58

Stone: shape (in lateral view)/Noyau: forme (vue latérale)/Stein: Form (in Seitenansicht)



1
oblate/aplati/
abgeflacht



2
round/rond/rund



3
elliptic/elliptique/
elliptisch



4
obovate/obovoide
/verkehut
eiförmig

Ad/Add./Zu 60

Stone: relief of surface/Noyau: relief de la surface/Stein: Aussehen der Oberfläche



1
small pits/petites
cavités/kleine
vertiefungen



2
large pits/grandes
cavités/grosse
vertiefungen



3
groove/sillons/furc
hen



4
spits and
grooves/cavités et
sillons/
vertiefungen und
furchen

9. Literature

- Bellini E., Scaramuzzi, F., 1975:"Pesco," Enciclopedia agraria italiana VIII, Roma, IT
- Bellini, E., 1981:"Il pesco," Cultivar. R.E.D.A., Roma, IT, pp. 9-90
- Bellini, E., Scaramuzzi, F. 1976:"Monografia delle principali cultivar di pesco," Vol. II., C.N.R., Firenze, IT, 564 pp.
- Blaha, J., 1966:"Broskovone, merunky, mandlone (peach, apricot, almond)," Ceskoslovenska Akademie VED, Praha, Czechoslovakia, 438 pp.
- Brozik, S., "Termesztett gyumolcsfajtáink 2. Csonthejastermesűek. Oszibarack (Fruit varieties 2., stone fruits peach)," Mezőgazdasági Kiadó, Budapest, HU, 64 pp.
- Caillavet, H., 1975:"Variétés de pêcheurs," Maison de l'agriculture, Perpignan, 213 pp.
- Caillavet, H., Souty, J., 1950:"Monographie des principales variétés de pêcher," Société Bordelaise d'Imprimerie, Bordeaux, FR, 416 pp.
- Childers, N.F., 1975: "The peach, varieties, culture etc." 1 Tome
- CTIFL, 2002: Les variétés de pêches et de nectarines. Ed. CTIFL, Paris, FR, 223 p.
- CTIFL, 1994: Pêche, les variétés et leur conduite. Ed. CTIFL, Paris, FR, 306 p.
- Fideghelli, C., Bassi, D., Bellini, E., Monastra, F., 1980: "Schede per il registro varietale dei fruttiferi 2 - pesco," M.A.F.-S.O.I., Roma, IT, 104 pp.
- Fideghelli, C., Monastra, F., Faedi, W., Rosati, P., 1977: "Monografia di cultivar di nettarine," Ministero Agricoltura e Foreste, Roma, IT, 88 pp.
- Hugard, J., Saunier, R., 1965:"Monographie des principales variétés de pêcher," période d'études 1950-1962, Institut national de la recherche agronomique (INRA), Paris, FR, 276 pp.
- IRTA, 2002: Melocotonero, las variedades de más interés. Ed. IRTA, Barcelona, ESP, 287 p.
- Leroy, A., 1867:"Dictionnaire de pomologie," 2 Tomes
- Loreti, F., Fiorino, P., 1972:"Monografia delle principali cultivar di nettarine," C.N.R., Pisa, IT, 340 pp.
- Morettini, A., Baldini, E., Scaramuzzi, F., Bargioni, G., Pisani, P.L., 1972: "Monografia delle principali cultivar di pesco," C.N.R., Firenze, IT, 636 pp.
- Morettini, A., et al., 1967:"Monografia delle principali cultivar di pesco," Consiglio nazionale delle Ricerche. Centro miglioramento piante da frutto e da orto, Firenze, IT, 633 pp.
- Okayama-ken, 1978:"The report on the characterization and classification of peach varieties," Okayama-ken (By consignment of the MAFF), JP, 267 pp.

Sansavini, S., Bargioni, G., Basso, M., Fideghelli, C. et al., 1974:"Pesche da industria," Ministero Agricoltura e Foreste, Bologna, IT, 136 pp.

Saunier, R., 1979:"Variétés de pêchers, nectarines et poires," 1 Tome, Publication CTIFL, rue Bergère, Paris, FR

Seronie-Vivien, A., 1984:"Etude morphologique et physiologique de différents types écologiques de pêchers et une de leur utilisation comme porte-greffe," DEA-INRA-Bordeaux, FR

Timon, B., 1976:"Oszibarack (peach)," Mezogazdasagi Kiado, Budapest, HU, 424 pp.

10 Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1.1 Botanical name	<i>Prunus persica</i> (L.) Batsch var. <i>persica</i>	
1.1.2 Common name	Peach	[...]
1.2.1 Botanical name	<i>Prunus persica</i> (L.) Batsch var. <i>nucipersica</i> (Suckow) C. K. Schneid.	
1.2.2 Common name	Nectarine	[...]
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
<p>3. Proposed denomination and breeder's reference</p> <p>Proposed denomination (if available) <input data-bbox="625 434 1350 486" type="text"/></p> <p>Breeder's reference <input data-bbox="625 560 1350 611" type="text"/></p>		

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) cuttings []
- (b) *in vitro* propagation []
- (c) 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:	
<p>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).</p>			
Characteristics	Example Varieties	Note	
<p>5.1 Tree: size (1)</p> <p>very small</p> <p>small</p> <p>medium</p> <p>large</p> <p>very large</p>	<p>Bonanza</p> <p>Richaven</p> <p>Robin</p> <p>Redhaven</p> <p>Champion</p>	<p>1[]</p> <p>3[]</p> <p>5[]</p> <p>7[]</p> <p>9[]</p>	
<p>5.2 Flowering shoot: (6)</p> <p>absent</p> <p>present</p>	<p>De Flor doble blanca</p> <p>Springtime</p>	<p>1 []</p> <p>9[]</p>	
<p>5.3 Flower: type (10)</p> <p>non-showy</p> <p>showy</p>	<p>Springtime</p> <p>Robin</p>	<p>1[]</p> <p>2[]</p>	
<p>5.4 Petal: size (14)</p> <p>very small</p> <p>small</p> <p>medium</p> <p>large</p> <p>very large</p>	<p>Redhaven</p> <p>Shasta</p> <p>Robin, Sunhigh</p> <p>Michelini</p> <p>Veteran</p>	<p>1[]</p> <p>3[]</p> <p>5[]</p> <p>7[]</p> <p>9[]</p>	
<p>5.5 Petiole: nectaires (30)</p> <p>absent</p> <p>present</p>	<p>Tejon</p> <p>Redhaven</p>	<p>1[]</p> <p>9[]</p>	

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics		Example Varieties	Note
5.6	Petiole: shape of nectaries		
(31)			
	round	Springtime	1[]
	reniform	Redhaven	2[]
5.7	Fruit: ground color of flesh		
(50)			
	greenish white		1[]
	white		2[]
	cream white		3[]
	light yellow		4[]
	yellow		5[]
	orange yellow		6[]
	orange		7[]
	red		8[]
5.8	Stone: adherence to flesh		
(62)			
	absent	Fairhaven, Fuzalode	1[]
	present	Sweet Gold, Vivian	9[]
5.9	Time of beginning of flowering		
(65)			
	very early	Sunred	1[]
	early	Springtime	3[]
	medium	Redhaven	5[]
	late	Philp	7[]
	very late	Summerqueen	9[]

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics		Example Varieties	Note
5.10	Time of maturity for consumption		
(67)			
	very early	Springtime	1[]
	early	Robin	3[]
	medium	Fairhaven	5[]
	late	Veteran	7[]
	very late	Firetime, Rubidoux	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
<p>6. Similar varieties and differences from these varieties</p> <p><i>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.</i></p>			
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
<i>Example</i>	<i>Flower color</i>	<i>orange</i>	<i>orange red</i>
<p>Comments:</p>			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
<p>#7. Additional information which may help in the examination of the variety</p> <p>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?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.2 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes [] No []</p> <p>(If yes, please provide details)</p> <p>7.3 Other information</p> <p>A representative color photograph of the variety should accompany the Technical Questionnaire.</p> <p>4.2 <u>In vitro</u> propagation/Multiplication <u>in vitro</u>/In-vitro-Vermehrung:</p> <p>The plant material has been obtained by <u>in vitro</u> propagation/yes/oui/ja [] le matériel végétal a été obtenu par multiplication <u>in vitro</u>/ Das Pflanzenmaterial wurde mit Hilfe der <u>In-vitro</u>-Vermehrung erzeugt no/non/nein []</p> <p>4.3 Pollinator/Pollinisateur/Pollenspender</p> <p>Good pollinators are the following varieties/Les variétés suivantes sont de bons pollinisateurs/Folgende Sorten sind gute Pollenspender:</p> <p>.....</p> <p>4.4 Virus status/État sanitaire vis-à-vis des virus/Virusstatus The variety is/La variété est/Die Sorte ist</p> <p>(i) virus free/indemne de virus/virusfrei [] (indicate viruses/préciser les virus/Viren angeben)</p> <p>.....</p> <p>(ii) virus tested/testée vis-à-vis des virus/virusgetestet [] (indicate against which virus/préciser contre quel(s) virus/ angeben gegen welche Viren)</p> <p>.....</p> <p>(iii) The virus status is unknown/L'état sanitaire vis-à-vis des virus est inconnu/Der Virusstatus ist nicht bekannt []</p>		

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:												
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes [] No []</p> <p>(b) Has such authorization been obtained?</p> <p>Yes [] No []</p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>														
<p>9. Information on plant material to be examined or submitted for examination.</p> <p>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.</p> <p>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:</p> <table data-bbox="284 1328 1406 1585"><tbody><tr><td>(a) Microorganisms (e.g. virus, bacteria, phytoplasma)</td><td>Yes []</td><td>No []</td></tr><tr><td>(b) Chemical treatment (e.g. growth retardant, pesticide)</td><td>Yes []</td><td>No []</td></tr><tr><td>(c) Tissue culture</td><td>Yes []</td><td>No []</td></tr><tr><td>(d) Other factors</td><td>Yes []</td><td>No []</td></tr></tbody></table> <p>Please provide details for where you have indicated “yes”.</p> <p>.....</p>			(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 []
(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 []												

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	<input type="text"/>	
Signature	<input type="text"/>	Date <input type="text"/>

[End of document]

Notes

a

UPOV CODE	BOTANICAL NAMES	ENGLISH	FRENCH	GERMAN	SPANISH
PRUNU_PER	Persica vulgaris Mill.; Prunus L. subg. Persica; Prunus persica (L.) Batsch	Peach	Pêcher	Pfirsich	Durazno; Melocotonero
PRUNU_PER_NUC	Prunus nucipersica; Prunus persica (L.) Batsch var. nucipersica (Suckow) C. K. Schneid.; Prunus persica (L.) Batsch var. nucipersica (Suckow) Schneid.; Prunus persica var. nectarina (Aiton) Maxim.	Nectarine	Brugnon; Nectarine	Nektarine; Nektarinenba um	Nectarina
PRUNU_PER_PER	Prunus persica (L.) Batsch var. persica	Peach	Brugnonier; Pêcher	Pfirsich; Pfirsichbaum	Abridor; Duraznero; Durazno; Melocotonero