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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

ENLARGED EDITORIAL COMMITTEE

Geneva, January 8 and 9, 2014

PARTIAL REVISION OF THE TEST GUIDELINES FOR PEACH
(DOCUMENT TG/53/7)*Document prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance*

1. At its forty-fourth session held in Napier, New Zealand, from April 29 to May 3, 2013, the Technical Working Party for Fruit Crops (TWF) considered the partial revision of the Test Guidelines for Peach on the basis of documents TG/53/7 and TWF/44/29 (see document TWF/44/31 "Report", paragraph 75) and proposes that the Test Guidelines for Peach be amended as follows:

Cover page: Alternative names*Current wording:*

<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	Pêcher	Pfirsich	Durazno, Melocotonero

Proposed new wording:

<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	Pêcher	Pfirsich	Duraznero, Melocotonero

Chapter 2.3*Current wording:*

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

5 grafted trees.

Proposed new wording:

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

3 grafted trees.

Chapter 3.4.1

Current wording:

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

Proposed new wording:

Each test should be designed to result in a total of at least 3 trees.

Chapter 3.5 “Number of Plants / Parts of Plants to be Examined”

Current wording:

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 2.

Proposed new wording:

Unless otherwise indicated, all observations should be made on 3 plants or parts taken from each of 3 plants. In the case of parts of plants, the number to be taken from each of the plants should be 5 at least.

Chapter 4.2.2

Current wording:

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.

Proposed new wording:

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 3 plants, no off-types are allowed.

Chapter 5.3 “Grouping Characteristics”

- (a) Tree: size (characteristic 1)
- (b) Flowering shoot: presence of anthocyanin coloration (characteristic 6)
- (c) Flower: type (characteristic 9)
- (d) Anthers: pollen (characteristic 17)
- ~~(e) Ovary: pubescence (characteristic 18)~~
- (e) Leaf blade: red mid-vein on the lower side (characteristic 28)
- (f) Petiole: nectaries (characteristic 30)
- (g) Petiole: shape of nectaries (characteristic 31)
- (h) Fruit: shape (in ventral view) (characteristic 33)
- (i) Fruit: pubescence of skin (characteristic 44)
- (j) Fruit: carotenoid coloration of flesh (characteristic 51)
- (k) Fruit: acidity (characteristic 57) with the following groups:
 - low
 - medium
 - high
- (l) Fruit: flesh type (TQ characteristic), with the following groups:
 - melting
 - non-melting (pavies)
 - stony hard
- ~~(m) Stone: adherence to flesh (characteristic 64)~~
- (m) Time of beginning of flowering (characteristic 67/66)
- (n) Time of harvest maturity for consumption (characteristic 68/67)

Chapter 6.5 "Legend"

Current wording:

- (*) Asterisk 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
- (a)-(g) See Explanations on the Table of Characteristics in Chapter 8.1
- (+) See Explanations on the Table of Characteristics in Chapter 8.2

Proposed new wording:

- (*) Asterisk 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
- 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
- (a)-(g) See Explanations on the Table of Characteristics in Chapter 8.1
- (+) See Explanations on the Table of Characteristics in Chapter 8.2

Chapter 7 “Table of Characteristics”

Amendments to method of observation: (number of characteristics based on document TG/53/7)

Method of observation	Characteristics
VG	1, 2, 4, 5, 8, 9, 10, 11, 14, 16, 17, 18, 19, 23, 24, 25, 26, 27, 30, 31, 32, 33, 34, 36, 37, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 51, 56, 60, 61, 62
MS	50
MG	57, 59, 66, 67, 59
VG/MS	12, 13, 20, 21, 22, 29, 38, 39

Amendments to example varieties:

Char. 1	state 1	to add “Bonfire, Pix Zee, Zaino”
Char. 5	state 1	to add “Bonfire, Pix Zee, Zaino”
Char. 8	state 3	to delete “O’Henry”, to add “Mercil”
Char. 21	state 7	to delete “Dixinel”, to add “Dixired”
Char. 24	state 3	to delete “Flor de Guaid”, to add “Bailey”
Char. 25	state 3	to delete “Merrill Fransiscan”, to add “Merrill Franciscan”
Char. 27	state 5	to add “Garnem, Goldcrest”
Char. 32	state 7	to delete “Royalglory”, to add “Zaifer”
Char. 34	state 9	to delete “Jersey Land”, to add “Jerseyland”
Char. 36	state 2	to delete “Brittaney Lane”, to add “Brittney Lane”
	state 3	to delete “Precoccissima Moretini”, to add “Precocissima Moretini”
Char. 37	state 5	to add “Précoce de Hale, Amsden, May Flower”
Char. 40	state 2	to delete “Rubberima”, to add “Ruberrina”
Char. 41	state 1	to add “Ghiaccio 1, Zholy”
Char. 43	state 1	to delete “Flavorcrest”, to add “Zaitabo”
	state 2	to delete “Merill Sundance”, to add “Merrill Sundance”
Char. 45	state 7	to delete “Earlyvee”, to add “Erlyvee”
Char. 47	state 3	to delete “Royal gem”, to add “Zairegem”
Char. 50	state 1	to add “Moretini n°1, Springtime”
	state 5	to delete “Redhaven”, to add “Flavorcrest, Redtop”
	state 7	to delete “Redtop”, to add “Honey Blaze, Zaitabo”
	state 9	to delete “Vivian”, to add “Ghiaccio 2”
Char. 51	state 6	to delete “Merill Franciscan”, to add “Merrill Franciscan”
Char. 56	state 1	to delete “Merryl Gemfree”, to add “Merrill Gemfree”
Char. 57	state 1	to delete “Ambre, Kevine, Nacre, Opale, Zaiboni”, to add “ Monna, Zaibomi, Zaidaso”
	state 2	to delete “Felicia, Monprime”, to add “Zaifave, Zaitabo”
	state 3	to delete “O’Henry, Ryan Sun, Zaitabo”, to add “Mercil, Monprime, Ryans Sun”
	state 4	to delete “Hermione, Primerose”, to add “ Kraprim, Zailice”

Characteristic 3 "Tree: habit"

Current wording:

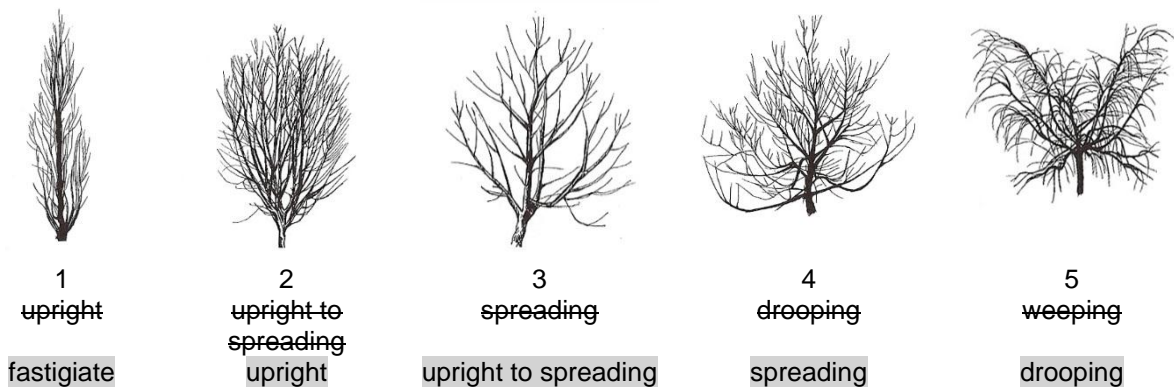
3. (*) (+)	Tree: habit	Arbre : port	Baum: Wuchsform	Árbol: porte		
QN	(a) upright	dressé	aufrecht	erecto	Nectarose, Pillar	1
	upright to spreading	dressé à étalé	aufrecht bis breitwüchsig	erecto hacia extendido	Fairhaven, Redwing	2
	spreading	étalé	breitwüchsig	extendido	Albertina, Elegant Lady, O'Henry	3
	drooping	retombant	überhängend	colgante	Charles Roux	4
	weeping	très retombant	lang überhängend	llorón	Biancopedulo	5

Proposed new wording:

3. (*) (+)	VG	Tree: habit	Arbre : port	Baum: Wuchsform	Árbol: porte	
QN	(a)	fastigate	fastigié	sehr aufrecht	fastigiado	Nectarose, Pillar 1
		upright	dressé	aufrecht	erecto	Fairhaven, Redwing 2
		upright to spreading	dressé à étalé	aufrecht bis breitwüchsig	erecto hacia extendido	Albertina, Elegant Lady, Mercil 3
		spreading	étalé	breitwüchsig	extendido	Charles Roux 4
		drooping	retombant	überhängend	colgante	Biancopedulo 5

Ad. 3: Tree: habit

To be observed the year before the main pruning.



Characteristic 6 “Flowering shoot: presence of anthocyanin coloration”*Current wording:*

6.		Flowering shoot: presence of anthocyanin coloration	Rameau mixte : présence de la pigmentation anthocyanique	Blütentrieb: Vorhandensein von Anthocyanfärbung	Rama floral: presencia de pigmentación antociánica		
QL	(d)	absent	absente	fehlend	ausente	De flor doble blanca	1
		present	présente	vorhanden	presente	Robin	9

Proposed new wording:

6. (*)	VG	Flowering shoot: presence of anthocyanin coloration	Rameau mixte : présence de la pigmentation anthocyanique	Blütentrieb: Vorhandensein von Anthocyanfärbung	Rama floral: presencia de pigmentación antociánica		
QL	(d)	absent	absente	fehlend	ausente	De flor doble blanca	1
		present	présente	vorhanden	presente	Robin	9

Characteristic 7 “Flowering shoot: intensity of anthocyanin coloration”*Current wording:*

7. (+)		Flowering shoot: intensity of anthocyanin coloration	Rameau mixte : intensité de la pigmentation anthocyanique	Blütentrieb: Intensität der Anthocyanfärbung	Rama floral: intensidad de la pigmentación antociánica		
QN	(d)	weak	faible	gering	débil	Springtime	3
		medium	moyenne	mittel	media	Fuzalode	5
		strong	forte	stark	fuerte	Robin, Sanguine Chanas	7

Proposed new wording:

7. (+)	VG	Flowering shoot: intensity of anthocyanin coloration	Rameau mixte : intensité de la pigmentation anthocyanique	Blütentrieb: Intensität der Anthocyanfärbung	Rama floral: intensidad de la pigmentación antociánica		
QN	(d)	very weak	très faible	sehr gering	muy débil	Biancopedulo, De flor doble blanca,	1
		weak	faible	gering	débil	Springtime	3
		medium	moyenne	mittel	media	Fuzalode	5
		strong	forte	stark	fuerte	Robin, Sanguine Chanas	7

Characteristic 15 “Stamen: position compared to petals”

Current wording:

15. (+)	Stamen: position compared to petals	Étamines : position par rapport aux pétales	Staubgefäße: Stellung im Verhältnis zu den Blütenblättern	Estambre: posición relativa a los pétalos		
QN	(d) below	au-dessous	unterhalb	por debajo	Loring	1
	(e) at same level	au même niveau	auf gleicher Höhe	en el mismo nivel	Robin, Springtime	2
	above	au-dessus	oberhalb	por encima	Redhaven	3

Proposed new wording:

15. (+)	VG Stamen: position compared to petals	Étamines : position par rapport aux pétales	Staubgefäße: Stellung im Verhältnis zu den Blütenblättern	Estambre: posición relativa a los pétalos		
QN	(d) below	au-dessous	unterhalb	por debajo	Loring	1
	(e) same level	même niveau	gleiche Höhe	mismo nivel	Robin, Springtime	2
	above	au-dessus	oberhalb	por encima	Redhaven	3

Ad. 15: Stamen: position compared to petals



1
below



2
at same level
same level



3
above

Characteristic 28 “Leaf blade: red mid-vein on the lower side”*Current wording:*

28.	Leaf blade: red mid-vein on the lower side	Nervure principale rouge face inférieure	Blattspreite: rote Hauptader auf der Unterseite	Limbo: nervio central rojo en el envés		
QL	(b) absent	absente	fehlend	ausente	Redhaven	1
	present	présente	vorhanden	presente	Sanguine Chanas	9

Proposed new wording:

28. (*) (+)	VG	Leaf blade: red mid-vein on the lower side	Nervure principale rouge face inférieure	Blattspreite: rote Hauptader auf der Unterseite	Limbo: nervio central rojo en el envés		
QL	(b)	absent	absente	fehlend	ausente	Redhaven	1
		present	présente	vorhanden	presente	Sanguine Chanas	9

Ad. 28: Leaf blade: red mid-vein on the lower side

To be observed during the period of new leaf growth.

Characteristic 35 “Fruit: shape of pistil end (excluding mucron tip)”*Current wording:*

35. (+)	Fruit: shape of pistil end (excluding mucron tip)	Fruit : forme de l'extrémité pistillaire (mucron non compris)	Frucht: Form des Kelchendes (außer aufgesetzte Spitze)	Fruto: forma del extremo del pistilo (la punta del mucrón excluida)		
	prominently pointed	nettement pointue	deutlich zugespitzt	destacadamente puntiagudo	Jersey Land	1
	weakly pointed	faiblement pointue	schwach zugespitzt	débilmente puntiagudo	Springtime	2
	flat	plate	flach	plano	Redhaven	3
	weakly depressed	faiblement déprimée	schwach eingesenkt	débilmente hundido	Robin	4
	strongly depressed	fortement déprimée	stark eingesenkt	muy hundido	Bailou, UFO3	5

Proposed new wording:

35. (+)	VG	Fruit: shape of pistil end (excluding mucron tip)	Fruit : forme de l'extrémité pistillaire (mucron exclu)	Frucht: Form des Kelchendes (außer aufgesetzte Spitze)	Fruto: forma del extremo del pistilo (la punta del mucrón excluida)		
QN		prominently pointed	nettement pointue	deutlich zugespitzt	destacadamente puntiagudo	Jerseyland	1
		weakly pointed	faiblement pointue	schwach zugespitzt	débilmente puntiagudo	Springtime	2
		flat	plate	flach	plano	Redhaven	3
		weakly depressed	faiblement déprimée	schwach eingesenkt	débilmente hundido	Robin	4
		strongly depressed	fortement déprimée	stark eingesenkt	muy hundido	Bailou, UFO3	5

Characteristic 48 "Fruit: thickness of skin"

Current wording:

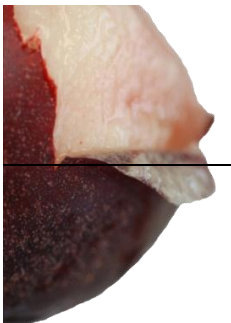
48.	Fruit: thickness of skin	Fruit : épaisseur de l'épiderme	Frucht: Dicke der Haut	Fruto: grosor de la piel		
(+)						
QN	(f) thin	faible	dünn	fina	Fuzalode	1
	medium	moyenne	mittel	media	Mme Girerd	2
	thick	forte	dick	gruesa	Carman	3

Proposed new wording:

48.	Fruit: thickness of skin	Fruit : épaisseur de l'épiderme	Frucht: Dicke der Haut	Fruto: grosor de la piel		
(+)						
QN	(f) thin	faible	dünn	fina	Fuzalode	1
	medium	moyenne	mittel	media	Mme Girerd	2
	thick	forte	dick	gruesa	Carman	3

Ad. 48: Fruit: thickness of skin

— ~~excluding pubescence~~



Characteristic 52 "Fruit: anthocyanin coloration of flesh next to skin"

Characteristic 52 to be split into two characteristics.

Current wording:

52. (* (+)	Fruit: anthocyanin coloration of flesh next to skin	Fruit : pigmentation anthocyanique sous-épidermique	Frucht: Anthocyanfärbung direkt unter der Haut	Fruto: pigmentación antociánica de la pulpa pegada a la piel		
QN	(f) absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Redhaven	1
	weak	faible	gering	débil	Daisy, Dolores, Monco	2
	strong	forte	stark	fuerte	Monalu, Monof, Rich May, Sanguine Chanas, Sanguine Vineuse, Zairegem	3

Proposed new wording:

52. (* (+)	VG Fruit: anthocyanin coloration of flesh next to skin	Fruit : pigmentation anthocyanique sous-épidermique	Frucht: Anthocyanfärbung direkt unter der Haut	Fruto: pigmentación antociánica de la pulpa pegada a la piel		
QL	(f) absent	absente	fehlend	ausente	Springfire	1
	present	présente	vorhanden	présente	Sanguine Vineuse	9
NEW (* (+)	VG <u>Only varieties with anthocyanin coloration of flesh next to skin:</u> <u>present: Fruit: degree of anthocyanin coloration of flesh next to skin</u>	<u>Uniquement variétés avec pigmentation anthocyanique sous-épidermique :</u> <u>présente : Fruit : degré de pigmentation anthocyanique sous-épidermique</u>	<u>Nur Sorten mit Anthocyanfärbung direkt unter der Haut:</u> <u>vorhanden: Frucht: Anthocyanfärbung direkt unter der Haut</u>	<u>Únicamente variedades con pigmentación antociánica de la pulpa pegada a la piel:</u> <u>presente: Fruto: intensidad de la pigmentación antociánica de la pulpa pegada a la piel</u>		
QN	(f) weak	faible	schwach	débil	Daisy, Dolores, Monco	1
	medium	moyenne	mittel	media	Rich May, Zairegem, Merrill Franciscan	2
	strong	forte	stark	fuerte	Monalu, Monof, Sanguine Chanas, Sanguine Vineuse	3

Ad. 52 NEW: Only varieties with anthocyanin coloration of flesh next to skin: present: Fruit: degree of anthocyanin coloration of flesh next to skin



1

absent or very weak
weak



2

weak
medium



3

strong

Characteristic 53 “Fruit: anthocyanin coloration of flesh in central part of flesh”

Characteristic 53 to be split into two characteristics.

Current wording:

53. (*) (+)	Fruit: anthocyanin coloration of flesh in central part of flesh	Fruit : pigmentation anthocyanique de la partie centrale de la chair	Frucht: Anthocyanfärbung des Fleisches im mittleren Teil des Fruchtfleisches	Fruto: pigmentación antociánica de la parte central de la pulpa		
QN	(f) absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Robin	1
	weak	faible	gering	débil	Dolores, Monco	2
	strong	forte	stark	fuerte	Monof, Zairegem	3

Proposed new wording:

53. (*)	VG Fruit: anthocyanin coloration of flesh in central part of flesh	Fruit : pigmentation anthocyanique de la partie centrale de la chair	Frucht: Anthocyanfärbung des Fleisches im mittleren Teil des Fruchtfleisches	Fruto: pigmentación antociánica de la parte central de la pulpa		
QL	(f) absent	absente	fehlend	ausente	Springfire	1
	present	présente	vorhanden	presente	Monof	9
NEW (*) (+)	VG <u>Only varieties with anthocyanin coloration of flesh in central part of skin: present: Fruit: degree of anthocyanin coloration of flesh in central part of flesh</u>	<u>Uniquement variétés avec pigmentation anthocyanique dans la partie centrale de la chair : présente :</u> Fruit : degré de pigmentation anthocyanique de la partie centrale de la chair	<u>Nur Sorten mit Anthocyanfärbung direkt unter der Haut: vorhanden: Frucht: Anthocyanfärbung des Fleisches im mittleren Teil des Fruchtfleisches</u>	<u>Únicamente variedades con pigmentación antociánica en la parte central de la pulpa: presente: Fruto: intensidad de la pigmentación antociánica de la parte central de la pulpa</u>		
QN	(f) weak	faible	schwach	débil	Robin	1
	medium	moyenne	mittel	media	Dolores, Monco, Suncrest	2
	strong	forte	stark	fuerte	Monof, Zairegem	3

Ad. 53 NEW: Only varieties with anthocyanin coloration of flesh in central part of skin: present: Fruit: degree of anthocyanin coloration of flesh in central part of flesh



1
absent or very weak
weak



2
weak
medium



3
strong

Characteristic 54 “Fruit: anthocyanin coloration of flesh around stone”

Characteristic 54 to be split into two characteristics.

Current wording:

54. (* (+)	Fruit: anthocyanin coloration of flesh around stone	Fruit : pigmentation anthocyanique de la chair autour du noyau	Frucht: Anthocyanfärbung im Bereich des Steines	Fruto: pigmentación antociánica de la pulpa alrededor del hueso		
QN	(f) absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Springtime	1
	medium	moyenne	gering	media	Ryan Sun	2
	strong	forte	stark	fuerte	Summer Lady, Zaipeo	3

Proposed new wording:

54. (* (+)	VG	Fruit: anthocyanin coloration of flesh around stone	Fruit : pigmentation anthocyanique de la chair autour du noyau	Frucht: Anthocyanfärbung im Bereich des Steines	Fruto: pigmentación antociánica de la pulpa alrededor del hueso		
QL	(f)	absent	absente	fehlend	ausente	Springfire	1
		present	présente	vorhanden	presente	Summer Lady	9
NEW (* (+)	VG	<u>Only varieties with anthocyanin coloration of flesh around stone:</u> present: Fruit: degree of anthocyanin coloration of flesh around stone	<u>Uniquement variétés avec pigmentation anthocyanique de la chair autour du noyau : présente :</u> Fruit : degré de pigmentation anthocyanique de la chair autour du noyau	<u>Nur Sorten mit Anthocyanfärbung im Bereich des Steines:</u> vorhanden: Frucht: Anthocyanfärbung im Bereich des Steines	<u>Únicamente variedades con pigmentación antociánica de la pulpa alrededor del hueso:</u> presente: Fruto: intensidad de la pigmentación antociánica de la pulpa alrededor del hueso		
QN	(f)	weak	faible	schwach	débil	Andross, Ghiaccio 1	1
		medium	moyenne	mittel	media	Ryans Sun	2
		strong	forte	stark	fuerte	Summer Lady, Zaipeo	3

Ad. 54 NEW: Only varieties with anthocyanin coloration of flesh around stone: present: Fruit: degree of anthocyanin coloration of flesh around stone



1
absent or very weak
weak



2
medium



3
strong

Characteristic 55 "Fruit: flesh fiber"

Current wording:

55.	Fruit: flesh fiber	Fruit : chair fibreuse	Frucht: Fleischfasern	Fruto: pulpa fibrosa		
QN	(f) absent or weak	absente ou faible	fehlend oder schwach	ausente o débil	Redhaven	1
	moderate	modérée	mäßig	moderada		2
	strong	forte	stark	fuerte	Sunhigh	3

Proposed new wording:

55.	VG Fruit: flesh fiber	Fruit : chair fibreuse	Frucht: Fleischfasern	Fruto: pulpa fibrosa		
(+)						
QN	(f) absent or weak	absente ou faible	fehlend oder schwach	ausente o débil	Redhaven	1
	medium	moyenne	mittel	media		2
	strong	forte	stark	fuerte	Sunhigh	3

Ad. 55: Fruit: flesh fiber

The flesh fiber is evaluated by biting into the flesh to determine the extent of fiber.

Characteristic 58 "Stone: size compared to fruit"

Current wording:

58. (* (+)	Stone: size compared to fruit	Noyau : taille par rapport à celle du fruit	Stein: Größe im Verhältnis zur Frucht	Hueso: tamaño con respecto al fruto		
QN	(g) small	petit	klein	pequeño	Alex, Robin	3
	medium	moyen	mittel	mediano	Redhaven	5
	large	gros	groß	grande	Somervee	7

Proposed new wording:

58. (* (+)	MG	Stone: size in relation to fruit	Noyau : taille par rapport à celle du fruit	Stein: Größe im Verhältnis zur Frucht	Hueso: tamaño con respecto al fruto		
QN	(g)	small	petit	klein	pequeño	Alex, Robin	3
		medium	moyen	mittel	mediano	Redhaven	5
		large	gros	groß	grande	Somervee	7

Characterstics 63 “Stone: tendency to split” and 64 “Stone: adherence to flesh”

Current wording:

63. (+)	Stone: tendency to split	Noyau : tendance à fendre	Stein: Tendenz zur Spaltung	Hueso: tendencia a fisurarse		
QN	(g) absent or very low	nul ou très faible	fehlend oder sehr gering	ninguna o muy débil	Fairhaven	1
	low	faible	gering	débil	Dixired	3
	medium	moyen	mittel	media	Springold	5
	high	élevé	groß	elevada	Cardinal	7
	very high	très élevé	sehr groß	muy elevada	Earlired	9
64. (*)	Stone: adherence to flesh	Noyau : adhérence à la chair	Stein: Anhaften am Fleisch	Hueso: adherencia a la pulpa		
QL	(g) absent	absente	fehlend	ausente	Fairhaven, Fuzalode	1
	present	présente	vorhanden	presente	Sweet Gold, Vivian	9

Proposed new wording:

63. (+)	Stone: tendency to split	Noyau : tendance à fendre	Stein: Tendenz zur Spaltung	Hueso: tendencia a fisurarse		
QN	(g) absent or very low	nul ou très faible	fehlend oder sehr gering	ninguna o muy débil	Fairhaven	1
	low	faible	gering	débil	Dixired	3
	medium	moyen	mittel	media	Springold	5
	high	élevé	groß	elevada	Cardinal	7
	very high	très élevé	sehr groß	muy elevada	Earlired	9
64. 63. (*)	Stone: adherence to flesh	Noyau : adhérence à la chair	Stein: Anhaften am Fleisch	Hueso: adherencia a la pulpa		
QL	(g) absent	absente	fehlend	ausente	Fairhaven, Fuzalode	1
	present	présente	vorhanden	presente	Sweet Gold, Vivian	9

Characteristic 65 “Stone: degree of adherence to flesh”

Current wording:

65.	Stone: degree of adherence to flesh	Noyau : degré d'adhérence à la chair	Stein: Stärke des Anhaftens am Fleisch	Hueso: grado de adherencia a la pulpa		
QN	(g) weak	faible	gering	débil	Dixired	3
	medium	moyenne	mittel	media	Springcrest	5
	strong	forte	stark	fuerte	Vivian	7

Proposed new wording:

64.	VG <u>Only varieties with stone adherence to flesh: present: Stone: degree of adherence to flesh</u>	<u>Uniquement variété avec adhérence du noyau à la chair : présente : Noyau : degré d'adhérence à la chair</u>	<u>Nur Sorten mit Anhaften des Steins am Fleisch: vorhanden: Stein: Stärke des Anhaftens am Fleisch</u>	<u>Únicamente variedades con adherencia del hueso a la pulpa: presente: Hueso: grado de adherencia a la pulpa</u>		
QN	(g) weak	faible	gering	débil	Dixired	3
	medium	moyenne	mittel	media	Springcrest	5
	strong	forte	stark	fuerte	Vivian	7

Characteristic 66 “Time of beginning of leaf bud burst”

Current wording:

66.	Time of beginning of leaf bud burst	Époque de début de débourrement foliaire	Zeitpunkt des Aufbrechens der vegetativen Knospe	Época de comienzo de la brotación de la yema foliar		
QN	(+) very early	très précoce	sehr früh	muy temprana	Sunred	1
	early	précoce	früh	temprana	Springtime	3
	medium	moyenne	mittel	media	Redhaven	5
	late	tardive	spät	tardía	Genadix 7	7
	very late	très tardive	sehr spät	muy tardía	Philp	9

Proposed new wording:

65.	MG Time of beginning of leaf bud burst	Époque de début de débourrement foliaire	Zeitpunkt des Aufbrechens der vegetativen Knospe	Época de comienzo de la brotación de la yema foliar		
QN	(+) very early	très précoce	sehr früh	muy temprana	Sunred	1
	early	précoce	früh	temprana	Springtime	3
	medium	moyenne	mittel	media	Redhaven	5
	late	tardive	spät	tardía	Genadix 7	7
	very late	très tardive	sehr spät	muy tardía	Reine des Vergers	9

Characteristic 68 “Time of maturity for consumption”

Current wording:

68. (* (+)	Time of maturity for consumption	Époque de maturité pour la consommation	Zeitpunkt der Genußreife	Época de madurez para el consumo		
QN	very early	très précoce	sehr früh	muy temprana	Rich May, Springtime, Zaibaro	1
	very early to early	très précoce à précoce	sehr früh bis früh	de muy temprana a temprana	Zainoar, Zaitani	2
	early	précoce	früh	temprana	Antonia, Redwing, Rich Lady, Robin	3
	early to medium	précoce à moyenne	früh bis mittel	de temprana a media	Craucail, Diamond Princess	4
	medium	moyenne	mittel	media	Fairhaven, Fantasia, Summer Bright, Zee Lady	5
	medium to late	moyenne à tardive	mittel bis spät	de media a tardía	Maillarbig, Savana Red, Zaimor	6
	late	tardive	spät	tardía	Fairlane, Flacara, Veteran, Western red, Zailati, Zairova	7
	late to very late	tardive à très tardive	spät bis sehr spät	de tardía a muy tardía	Andgold, Tardibelle	8
	very late	très tardive	sehr spät	muy tardía	Firetime, Rubidoux	9

Proposed new wording:

67. (* (+)	MG	Time of harvest maturity	Époque de maturité de récolte	Zeitpunkt der Erntereife	Época de madurez para la cosecha	
QN		very early	très précoce	sehr früh	muy temprana	Rich May, Springtime, Zaibaro
		very early to early	très précoce à précoce	sehr früh bis früh	de muy temprana a temprana	Zainoar, Zaitani
		early	précoce	früh	temprana	Antonia, Redwing, Rich Lady, Robin
		early to medium	précoce à moyenne	früh bis mittel	de temprana a media	Craucail, Diamond Princess
		medium	moyenne	mittel	media	Fairhaven, Fantasia, Summer Bright, Zee Lady
		medium to late	moyenne à tardive	mittel bis spät	de media a tardía	Maillarbig, Savana Red, Zaimor
		late	tardive	spät	tardía	Fairlane, Flacara, Veteran, Western Red, Zailati, Zairova
		late to very late	tardive à très tardive	spät bis sehr spät	de tardía a muy tardía	Andgold, Tardibelle
		very late	très tardive	sehr spät	muy tardía	Rubidoux
		extremely late	extrêmement tardive	extrem spät	extremadamente tardía	Calante, Jesca
						10

Ad. 68 67: Time of harvest maturity

Current wording:

The time of maturity for consumption is when the overall appearance, firmness and taste indicate that the fruit is ready for consumption.

Proposed new wording:

The time of harvest maturity ~~for consumption~~ is when the overall appearance, firmness and taste indicate that the fruit is ready for consumption.

Chapter 8.2 "Explanations for individual characteristics"

Ad. 8 "Flowering shoot: density of flower buds"

Current wording:

To be observed along the shoot on one meter.



3
sparse



7
dense

Proposed new wording:

The density of flower buds is determined by assessing the number of flower buds along the length of the current years shoot.



3
sparse



7
dense

Ad. 9 "Flower: type"

Current wording:

'Campanulate' (bell-shaped) is also referred to as 'nonshowy' : these types have small petals and stamens often higher than the petals.

'Rosette' (rose-shaped) is also referred to as 'showy' : these types have large petals.



1
campanulate
(nonshowy)



2
rosette
(showy)

Proposed new wording:

'Campanulate' (bell-shaped) is also referred to as 'non showy' : these types have small petals and stamens often higher than the petals.

'Rosette' (rose-shaped) is also referred to as 'showy' : these types have large petals.



1
campanulate
(non showy)



2
rosette
(showy)

Ad. 41 "Fruit: relative area of over color of skin"

Current wording:



3
small



5
medium



7
large

Proposed new wording:



1
absent or very small



3
small



5
medium



7
large

Ad. 50 "Fruit: firmness of flesh"

Current wording:

To be observed at eating ripeness with a penetrometer.

Proposed new wording:

To be observed just before maturity.

Chapter 9 "Literature"

To add following literature references:

Chaparro J.X., Werner D.J., Whetten R.W. and D.M. O'Malley, 1995. Inheritance, genetic interaction and biochemical characterization of anthocyanin phenotypes in peach. *J. Hered.*, 86: 32-38.

Hu D. and R. Scorza, 2009: Analysis of the 'A72' peach tree Growth Habit and its inheritance in progeny obtained from crosses of 'A72' with columnar peach trees. *J. Amer. Sc. Hort. Sci.* 134(2):236-243.

Layne D.R. and D. Bassi, 2008. The peach : Botany, production and uses. Ed. By [Desmond R. Layne](#) and [Daniele Bassi](#). ISBN 978 1 84593 386 9. CABI, 30 nov. 2008 - 615 pages.

Monet R., Bastard Y. en Gibault B., 1988. Etude génétique du caractère « port pleureur » chez le pêcher. *Agronomie*, 8(2): 127-132.

Monet R. Guye A. and N. Dachary, 1996. Peach Mendelian genetics: a short review and new results. *Agronomie*, 16: 321-329.

Sajer O., Scorza R., Dardick C., Zhenbentyayeva T., 2012. Development of sequence-tagged site markers linked to the pillar growth type in peach (*Prunus persica*). Abbott A.G. and R. Horn, *Plant Breeding*, doi:10.1111/j.1439-0523.2011.01912.x

Scorza R., Lightner G.W. and A. Liverani, 1989. The pillar peach tree and growth habit analysis of compact x pillar progeny. *J. Am. Soc. Hort. Sci.*, 114: 991-995.

Takashi Haji, Hideaki Yaegaki, Masami Yamaguchi Department of Breeding, National Institute of Fruit Science: Changes in Ethylene Production and Flesh Firmness of Melting, Nonmelting and Stony hard in Peaches after Harvest: *J. Japan. Soc. Hort. Sci* 70(4): 458-459 2001.

Takashi Haji, Hideaki Yaegaki, Masami Yamaguchi Department of Breeding, National Institute of Fruit Science: Inheritance and expression of fruit texture melting, non-melting and stony hard in peach. *Scientia Horticulture* 105 (2005) 241-248.

Werner R.W. Creller M.A. and J.X. Chaparro, 2005. Inheritance of the blood-flesh trait in peach. *Hortscience*, 33(7): 1243-1246.

Werner R.W. and Chaparro J.X., 2005. Genetic interactions between pillar and weeping peach genotypes. *Hortscience* 40(1): 18-20.

Chapter 10 "Technical Questionnaire"

To modify Chapter 4.2 as follows:

Current wording:

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)

Proposed new wording:

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

- (a) budding or grafting []
- (b) *in vitro* propagation []
- (c) other (state method) []

- 4.2.2 Other []
(please provide details)

To delete the following characteristics from Chapter 5:

Fruit: flesh type (TQ characteristic), with the following groups:

- melting
- non-melting (~~pavies~~)
- stony hard

~~Stone: adherence to flesh (characteristic 64)~~

To add the following characteristics to Chapter 5:

- Tree: size (characteristic 1)
- Flowering shoot: presence of anthocyanin coloration (characteristic 6)
- Anthers: pollen (characteristic 17)
- Leaf blade: red mid-vein on the lower side (characteristic 28)
- Petiole: nectaries (characteristic 30)
- Fruit: shape (in ventral view) (characteristic 33)

To modify Chapter 7.1 as follows:

Current wording:

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)

Proposed new wording:

7.1 Explanations for the grouping and TQ characteristic “Fruit: flesh type”

Fruits with melting flesh correspond to fruits used for fresh consumption.

Fruits with non-melting flesh correspond to fruits used for canning. The flesh is harder and elastic (clingstones/pavies).

The table below illustrates the principle in greater detail

type	activity			explanation
	ethylene	polygalacturonase		
		endo-type	exo-type	
melting	present	present	present	Activity both ethylene and polygalacturonase exists in the flesh. Therefore flesh begins melting quickly after harvest.
non-melting	present	present	absent	Activity of exo-type polygalacturonase is absent in the flesh. Therefore melting speed of flesh is very slow.
stony hard	absent	absent	absent	Activity both ethylene and polygalacturonase are absent in the flesh. Therefore flesh does not begin to melt. Ex. varieties: Odoroki, Yumyeong

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