|  |  |  |
| --- | --- | --- |
|  |  | E  TWF/44/29  **ORIGINAL:** English  DATE: April 18, 2013 |
| INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS | | |
| Geneva | | |

Technical working party for FRUIT CROPS

Forty-fourth Session  
Napier, New Zealand, April 29 to May 3, 2013

PARTIAL REVISION OF THE test guidelines for Peach   
(Document TG/53/7)

Document prepared by experts from France

It is proposed that the Test Guidelines for Peach (document TG/53/7) be amended as follows:

# Cover page: Alternative names

*Current wording:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Botanical name* | *English* | *French* | *German* | *Spanish* |
| *Prunus persica* (L.) Batsch,  *Persica vulgaris* Mill.,  *Prunus* L. subg. *Persica* | Peach | Pêcher | Pfirsich | Durazno, Melocotonero |

*Proposed new wording:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Botanical name* | *English* | *French* | *German* | *Spanish* |
| *Prunus persica* (L.) Batsch,  *Persica vulgaris* Mill.,  *Prunus* L. subg. *Persica* | 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”

1. Tree: size (characteristic 1)
2. Flowering shoot: presence of anthocyanin coloration (characteritic 6)
3. Flower: type (characteristic 9)
4. Anthers: pollen (characteristic 17)

~~Ovary: pubescence (characteristic 18)~~

1. Leaf blade: red mid-vein on the lower side (characteristic 28)
2. Petiole: nectaries (characteristic 30)
3. Petiole: shape of nectaries (characteristic 31)
4. Fruit: shape (in ventral view) (characteristic 33)
5. Fruit: pubescence of skin (characteristic 44)
6. Fruit: carotenoid coloration of flesh (characteristic 51)
7. Fruit: acidity (characteristic 57) with the following groups:

- low

- medium

- high

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

- melting

- non-melting ~~(pavies)~~

- stony hard

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

1. Time of beginning of flowering (characteristic ~~67~~66)

(n) Time of harvest maturity ~~for consumption~~ (characteristic ~~68~~67)

Chapter 6.5 “Legend”

*Current wording:*

(\*) 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

(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:*

(\*) 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

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 characteristics for method of observation only: (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 characteristics for example varieties only:

|  |  |  |
| --- | --- | --- |
| 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 Morettini” |
| 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, Zholty” |
| 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 “Morettini 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 | Biancopendulo | 5 |

*Proposed new wording:*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **3. (\*) (+)** | **VG** | **Tree: habit** | **Arbre : port** | **Baum: Wuchsform** | **Árbol: porte** |  |  |
| **QN** | **(a)** | fastigiate | 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 | Biancopendulo | 5 |

Ad. 3: Tree: habit

To be observed the year before the main pruning.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| pilar | upright | standart | open | pleureur |
| 1 | 2 | 3 | 4 | 5 |
| ~~upright~~ | ~~upright to spreading~~ | ~~spreading~~ | ~~drooping~~ | ~~weeping~~ |
| fastigate | upright | upright to spreading | spreading | drooping |

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 | Biancopendulo,  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 | au même niveau | auf gleicher Höhe | en el mismo nivel | Robin, Springtime | 2 |
|  |  | above | au-dessus | oberhalb | por encima | Redhaven | 3 |

Ad. 15: Stamen: position compared to petals

|  |  |  |
| --- | --- | --- |
| anth sous pet | mm haut | étam sur pét |
| 1 | 2 | 3 |
| below | ~~at~~ same level | above |
| below | same level | above |

Characteristic 28 “Flowering shoot: presence of anthocyanin coloration”

*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 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 | presente | Sanguine Vineuse | 9 |
| **NEW (\*) (+)** | **VG** | **Only varieties with anthocyanin coloration of flesh next to skin: present: Fruit: degree of anthocyanin coloration of flesh next to skin** | **Uniquement variétés avec pigmentation anthocyanique sous-épidermique : présente : Fruit : degré de pigmentation anthocyanique sous-épidermique** | **Nur Sorten mit Anthocyanfärbung direkt unter der Haut: vorhanden: Frucht: Anthocyanfärbung direkt unter der Haut** | **Únicamente variedades con pigmentación antociánica de la pulpa pegada a la piel: presente: Fruto: pigmentación antociánica de la pulpa pegada a la piel** |  |  |
| **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

|  |  |  |
| --- | --- | --- |
| sous épid peu | sous épid | sous épid |
| 1 | 2 | 3 |
| ~~absent or very~~ weak | ~~weak~~ | strong |
| weak | medium | 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** | **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** | **Uniquement variétés avec pigmentation anthocyanique dans la partie centrale de la chair : présente : Fruit : degré de 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)** | 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

|  |  |  |
| --- | --- | --- |
| chair coul |  | chair sang |
| 1 | 2 | 3 |
| ~~absent or very~~ weak | ~~weak~~ | strong |
| weak | medium | 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 | **Only varieties with anthocyanin coloration of flesh around stone: present: Fruit: degree of anthocyanin coloration of flesh around stone** | **Uniquement variétés avec pigmentation anthocyanique de la chair autour du noyau : présente : Fruit : degré de pigmentation anthocyanique de la chair autour du noyau** | **Nur Sorten mit Anthocyanfärbung im Bereich des Steines: vorhanden: Frucht: Anthocyanfärbung im Bereich des Steines** | **Únicamente variedades con pigmentación antociánica de la pulpa alrededor del hueso: presente: Fruto: 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

|  |  |  |
| --- | --- | --- |
| Garminata 5 | red around noy f | MerillSundance |
| 1 | 2 | 3 |
| ~~absent or very~~ weak | medium | strong |
| weak | medium | 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 tasting.

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”

To be combined.

*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 a 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. (\*)** | **VG** | **Stone: adherence to flesh** | **Noyau : adhérence a 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 a 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** | **Only varieties with stone adherence to flesh present Stone: degree of adherence to flesh** | **Uniquement variété avec adhérence du noyau à la chair : présente : Noyau : degré d’adhérence a la chair** | **Nur Sorten mit Anhaften des Steins am Fleisch: vorhanden: Stein: Stärke des Anhaftens am Fleisch** | **Únicamente variedades con adherencia del hueso a la pulpa: presente: 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 |

Characteristic 66 “Stone: size compared to fruit”

*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 folear** |  |  |
| **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 | 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,  Western Red, Veteran, 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 | Rubidoux | 9 |
|  |  | ultra late | ultra tardive |  | ultra tardia | 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 8.1 “Explanations covering several characteristics”

*to add the following after explanations (a) to (g):*

- 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

Definition

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| type | activity | | | explanation |
| ethylene | polygalacturonase | |
| end-type | exo-type |
| melting  (standard peaches) | exist | exist | exist | Activity both ethylene and polygalacturonase exists in the flesh. Therefore flesh begins melting quickly after harvest. |
| non-melting  (clingstones/pavies) | exist | exist | absent | Activity of exo-type polygalacturonase is absent in the flesh. Therefore melting speed of flesh is very slow. |
| stony hard  (others) | absent | absent | absent | Activity both ethylene and polygalacturonase are absent in the flesh. Therefore flesh dose not begin to melt.  Ex. varieties: Odoroki, Yumyeong |

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 | 7 |
| sparse | dense |

*Proposed new wording:*

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

|  |  |
| --- | --- |
|  | |
| 3 | 7 |
| sparse | 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.

|  |  |
| --- | --- |
|  | showy |
| 1 | 2 |
| campanulate (nonshowy) | 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.

|  |  |
| --- | --- |
|  | showy |
| 1 | 2 |
| campanulate (non showy) | rosette (showy) |

Ad. 41 “Fruit: relative area of over color of skin”

*Current wording:*

|  |  |  |
| --- | --- | --- |
| peu color | pa 50 | 90 |
| 3 | 5 | 7 |
| small | medium | large |

*Proposed new wording:*

|  |  |  |  |
| --- | --- | --- | --- |
| Zholty-char41-state1 | peu color | pa 50 | 90 |
| 1 | 3 | 5 | 7 |
| absent or very small | small | medium | large |

Ad. 48 “Fruit: thickness of skin”

*Current wording:*

excluding pubescence



*Proposed new wording:*

Excluding pubescence



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](http://www.google.fr/search?hl=fr&tbo=p&tbm=bks&q=inauthor:%22Desmond+R.+Layne%22) and [Daniele Bassi](http://www.google.fr/search?hl=fr&tbo=p&tbm=bks&q=inauthor:%22Daniele+Bassi%22). 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. Hortic. 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 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 (characteritic 6)

Anthers: pollen (characteristic 17)

Ovary: pubescence (characteristic 18)

Leaf blade: red mid-vein on the lower side (characteristic 28)

Petiole: nectaries (characteristic 30)

Fruit: shape (in ventral view) (characteristic 33)

[End of document]