

**TG/169/3 + Corr.****INTERNATIONAL UNION  
FOR THE PROTECTION  
OF NEW VARIETIES OF  
PLANTS****UNION INTERNATIONALE  
POUR LA PROTECTION  
DES OBTENTIONS  
VÉGÉTALES****INTERNATIONALER  
VERBAND ZUM SCHUTZ  
VON PFLANZEN-  
ZÜCHTUNGEN****UNIÓN INTERNACIONAL  
PARA LA PROTECCIÓN  
DE LAS OBTENCIONES  
VEGETALES**

**GUIDELINES  
FOR THE CONDUCT OF TESTS  
FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

**PYRUS ROOTSTOCKS**

*(Pyrus L.)*

**GENEVA  
1999/2000**

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Correction included



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## **GUIDELINES**

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*(Pyrus L.)*

These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

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## I. Subject of these Guidelines

These Test Guidelines apply to all vegetatively propagated rootstock varieties of *Pyrus* L. If characteristics of the flower, the fruit or the seed are necessary to establish distinctness, the Test Guidelines for pear fruit varieties (TG/15/1) or Japanese pear fruit varieties (TG/149/2) should be used for those characteristics, if applicable.

## II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. As a minimum, the following quantity of plant material is recommended:

25 one-year-old rooted plants (virus free).

2. The plant material supplied should be visibly healthy, not lacking in vigor or affected by any important pests or diseases. It should preferably not be obtained from *in vitro* propagation.

3. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

## III. Conduct of Tests

1. The minimum duration of tests should be two similar growing periods.

2. From the submitted 25 plants 20 plants should be cut back annually in the stoolbed and 5 plants should be grown to produce trees, in case characteristics of the adult tree are needed for the establishment of distinctness.

3. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

4. The tests should be carried out under conditions ensuring normal growth. Each test should include a total of 20 plants. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

5. Additional tests for special purposes may be established.

#### IV. Methods and Observations

1. All observations determined by measurements, weighing or counting should be made on 10 plants or parts taken from each of 10 plants.
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 20 plants, the maximum number of off-types allowed would be 1.
3. All observations on the shoot should be made on one-year-old-shoots after separation from the mother plant during the dormant season.
4. All observations on the leaf should be made on fully developed leaves from the middle third of the shoot in summer.

#### V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
  - (a) Plant: habit of shoots (characteristic 3)
  - (b) Plant: growth of shoot (characteristic 4)
  - (c) Time of beginning of bud burst (characteristic 39)

#### VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of expression for each characteristic.

#### 3. Legend

(\*) Characteristics that should be used on all varieties in every growing period over which examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.

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

VII. Table of Characteristics/Tableau des caractères/Merkmalestabelle/Tabla de caracteres

| English   | français                                | deutsch                                | español                                  | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|--|--|--|---------------|
| <b>1. Plant: vigor<br/>(* )</b>                       | <b>Plante: vigueur</b>                  | <b>Pflanze: Wuchs-<br/>stärke</b>      | <b>Planta: vigor</b>                     |  |               |
| weak  | faible                                  | gering                                 | débil                                    |  | 3             |
| medium  | moyenne                                 | mittel                                 | media                                    | Daytor   | 5             |
| strong  | forte                                   | stark                                  | fuerte                                   | Brokmal  | 7             |
| <b>2. Plant: number of<br/>shoots</b>                 | <b>Plante: nombre de<br/>rameaux</b>    | <b>Pflanze: Anzahl<br/>Triebe</b>      | <b>Planta: número de<br/>ramas</b>       |  |               |
| few   | petit                                   | gering                                 | bajo                                     | Daygon   | 3             |
| medium  | moyen                                   | mittel                                 | medio                                    | Daytor   | 5             |
| many  | grand                                   | groß                                   | alto                                     | Pyrodwarf  | 7             |
| <b>3. Plant: habit of<br/>shoots<br/>(* )</b>         | <b>Plante: port des<br/>rameaux</b>     | <b>Pflanze: Haltung<br/>der Triebe</b> | <b>Planta: porte de las<br/>ramas</b>    |  |               |
| upright   | dressé                                  | aufrecht                               | erecto                                   | Brokmal  | 1             |
| spreading   | étalé                                   | breitwüchsig                           | rastrero                                 | Daygon   | 2             |
| drooping  | retombant                               | hängend                                | colgante                                 |  | 3             |
| <b>4. Plant: growth of<br/>shoot<br/>(* )<br/>(+)</b> | <b>Plante: croissance<br/>du rameau</b> | <b>Pflanze: Wuchs des<br/>Triebes</b>  | <b>Planta: desarrollo<br/>de la rama</b> |  |               |
| straight  | droite                                  | gerade                                 | recto                                    | Daygon   | 1             |
| wavy  | ondulée                                 | gewellt                                | ondulado                                 | Pyrodwarf  | 2             |
| zigzag  | en zigzag                               | zickzackförmig                         | en zigzag                                |  | 3             |

|                    | English   | français   | deutsch   | español  | Example Varieties<br>Exemples<br>Beispielsorten<br>Variedades ejemplo | Note/<br>Nota |
|--------------------|---|--|---|--|---|---------------|
| <b>5.</b>          | <b>Young shoot: anthocyanin coloration of growing tip during rapid growth</b> | <b>Rameau jeune: pigmentation anthocyanique du sommet en croissance rapide</b> | <b>Junger Trieb: Anthocyanfärbung der Triebspitze während starken Wachstums</b> | <b>Rama joven: pigmentación antocianica del ápice de crecimiento durante el crecimiento rápido</b> |   |               |
|                    | weak  | faible   | gering  | débil  | Daygon  | 3             |
|                    | medium  | moyenne  | mittel  | media  | Brokmal   | 5             |
|                    | strong  | forte  | stark   | fuerte   | Daytor  | 7             |
| <b>6.</b>          | <b>Young shoot: intensity of pubescence of upper third</b>                    | <b>Rameau jeune: intensité de la pubescence au tiers supérieur</b>             | <b>Junger Trieb: Stärke der Behaarung im oberen Drittel</b>                     | <b>Rama joven: intensidad de la pubescencia en el tercio superior</b>                              |   |               |
|                    | weak  | faible   | gering  | débil  | Daynir  | 3             |
|                    | medium  | moyenne  | mittel  | media  | Daygon  | 5             |
|                    | strong  | forte  | stark   | fuerte   |   | 7             |
| <b>7.<br/>(* )</b> | <b>Shoot: branching</b>   | <b>Rameau: ramification</b>  | <b>Trieb: Verzweigung</b>   | <b>Rama: ramificación</b>  |   |               |
|                    | weak  | faible   | gering  | débil  | Brokmal   | 3             |
|                    | medium  | moyenne  | mittel  | media  | Daygon  | 5             |
|                    | strong  | forte  | stark   | fuerte   | Daynir  | 7             |
| <b>8.</b>          | <b>Shoot: number of thorns</b>  | <b>Rameau: nombre d'épines</b>   | <b>Trieb: Anzahl Dornen</b>   | <b>Rama: número de espinas</b>   |   |               |
|                    | absent or very few  | nul ou très petit  | fehlend oder sehr wenige  | ausente o muy bajo   | Brokmal   | 1             |
|                    | few   | petit  | wenige  | bajo   | Daygon  | 3             |
|                    | medium  | moyen  | mittel  | medio  | Daynir  | 5             |
|                    | many  | grand  | viele   | alto   |   | 7             |
|                    | very many   | très grand   | sehr viele  | muy alto   | Pyrodwarf   | 9             |



| English  | français  | deutsch   | español  | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|--|---|---|--|--|---------------|
| <b>9. Shoot: length</b>                                | <b>Rameau: longueur</b>                                     | <b>Trieb: Länge</b>                               | <b>Rama: longitud</b>                                  |  |               |
| short  | court   | kurz  | corta  |  | 3             |
| medium   | moyen   | mittel  | media  | Daytor   | 5             |
| long   | long  | lang  | larga  | Brokmal  | 7             |
| <b>10. Shoot: glossiness of bark</b>                   | <b>Rameau: brillance de l'écorce</b>                        | <b>Trieb: Glanz der Rinde</b>                     | <b>Rama: brillo de la corteza</b>                      |  |               |
| weak   | faible  | gering  | débil  |  | 3             |
| medium   | moyenne   | mittel  | medio  | Daygon   | 5             |
| strong   | forte   | stark   | fuerte   | Pyrodwarf  | 7             |
| <b>11. Shoot: length of internode at midlength (+)</b> | <b>Rameau: longueur de l'entre-nœud au milieu du rameau</b> | <b>Trieb: Länge des Internodiums in der Mitte</b> | <b>Rama: longitud del entrenudo a mitad de la rama</b> |  |               |
| short  | court   | kurz  | corta  | Daytor   | 3             |
| medium   | moyen   | mittel  | media  | Brokmal  | 5             |
| long   | long  | lang  | larga  | Daynir   | 7             |
| <b>12. Shoot: number of lenticels (*)</b>              | <b>Rameau: nombre de lenticelles</b>                        | <b>Trieb: Anzahl Lentizellen</b>                  | <b>Rama: número de lenticelas</b>                      |  |               |
| few  | petit   | gering  | bajo   | Daytor   | 3             |
| medium   | moyen   | mittel  | medio  | Pyrodwarf  | 5             |
| many   | grand   | groß  | alto   | Daynir   | 7             |
| <b>13. Shoot: size of lenticels (*)</b>                | <b>Rameau: taille des lenticelles</b>                       | <b>Trieb: Größe der Lentizellen</b>               | <b>Rama: tamaño de las lenticelas</b>                  |  |               |
| small  | petites   | klein   | pequeñas   | Daytor   | 3             |
| medium   | moyennes  | mittel  | medias   | Daynir   | 5             |
| large  | grandes   | groß  | grandes  | Daygon   | 7             |

| English   | français  | deutsch  | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|--|---|--|---------------|
| <b>14. Shoot: shape of lenticels (*)</b>          | <b>Rameau: forme des lenticelles</b>                        | <b>Trieb: Form der Lentizellen</b>                     | <b>Rama: forma de las lenticelas</b>                |  |               |
| elliptic  | elliptiques   | elliptisch   | elípticas   | Daygon   | 1             |
| broad elliptic                                    | elliptiques larges  | breit elliptisch                                       | elípticas anchas                                    | Daynir   | 2             |
| circular  | rondes  | rund   | circulares  | Pyrodwarf  | 3             |
| <b>15. Shoot: predominant color on sunny side</b> | <b>Rameau: couleur prédominante sur la face ensoleillée</b> | <b>Trieb: vorherrschende Farbe auf der Sonnenseite</b> | <b>Rama: color predominante de la parte soleada</b> |  |               |
| grey brown  | brun grisâtre   | graubraun  | marrón grisáceo                                     |  | 1             |
| medium brown                                      | brun moyen  | mittelbraun  | marrón medio  |  | 2             |
| orange brown                                      | brun orange   | orangebraun  | marrón naranja                                      |  | 3             |
| brown red   | rouge brun  | braunrot   | rojo marrón   |  | 4             |
| brown purple                                      | pourpre brun  | braunpurpur  | púrpura marrón                                      | Daygon   | 5             |
| dark brown  | brun foncé  | dunkelbraun  | marrón oscuro                                       | Pyrodwarf  | 6             |
| <b>16. Shoot: size of vegetative bud</b>          | <b>Rameau: taille du bourgeon</b>                           | <b>Trieb: Größe der vegetativen Knospe</b>             | <b>Rama: tamaño de la yema de madera</b>            |  |               |
| small   | petit   | klein  | pequeño   | Pyrodwarf  | 3             |
| medium  | moyen   | mittel   | mediano   | Brokmal  | 5             |
| large   | grand   | groß   | grande  | Daygon   | 7             |
| <b>17. Shoot: shape of apex of vegetative bud</b> | <b>Rameau: forme du sommet du bourgeon</b>                  | <b>Trieb: Form der Spitze der vegetativen Knospe</b>   | <b>Rama: forma del extremo de la yema de madera</b> |  |               |
| acute   | aigu  | spitz  | agudo   | Pyrodwarf  | 1             |
| obtuse  | obtus   | stumpf   | obtuso  |  | 2             |
| rounded   | arrondi   | abgerundet   | redondeado  |  | 3             |

| English  | français  | deutsch   | español  | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|--|---|---|--|--|---------------|
| <b>18. Shoot: position of vegetative bud relative to shoot</b> | <b>Rameau: position du bourgeon par rapport au rameau</b> | <b>Trieb: Stellung der vegetativen Knospe im Verhältnis zum Trieb</b> | <b>Rama: posición de la yema de madera en relación con la rama</b> |  |               |
| adpressed  | appliquée   | anliegend   | alineado   | Pyrodwarf  | 1             |
| slightly held out  | faiblement divergente                                     | leicht abstehend  | ligeramente divergente   | Brokmal  | 2             |
| markedly held out  | nettement divergente                                      | deutlich abstehend  | claramente divergente  |  | 3             |
| <b>19. Shoot: size of bud support</b><br>(+)                   | <b>Rameau: taille du support de l'œil</b>                 | <b>Trieb: Größe des Knospenwulstes</b>                                | <b>Rama: tamaño del soporte de la yema</b>                         |  |               |
| small  | petit   | klein   | pequeño  | Daygon   | 3             |
| medium   | moyen   | mittel  | medio  | Brokmal  | 5             |
| large  | grand   | groß  | grande   | Pyrodwarf  | 7             |
| <b>20. Leaf blade: attitude in relation to shoot</b><br>(+)    | <b>Limbe: port par rapport au rameau</b>                  | <b>Blattspreite: Stellung im Verhältnis zum Trieb</b>                 | <b>Limbo: porte en relación con la rama</b>                        |  |               |
| semi-upwards   | demi-dressé   | halbaufrecht  | semiascendente   |  | 3             |
| outwards   | horizontal  | waagrecht   | horizontal   | Daytor   | 5             |
| semi-downwards   | demi-retombant  | halbhängend   | semidescendente  | Pyrodwarf  | 7             |
| <b>21. Leaf blade: length</b><br>(*)                           | <b>Limbe: longueur</b>                                    | <b>Blattspreite: Länge</b>  | <b>Limbo: longitud</b>   |  |               |
| short  | court   | kurz  | corta  | Daytor   | 3             |
| medium   | moyen   | mittel  | media  | Daygon   | 5             |
| long   | long  | lang  | larga  | Brokmal  | 7             |
| <b>22. Leaf blade: width</b><br>(*)                            | <b>Limbe: largeur</b>                                     | <b>Blattspreite: Breite</b>   | <b>Limbo: anchura</b>  |  |               |
| narrow   | étroit  | schmal  | estrecho   | Pyrodwarf  | 3             |
| medium   | moyen   | mittel  | medio  | Daynir   | 5             |
| broad  | large   | breit   | ancho  | Brokmal  | 7             |

|                | English  | français                                      | deutsch   | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|----------------|--|---|---|---|--|---------------|
| <b>23. (*)</b> | <b>Leaf blade: ratio length/width</b>            | <b>Limbe: rapport longueur/largeur</b>        | <b>Blattspreite: Verhältnis Länge/Breite</b>              | <b>Limbo: relación longitud/anchura</b>               |  |               |
|                | small  | petit   | klein   | pequeña   | Daygon   | 3             |
|                | medium   | moyen   | mittel  | media   | Brokmal  | 5             |
|                | large  | grand   | groß  | grande  | Pyrodwarf  | 7             |
| <b>24. (*)</b> | <b>Leaf blade: profile in cross section</b>      | <b>Limbe: profil en section transversale</b>  | <b>Blattspreite: Profil im Querschnitt</b>                | <b>Limbo: perfil en sección transversal</b>           |  |               |
|                | concave  | concave                                       | konkav  | cóncava   | Pyrodwarf  | 1             |
|                | straight   | droit   | eben  | recta   |  | 2             |
|                | convex   | convexe                                       | konvex  | convexa   |  | 3             |
| <b>25. (+)</b> | <b>Leaf blade: shape of base</b>                 | <b>Limbe: forme de la base</b>                | <b>Blattspreite: Form der Basis</b>                       | <b>Limbo: forma de la base</b>                        |  |               |
|                | acute  | pointue                                       | spitz   | aguda   |  | 1             |
|                | right-angled                                     | à angle droit                                 | rechtwinklig  | en ángulo recto                                       | Pyrodwarf  | 2             |
|                | obtuse   | obtuse  | stumpf  | obtusa  | Brokmal  | 3             |
|                | truncate   | tronquée                                      | gerade  | trunco  |  | 4             |
|                | cordate  | cordiforme                                    | herzförmig  | cordiforme  |  | 5             |
| <b>26. (+)</b> | <b>Leaf blade: shape of apex (excluding tip)</b> | <b>Limbe: forme du sommet (pointe exclue)</b> | <b>Blattspreite: Form der oberen Hälfte (ohne Spitze)</b> | <b>Limbo: forma del extremo (excluyendo el ápice)</b> |  |               |
|                | acute  | aigu  | spitz   | agudo   |  | 1             |
|                | right-angled                                     | à angle droit                                 | rechtwinklig  | en ángulo recto                                       | Daynir   | 2             |
|                | obtuse   | obtus   | stumpf  | obtusos   | Brokmal  | 3             |
|                | rounded  | arrondi                                       | abgerundet  | redondeado  |  | 4             |

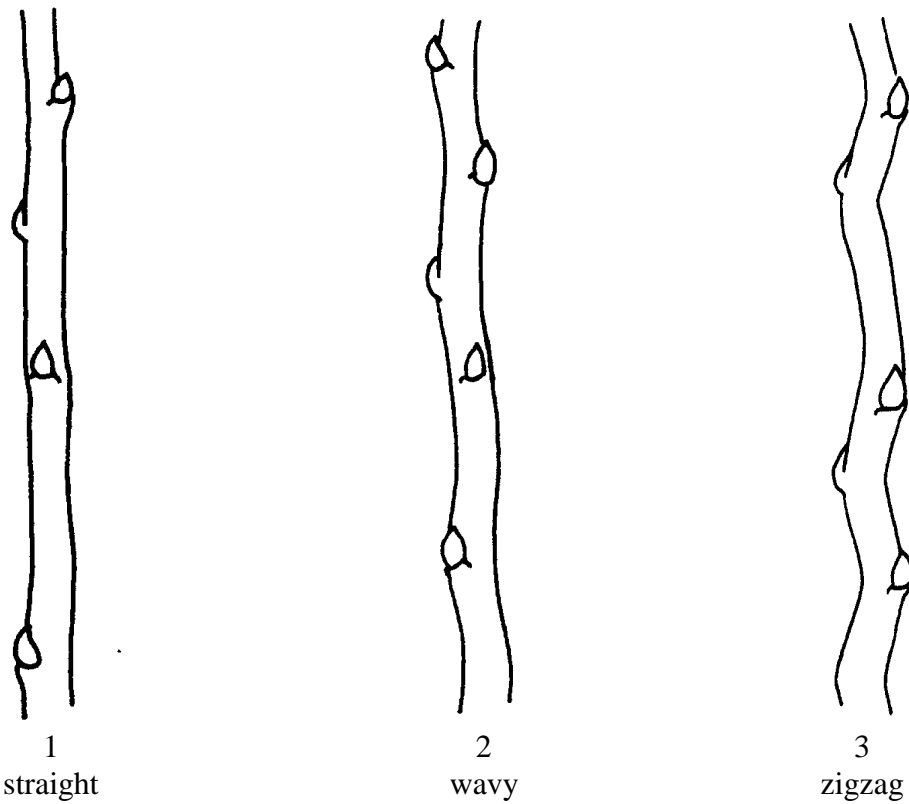
| English   | français   | deutsch  | español   | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|--|--|---|--|---------------|
| <b>27. Leaf blade: length of pointed tip</b>                        | <b>Limbe: longueur de la pointe</b>                        | <b>Blattspreite: Länge der aufgesetzten Spitze</b> | <b>Limbo: longitud del extremo</b>                  |  |               |
| short   | courte   | kurz   | corto   | Daygon   | 3             |
| medium  | moyenne  | mittel   | medio   | Daynir   | 5             |
| long  | longue   | lang   | largo   | Pyrodwarf  | 7             |
| <b>28. (*)<br/>(+) Leaf blade: incisions of margin (upper half)</b> | <b>Limbe: incisions du bord (sur la moitié supérieure)</b> | <b>Blattspreite: Randverlauf (obere Hälfte)</b>    | <b>Limbo: incisiones del borde (mitad superior)</b> |  |               |
| entire  | entier   | ganzrandig   | entero  |  | 1             |
| crenate   | crénelé  | gekerbt  | crenadas  | Pyrodwarf  | 2             |
| sharp crenate   | à dents obtuses  | stumpf gesägt                                      | aserradas obtusas                                   |  | 3             |
| serrate   | à dents aiguës   | spitz gesägt                                       | aserradas agudas                                    |  | 4             |
| <b>29. Leaf blade: curvature of longitudinal axis</b>               | <b>Limbe: courbure de l'axe longitudinal</b>               | <b>Blattspreite: Krümmung der Längsachse</b>       | <b>Limbo: curvatura del eje longitudinal</b>        |  |               |
| weak  | faible   | gering   | débil   | Daynir   | 3             |
| medium  | moyenne  | mittel   | media   |  | 5             |
| strong  | forte  | stark  | fuerte  | Brokmal  | 7             |
| <b>30. Leaf blade: glossiness of upper side</b>                     | <b>Limbe: brillance de la face supérieure</b>              | <b>Blattspreite: Glanz der Oberseite</b>           | <b>Limbo: brillo del haz</b>                        |  |               |
| weak  | faible   | gering   | débil   |  | 3             |
| medium  | moyenne  | mittel   | medio   | Pyrodwarf  | 5             |
| strong  | forte  | stark  | fuerte  | Brokmal  | 7             |

| English   | français  | deutsch  | español  | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|--|--|--|---------------|
| <b>31. Leaf blade: intensity of anthocyanin coloration of main vein (lower side)</b>              | <b>Limbe: intensité de la pigmentation anthocyanique de la nervure principale (face inférieure)</b> | <b>Blattspreite: Stärke der Anthocyanfärbung der Hauptader (Unterseite)</b>                  | <b>Limbo: intensidad de la pigmentación antocianica de la nervadura principal (envés)</b>          |  |               |
| weak  | faible  | gering   | débil  | Pyrodwarf  | 3             |
| medium  | moyenne   | mittel   | media  |  | 5             |
| strong  | forte   | stark  | fuerte   |  | 7             |
| <b>32. (*) Leaf blade: color of main vein in comparison with color of leaf blade (upper side)</b> | <b>Limbe: couleur de la nervure principale par rapport à la couleur du limbe (face supérieure)</b>  | <b>Blattspreite: Farbe der Hauptader im Vergleich zur Farbe der Blattspreite (Oberseite)</b> | <b>Limbo: color de la nervadura principal en comparación con el color del haz (parte superior)</b> |  |               |
| lighter   | plus claire   | heller   | más claro  | Pyrodwarf  | 1             |
| same color  | de même couleur   | gleichfarbig   | mismo color  |  | 2             |
| darker  | plus foncée   | dunkler  | más oscuro   |  | 3             |
| <b>33. (*) Petiole: length</b>  | <b>Pétiole: longueur</b>  | <b>Blattstiel: Länge</b>   | <b>Peciolo: longitud</b>   |  |               |
| short   | court   | kurz   | corto  | Daygon   | 3             |
| medium  | moyen   | mittel   | medio  | Pyrodwarf  | 5             |
| long  | long  | lang   | largo  |  | 7             |
| <b>34. Leaf: ratio length of blade/length of petiole</b>  | <b>Feuille: rapport longueur du limbe/ longueur du pétiole</b>                                      | <b>Blatt: Verhältnis Länge der Spreite/ Länge des Stieles</b>                                | <b>Hoja: relación longitud del limbo/ longitud del peciolo</b>                                     |  |               |
| small   | petit   | klein  | pequeña  | Daytor   | 3             |
| medium  | moyen   | mittel   | media  | Brokmal  | 5             |
| large   | grand   | groß   | grande   | Daygon   | 7             |

| English  | français  | deutsch  | español  | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|--|---|--|--|--|---------------|
| <b>35. Petiole: angle with shoot</b>   | <b>Pétiolle: angle avec le rameau</b>   | <b>Blattstiel: Winkel mit dem Trieb</b>                                      | <b>Peciolo: ángulo con la rama</b>   |  |               |
| small  | petit   | klein  | pequeño  | Daygon   | 3             |
| medium   | moyen   | mittel   | medio  | Brokmal  | 5             |
| large  | large   | groß   | grande   | Pyrodwarf  | 7             |
| <b>36. Leaf: presence of stipules</b>  | <b>Feuille: présence de stipules</b>  | <b>Blatt: Vorhandensein von Nebenblättern</b>                                | <b>Hoja: presencia de estípulas</b>  |  |               |
| absent   | absentes  | fehlend  | ausentes   |  | 1             |
| present  | présentes   | vorhanden  | presentes  | Pyrodwarf  | 9             |
| <b>37. Stipule: length</b>   | <b>Stipule: longueur</b>  | <b>Nebenblatt: Länge</b>   | <b>Estípula: longitud</b>  |  |               |
| short  | courte  | kurz   | corto  | Pyrodwarf  | 3             |
| medium   | moyenne   | mittel   | medio  | Daynir   | 5             |
| long   | longue  | lang   | largo  | Daygon   | 7             |
| <b>38. Petiole: distance between stipule and basal attachment of petiole</b> | <b>Pétiolle: distance entre la stipule et la base de l'attache du pétiole</b> | <b>Blattstiel: Abstand zwischen Nebenblatt und der Basis des Blattstiels</b> | <b>Peciolo: distancia entre la estípula y la inserción basal del peciolo</b> |  |               |
| short  | courte  | kurz   | corto  | Daygon   | 3             |
| medium   | moyenne   | mittel   | medio  | Pyrodwarf  | 5             |
| lang   | longue  | lang   | largo  |  | 7             |
| <b>39. (*) Time of beginning of bud burst</b>                                | <b>Époque de début du débourrement</b>  | <b>Zeitpunkt des Beginns des Knospenaufbruchs</b>                            | <b>Epoca de inicio de apertura de yemas</b>                                  |  |               |
| early  | précoce   | früh   | temprano   |  | 3             |
| medium   | moyenne   | mittel   | medio  |  | 5             |
| late   | tardive   | spät   | tarde  |  | 7             |

VIII. Explanation on the Table of Characteristics

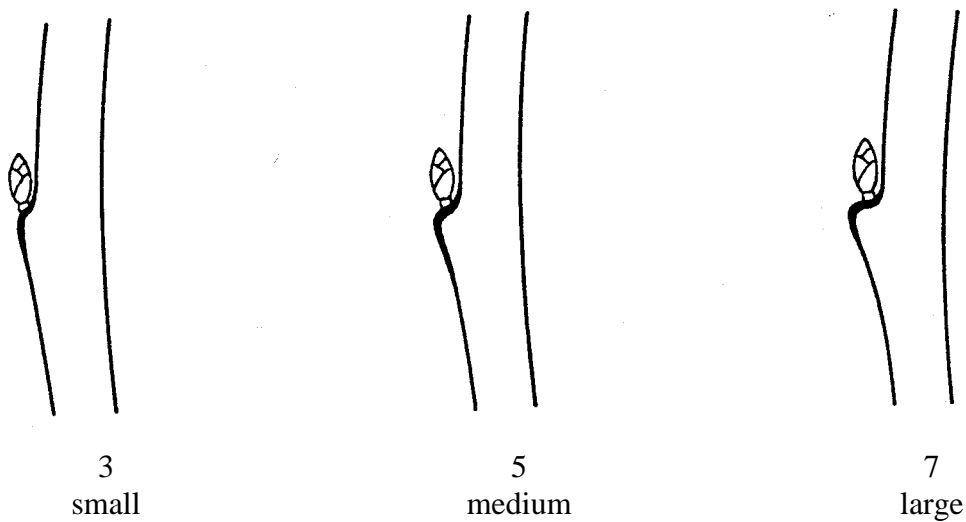
Ad. 4: Plant: growth of shoot



Ad. 11: Shoot: length of internode of midlength

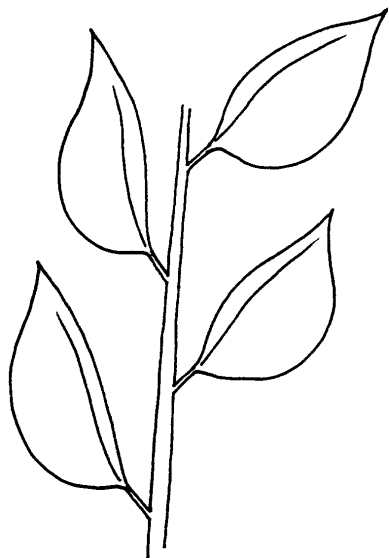
The length of internodes should be observed on 5 successive internodes on the middle of the shoot.

Ad. 19: Shoot: size of bud support



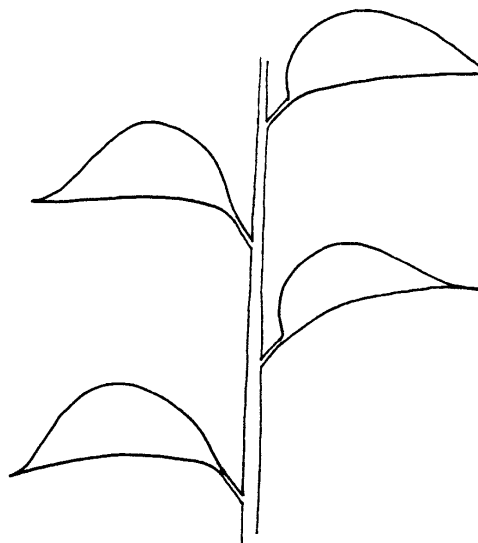


Ad. 20: Leaf blade: attitude in relation to shoot



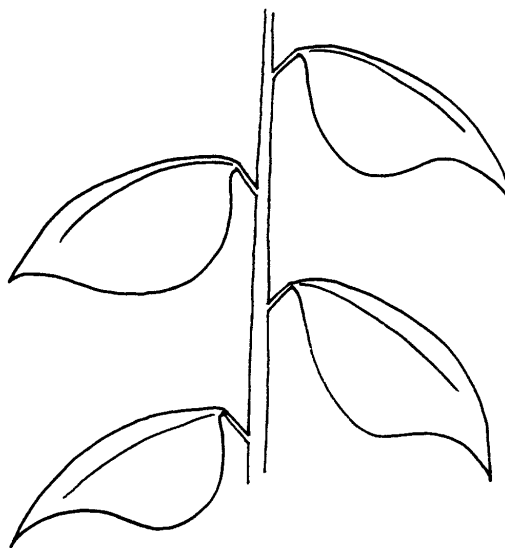
3

semi-upwards



5

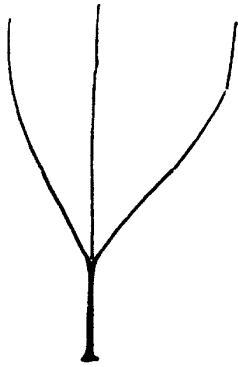
outwards



7

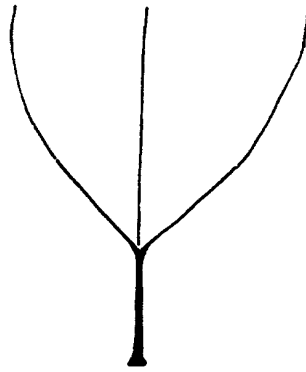
semi-downwards

Ad. 25: Leaf blade: shape of base



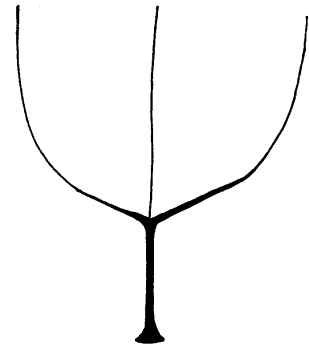
1

acute



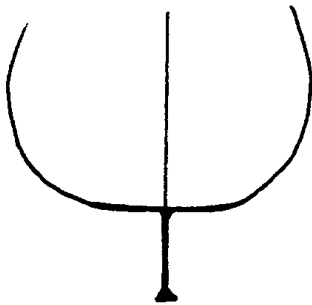
2

right-angled



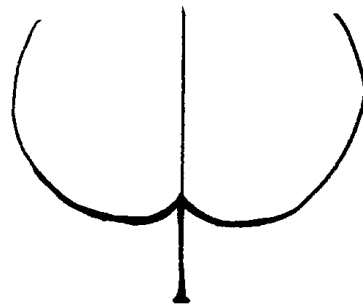
3

obtuse



4

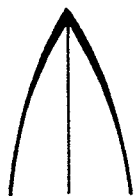
truncate



5

cordate

Ad. 26: Leaf blade: shape of apex (excluding tip)



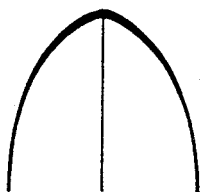
1

acute



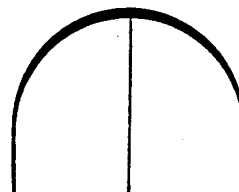
2

right-angled



3

obtuse



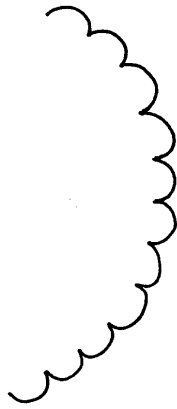
4

rounded

Ad. 28: Leaf blade: incisions of margin (upper half)



1  
entire



2  
crenate



3  
sharp crenate



4  
serrate

IX. Literature

De Haas, P.G.: Die Unterlagen- und Baumformen des Kern- und Steinobstes, Stuttgart: Ulmer Verlag, 1976

Friedrich, G.: Handbuch des Obstbaus, Radebeul: Neumann Verlag, 1993

Lombard, P.B. and M.N. Westwood: Pear Rootstocks, pp. 145-183 in: Rom, R.C. and R.F. Carlson (eds.): Rootstocks for Fruit Crops, New York, Chichester, Brisbane, Toronto, Singapore: John Wiley and Sons, Inc., 1987

Maurer, E.: Die Unterlagen der Obstgehölze, Berlin: Parey Verlag, 1939.

X. Technical Questionnaire

|  |  |
|--|--|
|  | <p>Reference Number<br/>(not to be filled in by the applicant)</p> |
| <p style="text-align: center;"><b>TECHNICAL QUESTIONNAIRE</b><br/>to be completed in connection with an application for plant breeders' rights</p> |  |
| <p>1.1 Genus</p>   | <p><i>Pyrus L.</i></p> <p><b>PYRUS ROOTSTOCKS</b></p>              |
| <p>1.2 Species</p>   | <p>.....<br/>(indicate species)</p>                                |
| <p>2. Applicant (Name and address)</p>   |  |
| <p>3. Proposed denomination or breeder's reference</p>   |  |

4. Information on origin, maintenance and reproduction of the variety

4.1 Origin

(a) Seedling of unknown parentage [ ]

(b) Produced by controlled pollination [ ]  
(indicate parent varieties)

– Seed bearing parent (indicate parent)

.....

– Pollen parent (indicate parent)

.....

(c) Produced by open pollination of [ ]  
(indicate seed bearing parent plant)

.....

(d) Mutation or sport from (indicate original parent variety) [ ]  
.....

(e) Discovery (indicate where and when) [ ]  
.....

4.2 *In vitro* propagation

The plant material of the candidate variety has been obtained  
by *in vitro* propagation yes [ ]  
no [ ]

4.3 Virus status

- (a) The variety is free from all known viruses as follows:  [ ]  
(indicate from which viruses)

.....

- (b) The plant material is virus tested  [ ]  
(indicate against which viruses)

.....

- (c) The virus status is unknown  [ ]

4.4 Other information



5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the state of expression which best corresponds).

| Characteristics                                    | Example Varieties | Note |
|--|-------------------|------|
| <b>5.1 Plant: habit of shoots<br/>(3)</b>          |                   |      |
| upright  | Brokmal           | 1[ ] |
| spreading  | Daygon            | 2[ ] |
| drooping   |                   | 3[ ] |
| <b>5.2 Plant: growth of shoot<br/>(4)</b>          |                   |      |
| straight   | Daygon            | 1[ ] |
| wavy   | Pyrodwarf         | 2[ ] |
| zigzag   |                   | 3[ ] |
| <b>5.3 Time of beginning of bud burst<br/>(39)</b> |                   |      |
| early  |                   | 3[ ] |
| medium   |                   | 5[ ] |
| late   |                   | 7[ ] |

6. Similar varieties and differences from these varieties

| Denomination of similar variety | Characteristic in which the similar variety is different <sup>o)</sup> | State of expression of similar variety | State of expression of candidate variety |
|---------------------------------|--|--|--|
|---------------------------------|--|--|--|

<sup>o)</sup> In the case of identical states of expressions of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

7.3 Other information

A representative color photo of the variety should be added to the Technical Questionnaire.

8. Authorization for release

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

Yes        [ ]                      No        [ ]

- (b) Has such authorization been obtained?

Yes        [ ]                      No        [ ]

If the answer to that question is yes, please attach a copy of such an authorization.

[End of document]

