

EUROPEAN NURSEYSTOCK ASSOCIATION

European technical & quality standards for nurserystock



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www.enaplants.eu

A guide with simple, universally acknowledged European standards for nurserystock

Introduction

Towards uniform European Quality Standards...

One of the surest ways to develop the nursery market in Europe is to make trading easier within the community. The E.N.A. (European Nurserystock Association) was created to fulfill this need.

During its initial meeting, the Association decided to take on the task of establishing simple, universally acknowledged European standards.

The idea behind this is to define a common language for a standard, fair, honest, average quality. It will be up to individual businesses to apply their own more rigorous standards, using these as a basis, should they wish to do so.

First and foremost, it is a matter of facilitating, and therefore increasing, business dealings between professionals from different countries. After that, nurserymen will be able to decide whether they wish to use their national federations, via the intermediary of the ENA, to take matters further, for example by applying for these standards to be officially adopted for the attribution of public spending within the European Community.

This very important task of harmonization has been successfully carried out thanks to the personal input of several European specialists and European nurserymen.

These standards are a synthesis of work, carried out in 1990, early 1996 and 2009. For the past ten years ENA kept on leading the charge to have uniform quality standards accepted and implemented across the European nurserystock sector. These ENA Quality Standards are now the accepted minimum plant standards used. They are obviously, constantly evolving and therefore likely to be reviewed and re-written.

The 2010 edition should therefore be considered the current version until further notice.

We hope these Quality Standards will be used all over Europe and will bring European nurserymen closer together.

Willy De Nolf
President 2008-2010

Bart Boeraeve
Secretary 2008-2010

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1: GENERAL CONDITIONS

1.1. -Technical and Quality Requirements

GENERAL

- 1.1.1. The International Plantnames (The List of Names of Woody Plants and Perennials) are the official names that should be used (<http://www.internationalplantnames.com>).
- 1.1.2. Plants which are brought into trade must conform to the following quality requirements.
Plants which do not meet these requirements are unsuitable of planting and should not be offered or sold either to wholesalers or to ultimate customers without specific agreement.
- 1.1.3. Variations on specification must be separately indicated and agreed.
- 1.1.4. Soil grown plants will only be lifted when dormant. If agreed to harvest off-season "plant without guarantee" should be written on the (official) documents.

HEALTH

- 1.1.5. Plants must be healthy, free from weeds, obvious pests and diseases, matured and hardened-off. The foliage to be free from significant blemishes and leaf spots.

ROOT SYSTEM

- 1.1.6. The Rootsystem must be well developed and correspond to the species/cultivar, the age, the soil conditions and growth rates.
They should not show any twisted main roots close to the collar, nor any physiological damage.
With each handling or transportation of bare rooted plants, care must be taken to avoid the roots drying out.
- 1.1.7. Container- and pot grown plants should have been grown in the container or pot for sufficient time for the root growth to have substantially penetrated the medium but not be root bound. The rooting must be well balanced in accordance with the pot/container size.
- 1.1.8. Freshly potted plants (FP) are plants potted in a pot/container. These plants are not penetrated with young roots (no sprouted roots). Freshly potted plants cannot be considered as pot/container grown and must be indicated as freshly potted.

Autumnally potted plants (AP) are plants potted in a pot/container in autumn. These plants are penetrated with young roots (sprouted roots).

If the plant is dug with rootball it should be considered a trade stock and the pot(container) stands for the type of packaging .
- 1.1.9. Rootballs must be firm and solid. They must be well rooted through.
They must -with exception of Rhododendron and Azalea- be protected with burlap.
The size of the rootball must be in accordance with the species/cultivar, shape, growth of the plant size and the soil conditions.
- 1.1.10. The rootballs of specimen plants must be protected additionally with ungalvanized (bright-steel) screen wire, wire basket or wood-box.
- 1.1.11. Burlap and rootballrings must be made of material which will decompose not later than one and a half years after planting and will not restrict further growth.
- 1.1.12. Lattice pots are considered unsuitable for selling to the end-user. If plants have been grown in lattice pots, it must be indicated and agreed.

GROWTH

- 1.1.13. Height, width, length of shoot, branching and foliage must be appropriate for the total plant habit and the age of the species/cultivar. If necessary this may also be applied to the balance between rootstock and scion; and stem to head.
- 1.1.14. The stems and branches must not show any physiological damage which might be prejudicial to the appearance of the plants or its subsequent development.
- 1.1.15. The sizes should be appropriate to the habit of the cultivar, using spread for spreading cultivars and height for upright growing cultivars. For dwarf growing species/cvs. the spread (\emptyset) or height can be specified.
- 1.1.16. Grafts must have a good union.
- 1.1.17. **Specimens (solitaires)** are extra large plants and must be regularly transplanted, grown in an appropriate manner and well furnished. They must be kept transplantable through further regular transplanting. The space between the plants must correspond to the requirements of the species /cultivars.
- 1.1.18. **Ground cover plants** must be branched appropriate for the variety and must be pruned during cultivation at least once. Exceptions are Gaultheria, Cornus canadensis or the like.
- 1.1.19. **Ground cover plants** are graded according to spread (Height should be left out, in other parts of The Standards it is said that for ground cover, as for size we take only spread under consideration) Exceptions are: Pachysandra, Vinca or the like which are graded according to shoot numbers. For plants which are measured by spread, the size is calculated from the average spread of the branches.

HANDLING and DELIVERY

- 1.1.20. All plants must be true to name.
- 1.1.21. Each delivery unit of plants must be supplied with one durable batch-label stating at least: The name of the plants, quantity and specification corresponding to the invoice.
Plants under breeders rights have to be labelled according to the breeders' policy (and appropriate to the UPOV Convention and the Council regulation EC210094 of 21-07-94 on Community plant variety).
If more information is needed, it will be given in the particular chapters.
- 1.1.22. Each delivery should comply with the passporting system in place at the time.
- 1.1.23. On delivery, it would be useful to mark each size with a colour. The following colours should be used: -blue-yellow-red-white. The minimum size indicates which colour is used. Examples: 40-50 and 40-60 = blue; 50-60 = yellow; 60-70 and 60-80 = red.
- 1.1.24. In offers, delivery notes and invoices, tissue cultured liners must be marked with the letters **TC'**
- 1.1.25. For conifers, the total height of the plant measured from soil level is indicated. On species that have a long, strong growing top shoot, the top shoot should only be measured half the way.

GRADING

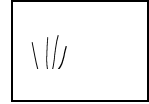
- 1.1.26. The stated dimensions usually include size parameters (from-to measures) which are necessary for an efficient and professional grading. A grading is correct if all plants of a grading level reach the stated minimum dimension. The height is measured from soil level. Where only one statement of size is made upright growing species/cultivars are measured in height, spreading plants are measured in width.
For trees, the girth is measured one metre from soil level.

For plants with several stems, (multistems) the number of stems and the girth of the weakest of them, measured one meter from soil level, must be indicated.

1.2. - Definitions

1.2.1. BRANCHED

A plant with lateral shoots arising either from a main stem or from a central point. Relatively few sub-lateral shoots. A branched plant should have at least 3 branches.



1.2.2. BUSHY

A plant often without a defined main stem. Lateral shoots often arising from a central point but sometimes also from elsewhere.

More sub-lateral shoots produced than a branched plant as defined above.

Bushy plants normally cover the pot, except where a diameter dimension is shown, when it is less than the pot diameter.



1.2.3. CANE

Plant issued from a division of an underground stem.

1.2.4. COLLAR

The collar is the part between the base of the aerial part of the plant and the top of the root system. The collar is generally of a lighter colour than the stem, except for walnut trees where the opposite is true.

1.2.5. CONTAINERS

All kinds of pots equal or exceeding a volume of 2 Litres.

1.2.6. CROWN

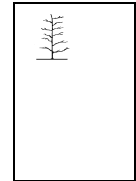
The base of a herbaceous perennial where stem and root meet and from which fresh shoots and roots arise.

1.2.7. FEATHERED

Single dominant stem with lateral growths to within 60 cm. of ground level.

1.2.8. FEATHERED TREES

Feathered trees have defined central leaders and a stem furnished with even spread and balanced lateral shoots down to near ground level, according to species/cvs.



1.2.9. HEAD

The head shall be well developed for its type and evenly balanced with a straight central leader as an extension of the stem (according to the species/cvs.).

A further removal of the lower branches of the head should be possible according to species/cvs., to enable the head to be raised.

Exceptions: Top grafted trees, globe shapes, and weeping forms which are cultivated without straight leaders.

1.2.10. HEDGING PLANTS

Tree-like or shrubby grown woody plants which are suitable for forming hedges because of their growing habit and toleration to pruning.

1.2.11. LAYER (-/1/0 and -/2/0)

After being separated or cut from the stock plant, it shall have at least two identifiable roots at its base. A slight curve is acceptable where it results from the mode of propagation. An older branch section (slip) may remain integral with the base of the young shoot.

1.2.12. LEADER AND LATERALS

A single dominant shoot with significant side shoots.



1.2.13. **LIGHT SHRUBS**

Light shrubs or hedging plants are heavy young plants, at least two years old, transplanted or undercut.



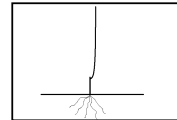
1.2.14. **LINERS**

Liners are from seed or vegetative propagated woody plants which are usually the original material for the cultivation of groups of woody plants which are usually the original material for the cultivation of groups of woody plants.

1.2.15. **MAIDEN**

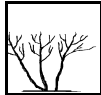
a) Plant, resulting from a base graft, on which the shoot with one year of vegetative growth extends the understock and on which the claw is eliminated at the level of the graft.

b) Subject which has undergone a single cutting back at the graft level, with the new shoot extending the understock.



1.2.16. **MULTISTEMS**

Multistems are trees that have several stems which start below a height of 50 cm.



1.2.17. **PLUGS**

Small pots, together in standard sized trays, used for growing seedlings and cuttings.

1.2.18. **POTS**

Square or round pots, used for propagation and having a width of 5-13 cm. They have a volume less than two litres.

1.2.19. **PYRAMIDS**

Some species/cvs of tree-like plants can also be grown as pyramids.

Pyramidal grown shrubs must have one strong central leader and at least three strong variety-typical laterals.

1.2.20. **ROOTSTOCKS**

Rootstocks for grafting are from one year up to two years old woody plants propagated seed raised or vegetatively.

They are subdivided into:

-seed raised rootstocks: seedlings, undercut seedlings and transplanted seedlings.

-vegetatively propagated rootstocks: layers, softwood and hardwood cuttings.

1.2.21. **SEEDLINGS IN SITU (1/0)**

Plants from seed, not transplanted which usually have one main root.

1.2.22. **SEEDLINGS IN COTYLEDON STAGE (1/x0)**

Transplanted one year plants having several strong roots whose origin should be located not more than 6 cm. below the collar. It should have at least three strong roots, except for pear rootstocks (two roots).

Transplanted one year plants on which the origin of the roots is more than 6 cm. below the collar or which have only one or two strong roots shall be termed as seedlings.

1.2.23. **SEVERAL SHOOTS**

A number of shoots arising from ground level.

1.2.24. **SINGLE LEADER**

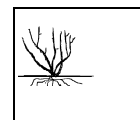
A single dominant shoot with few, if any, side shoots.

1.2.25. **SINGLE LEADER -FURNISHED TO BASE-**

A single, dominant shoot evenly furnished from top to base with light, comparatively short side shoots which, when carrying leaves, virtually cover the leader from top to bottom with foliage.

1.2.26. **SHRUBS**

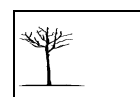
Shrubs are woody plants with several stems or side branches and of bushy habit. They must have been transplanted and have undergone formation pruning during their growth.



1.2.27 **STANDARD TREES**

Standard trees must have a clear, substantially straight stem, free of branches and a well defined head. Grafted and budded trees shall have no more than a slight bend at the union.

Grafted standard trees can be cultivated through top or bottom grafting. **When asked**, you must mention if the tree is top or bottom grafted, because of the difference in development.



1.2.28. **UNDERCUT SEEDLINGS (1/u)**

Plants, on which the main root has been cut below the soil in the seed bed, having the same characteristics as transplanted one year rootstocks.

1.2.29. **WHIPS**

Whips are young trees with a single stem with few or no lateral branches and no head.



glossary	vocabulaire	woordenlijst	erklärung
ENGLISH	FRANÇAIS	NEDERLANDS	DEUTSCH
Autumnally potted plant	Plante mise en conteneur en automne	Herfst gepot	Herbst eingetopft
Bare root plant	Plante à racines nues	Wortelgoed	Wurzelnackte
Branch	Branche	Tak	Trieb
Branched head tree (-Standard tree)	Arbre tige	Hoogstam	Hochstamm
Break	Ramification	Tak vanuit basis	Grundtrieb
Budded Rose plant	Rosier greffé	Geoculeerde roos	Okulierte Rose
Burlap	Tontine	Gaaslap	Ballentuch
Bushy	Buissonnant	Struikvorm	Strauchform, büschig
Collar	Collet	Wortelhals	Wurzelhals
Container grown	Cultivée en conteneur	Container gekweekt	Container kultiviert
Crown	Souche (plantes vivaces)	Stronk (vaste plant)	Strunk (Staude)
Deciduous	à Feuilles caduques	Bladverliezend	Laubabwerfend
Evergreen	à Feuilles persistantes	Bladhoudend	Immergrün
Feathered tree	Baliveau ramifié	Geveerde boom	Stammbüsche
Freshly potted plant	Plante mise en conteneur peu de temps avant d'être commercialisée	Vers gepot	Frisch eingetopft
Graft (a)	Grefte	Ent	Edelreis
Graft (to)	Grefter	Enten	Propfen
Hardwood cutting	Bouture de bois sec	Winterstek	Steckholz
Head	Couronne	Kroon	Krone

Hedging plant	Plante de haies (chantier de paysage)	Haagplantsoen	Heckenpflanze
Herbaceous perennial	Plante vivace	Vaste plant	Staude
Lateral	Branche latérale	Zijtak	Seitentrieb
Lattice pot	Pot-panier	Mandjes pot	Gittertopf
Layer	Marcotte	Afegger	Ableger
Leader	Flèche	Hoofdscheut	Leittrieb
Light shrub	Touffette	Lichte struik	Leichter Strauch
Light whip	Jeune baliveau	Spil (1-jarig)	Leichter Heister
Liner	Jeune plant à recultiver	Plantgoed	Jungpflanze
Medium	Substrat	Grondmengsel	Substrat
Multistem	Cépée	Boom met meerdere stammen	Mehrstämmig
Plug	Alvéole	Plug	Jungpflanze aus Kulturplatte
Plug tray	Plaque alvéolée	Stekplaat	Kulturplatte
Pot	Godet, pot	Pot	Topf
Pot grown plant	Plante cultivé en godet	Potplant	Mit Topfballen
Pyramid tree	Arbre pyramidal	Piramide gekweekt	Pyramidenform
Rootball	Motte	Kluit	Ballen
Rootballed plant	Plante en motte	Plant met kluit	Pflanze mit Ballen
Rootballed plant with wirebasket	Plante en motte grillagée	Plant met kluit in ijzergaas	Mit Drahtballen
Rootstock/understock	Porte-greffe	Onderstam	Veredlungsunterlage
Scion	Greffon	Greffel	Reiser
Shrub	Touffe	Struik	Strauch
Softwood cutting	Bouture herbacée	Zomerstek	Krautartig Steckling
Specimen/solitaire	Solitaire	Solitär	Solitär
Standard form (for Hydrangea)	Demi tige	Stamvorm (halfstam)	Halbstamm
Standard Rose Tree	Rosier tige	Stamroos	Stammrose
Standard tree	Arbre tige	Stamboom, hoogstam	Hochstamm
Stock plant	Stolon	Moerplant	Mutterpflanze
Transplant (a)	Plant repiqué	Verplante zaailing	Verpflanzte Sämling
Transplant (to)	Repiquer, transplanter	Verplanten	Verpflanzen
Undercut seedling	Semis soulevé	Afgepende zaailing	Sämling, unterschnitten
Young plant	Jeune plant	Plantgoed (1-jarig)	Jungpflanze (1-jährig)
Weaned	Acclimatisé (in vitro)	Afgehard (in vitro)	Abgehärte Meristem Pflanze
Whip	Baliveau	Spil	Heister
Wirebasket	Panier grillagé	Draadverpakking	Drahtballierung

FRUIT TREE TERMS:

Bush fruit tree	Gobelet	Lage vruchtboom	Niedrige Obstbaum
Cane	Un éclat	Wortelscheut	Wurzelausläufer
Feathered fruit tree	Baliveau fruitier	Geveerde vruchtboom	Stambüsche
Maiden	Scion	Veredeling (1-jarig)	Veredlung (1-jährig)
Pyramid fruit tree	Quenouille ou fuseau	Piramide vruchtboom	Pyramidenform
Soft Fruit	Petits Fruits	Zacht fruit	Beerenobst
Top Fruits	Arbres fruitiers	Fruitbomen	Obstbäume
Trained forms:	Formes palissés:	Boomvormen:	Baumforme:

Horizontal cordon with one arm with two arms	Cordon horizontal à 1 bras à 2 bras	Horizontaal cordon met 1 arm met 2 armen	Horizontale Schnur mit 1 Arm mit 2 Ärme
Oblique palmette single-stage two-stage	Palmette oblique à 1 étage à 2 étages	Schuine palmet met 1 etage met 2 etages	Schräge Palmette mit 1 Etage mit 2 Etagen
Single U Double U Two stage double U	U simple U double Palmette candelabre à 4 branches	Enkele U-vorm Dubbele U-vorm Kandelaar vorm met 4 takken	Einzel U-förmig Doppelt U-förmig Doppelt U-förmig in 2 Etagen
Horizontal espalier	Palmette à branches horizontales	Horizontale leiboom	Horizontale Spalierbaum
Fan	Eventail	Waaier vorm	Fächerförmig

1.3. -Codes

For explanation see 1.4.

DECIDUOUS- AND EVERGREEN LINERS (CONIFERS included)

1.3.1. Open ground seedlings:

1/0	One year seedling
1/x0	One year pricked out seedling (in "cotyledon stage")
1/u	One year undercut seedling
2/0	Two year seedlings
1/1	One year seedling + one year transplanted
1/2	One year seedling + two years transplanted
2/1	Two year seedlings + one year transplanted
2/2	Two year seedlings + two years transplanted

1.3.2. Cutting grown liners:

0/1	One year rooted hardwood cutting
0/1/0	One year rooted softwood cutting
0/1x0	One year pricked out cutting
0/2/0	Two year rooted softwood cuttings
0/1/1	Two year transplanted cuttings
0/1/2 or 0/2/1	Three year transplanted cuttings

1.3.3. Grafted liners:

X/1/0	Summer grafting
X/1/1	Summer grafting, one year, transplanted
X/0/1	Winter grafting
X/0/2	Winter grafting, two year not transplanted
X/2/0	Two year grafts

1.3.4. Layers and divisions from clumps or stolons:

-1/0	One year layering
-2/0	Two year layering
-1/1	Two year transplanted layers or root cuttings
-1/0 or -0/1	One year root cutting
-2/0	Two year root cuttings

POT GROWN- OR PLUG GROWN LINERS:

1.3.5. **Examples:**

1/0 A5 One year seedling in plug of 5 cm. ø

- 0/1/0 A5 One year rooted cutting in plug of 5 cm. ø
0/1/1 P9 Two year transplanted cutting in pot of 9 cm. ■

TISSUE CULTURE

- 1.3.6. Liners, direct coming out of a laboratory:
TC 1: In vitro liner in a jar = liners at the root initiation stage.
TC 2: In vitro liner ex agar = liner taken out of its jar in order to be acclimatized. (mist or fog and/or tenting inside a greenhouse).
TC 3: In vitro liner rooted and weaned.
- 1.3.7. Liners from tissue culture, after further cultivation by a liner nursery:
TC/0/1 Cultivated one year after it has been taken out of the laboratory.
TC/1/1 or TC/0/2
Cultivated two year after it has been taken out of the laboratory.

1.4 -Specifications

SPECIFICATION CODES:

The figures are usually separated by '/'. Also '+' can be used.
Examples: 1/0 or 1+0, 2/1 or 2+1.

1.4.1. Seed grown liners:

The first figure indicates the number of years spent at the nursery in the location where they have been sown.

The second figure indicates the number of years spent in the nursery after transplanting or re-potting.

The sign 'x' before the second figure indicates that the liner has been transplanted or re-potted immediately after germination while at the cotyledon stage.

The sign 'U' after the second figure indicates that the seedlings remained in place but that they have been undercut or root pruned.

1.4.2. Cutting grown liners:

Liners obtained from cuttings are designated by '0' as the first figure.

The second figure indicates the number of years the cutting has spent in propagation after it has been made.

The third figure indicates the number of years the cutting has spent in the nursery after transplanting or re-potting.

The sign 'x' between the second and the third figure indicates that the cutting has been transplanted or re-potted within the same season during which it has been made.

1.4.3. Grafted liners:

Liners obtained from grafts are designated by an 'X' as the first figure.

The second figure, following the 'X', indicates the number of years the liner has spent in propagation after the graft.

The third figure indicates the number of years spent in the nursery after the graft has been transplanted or re-potted.

1.4.4. Layers and divisions from clumps or stolons:

Layers are designated by a hyphen '-' as the first figure.

The first figure indicates the time spent in the nursery before the removal of the layer.

The second figure indicates the number of years spent in the nursery after the young plants have been transplanted or re-potted.

POT GROWN- OR PLUG GROWN LINERS:

- 1.4.5. Pot grown liners are designated by the letter 'P', followed by a number.
- 1.4.6. Plug grown liners are similarly designated by the letter 'A', followed by a number.
- 1.4.7. The number which follows the letter 'P' or 'A' indicates the diameter or the width of the pot or the plug in centimetres.

TISSUE CULTURE:

- 1.4.8. Liners resulting from tissue culture will be designated by the letter 'TC'
- 1.4.9. Direct sales of liners coming out of a laboratory:
In case of direct sales, the letters 'TC' will be followed by a figure designating the stage of development of the plants.
- 1.4.10. Sales of tissue cultured plants after further cultivation by a liner nursery:
In this case the specifications will follow the system used for cuttings. However the letters 'TC' will replace the figure 'O'.

ORNAMENTAL WOODY PLANTS

2: LINERS

2.1.-Specific requirements

The General Requirements apply in addition.

- 2.1.1. Liners **must be** described in accordance with a standard code followed by a size. (see chapt. 1.3. and 1.4.)
- 2.1.2. For more detailed specification of shrub liners, it is advised to complete the description with the number of shoots of the minimum length.
If not specified, shrub liners must have at least one strong shoot of minimum length.

ROOTSTOCKS

- 2.1.3. The collar of the rootstocks should be straight and not have any significant bends. In the case of older rootstocks for deciduous plants, the previous year's branch must have a length of at least 20 cm.
- 2.1.4. One year old rootstocks must have a collar diameter of at least 3 mm, several years old transplanted rootstocks require a minimum collar diameter of 4 mm.
- Seed raised rootstocks
- 2.1.5. Undercut seedlings must have strong main roots and their root branching should not start lower than 8 cm beneath the collar.
- 2.1.6. Undercut seedlings are plants which are undercut while being on the sowing bed. They are regarded as seedlings if the root branching is located lower than 8 cm.
- Vegetatively propagated rootstocks
- 2.1.7. Layers must have at least three identifiable root initials.

TISSUE CULTURE

- 2.1.8. Tissue cultured liners must be labelled 'TC'.

2.2.-Sizes

LINERS

Pot grown:

If desired: number of shoots with minimum length: -1- 2/3 - 3/4 - 4/5 - 5/6 -

2.2.1. **low/compact**

height or spread in cm:

6- 8

8-10

10-12

12-15

Examples:

Berberis candidula

Spiraea jap. 'Little Princess'

Abies balsamea 'Nana'

Picea abies 'Little Gem'

2.2.2. **medium/vigorous**

height or spread in cm:

15-20

20-25

25-30

30-40

40-50

Examples:

Hedera helix 'Arborescens'

Cornus alba 'Sibirica'

Jun. media 'Mint Julep'

Thuja occ. 'Pyr. Compacta'

Open ground:

If desired: number of shoots with minimum length: -1- 2/3 - 3/4 - 4/5 - 5/6 -

2.2.3. **low/compact**

height or spread in cm:

6-10

10-15

15-20

Examples:

Andromeda polifolia

Kalmia latifolia

Pieris japonica cvs

Cham. obtusa 'Nana Gracilis'

Picea abies 'Ohlendorffii'

2.2.4. **medium**

height or spread in cm:

15-20

20-25

25-30

30-40

Examples:

Enkianthus campanulatus

Hibiscus syriacus cvs

Syringa microphylla 'Superba'

Jun. media 'Blaauw'

Tsuga canadensis

2.2.5. **vigorous**

height in cm:

20-30

30-45

45-60

60-80

Examples:

Cornus alba cvs.

Weigela 'Bristol Ruby'

Cham. laws. 'Columnaris'

Taxus cuspidata 'Hicksii'

Thuja occ. 'Pyr. Compacta'

ROOTSTOCKS:

2.2.6. Deciduous and evergreen plants:

ø in mm: 1/0 = 3/5 5/7 7/9 9/11

1/1 = 4/6 6/8 8/10 10/12

2.2.7. Conifers:

ø in mm: 1/1 or 2/1 = 4/6 6/8 8/10 10/12

2.3. -Packing

2.3.1. Bundling

Liners will be sold in 10, 25, 50 or 100 units, according to the variety, the growth etc. Good conditions of moisture conservation will be preserved.

3: YOUNG PLANTS and TRANSPLANTS for AMENITY and LANDSCAPING MARKETS

3.1. -Specific requirements

The General Requirements apply in addition.

3.1.1. Young plants and transplants **must be** described in accordance with a standard code followed by a size. (see chapt. 1.3 and 1.4)

3.2. -Sizes

DECIDUOUS TREES and SHRUBS:

3.2.1.	<u>GROUP A:</u>	<u>Examples:</u>	
<u>Shrubs:</u>	Low/Medium	Amelanchier	Ribes sang.
height in cm:	15-30	Berberis thunb.	Rosa (seed raised)
	30-50	Colutea arb.	Rubus frutic.
		Genista tinct.	Vaccinium species

<u>Trees:</u>	Medium		
height in cm:	30- 50	Aesculus	Prunus
	50- 80	Castanea	Quercus
	80-120	Fagus	Sorbus
	120-150	Juglans	Tilia

3.2.2.	<u>GROUP B:</u>	<u>Examples:</u>	
<u>Shrubs:</u>	Medium	Caragana arb.	Ligustrum vulg.
height in cm:	20-40	Cornus sang.	Lonicera tat. xyl.
	40-60	Corylus av.	Malus communis
		Crataegus mon.	Rhamnus
		Hippophae	Sambucus
		Ilex aquif.	Viburnum

<u>Trees:</u>	Vigorous		
height in cm:	40- 60	Acer	Populus
	60- 80	Alnus	Robinia
	80-100	Betula	Salix
	100-140	Carpinus	Ulmus
	140-180	Fraxinus	

CONIFERS:

3.2.3.	<u>GROUP C:</u>	<u>Examples:</u>	
height in cm:	Medium	Jun. communis	
	8-12	Abies	Cedrus
	12-20	Ginkgo	Taxus
	20-30		
	30-50	Pinus mugo etc.	

3.2.4.	<u>GROUP D:</u>	<u>Examples:</u>	
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height in cm:	Vigorous		
	15- 25	20- 30	Chamaecyparis
	25- 40	30- 50	Larix
	40- 60	50- 80	Picea
	60- 80	80-120	Pinus (vigorous growth)
	80-120	Pseudotsuga	Thuja

4: BARE ROOTED PLANTS

4.1. -Specific requirements

The General Requirements apply in addition.

- 4.1.1. All bare rooted plants have to be delivered in bundles.
With each handling or transportation of bare rooted plants, care must be taken to prevent the roots from drying out.
- 4.1.2. Light shrubs, shrubs and hedging plants must be described by a number of breaks followed by a height.

LIGHT SHRUBS

- 4.1.3. Light shrubs or hedging plants are heavy young plants, at least two years old and transplanted. Depending on growth and species/cvs, they are selected with at least 2 or 3 branches and sizes as specified in: 4.2.
- 4.1.4. Light shrubs are graded in several groups.
The number of the branches is the minimum for the referred size.
Light shrubs with fewer branches than the first size should not be sold.

SHRUBS

- 4.1.5. Shrubs are woody plants with several stems or side branches and of bushy habit. They must have been transplanted and have undergone formation pruning during their growth.
- 4.1.6. Shrubs are graded in several groups.
The number of the branches is the minimum for the referred size.
Shrubs with fewer branches than the first size should not be sold.

PYRAMIDS

- 4.1.7. Some species/cvs of tree-like plants can also be grown as pyramids.
Pyramidal grown shrubs must have one strong central leader and at least three strong variety-typical laterals.

CLIMBERS

- 4.1.8. Climbers must be pot- or container grown, see chapter 8.
Exceptions: Parthenocissus quinquefolia and - quinquefolia 'Engelmanni', which can be field grown and sold bare rooted.

4.2. -Sizes

SHRUBS:

4.2.1.	GROUP A.1.:	Examples:
	compact	
minimum number of branches with length in cm:		
light shrubs	3 br. 25- 40	Deutzia gracilis/kalmiaefl.
	3 br. 40- 70	Ligustrum vulg. 'Lodense'
shrubs	4 br. 20- 30	Philadelphus, cvs. (dwarf)
	5 br. 30- 40	Rosa nitida
	5 br. 40- 60	Salix purpurea 'Nana'
	5 br. 60- 80	Spiraea jap. 'Little Princess'

- cvs. (dwarf)
Weigela, cvs. (dwarf)

4.2.2. **GROUP A.2.:**
low

minimum number of branches with length in cm:

light shrubs	3 br. 25- 40
	3 br. 40- 70
	3 br. 70- 90
shrubs	4 br. 20- 30
	4 br. 30- 40
	4 br. 40- 60
	5 br. 60- 80

4.2.3. **GROUP B:**
medium

minimum number of branches with length in cm:

light shrubs	2 br. 25- 40
	2 br. 40- 70
	2 br. 70- 90
shrubs	3 br. 30- 40
	3 br. 40- 60
	3 br. 60- 80
	3 br. 80-100
	3 br. 100/+
*	4 br. 100/+

Examples:

Berberis vulgaris/wilsonae
Cotoneaster acutifolius
Ligustrum obt. regelianum
Lonicera coerulea
Lonicera xyl. "Clavey's Dwarf"
Potentilla fruticosa/cvs.
Salix repens cvs.
Spiraea bum. 'Froebelii'/trilobata
Stephanandra incisa 'Crispa'
Symphoricarpos chen. 'Hancock'

Examples:

(* = exception)

*Acer ginnala
Amelachier leavis/ -'Ballerina'
Berberis thunbergii
* Caragana arborescens
Chaenomeles (seed raised)
Cornus mas
Corylus maxima/purpurea
Cotoneaster multiflora/ -cvs.
Crataegus (seed raised)
*Deutzia magnifica
Eleagnus cvs.
Euonymus europaeus
* Forsythia intermedia cvs.
Hippophae cvs.
*Holodiscus discolor
*Laburnum (seed raised)
Lonicera species
Mahonia aquifolium cvs.
*Malus species
*Prunus species
*Pyrus species
Rhamnus species
Rhus species
Ribes aureum/ -cvs.
* Rosa species (seed raised)
Rubus odoratus
* Salix species/cvs (medium)
Sambucus canadensis cvs.
*Sorbaria species
* Syringa species (seed raised)
Tamarix species

SHRUBS:

4.2.4. **GROUP C:**
vigorous

Examples:

minimum number of branches with length in cm.:	
light shrubs *	2 br. 40- 70
*	2 br. 70- 90
	3 br. 40- 70
	3 br. 70- 90
shrubs	4 br. 40- 60
	4 br. 60- 80
	4 br. 80-100
	5 br. 100/+

(* = exception)

*Amelanchier species (seed raised)
 Aronia species
 *Cornus alba/sanguinea cvs.
 *Corylus avellana
 *Cotoneaster species (seed raised)
 Deutzia scabra cvs.
 Kerria japonica /cvs.
 Kolkwitzia amabilis
 Philadelphus cvs. (vigorous)
 Ribes sanguineum cvs.
 *Salix species/cvs. (vig.)
 *Spiraea cvs. (vigorous)
 Stephanandra incisa
 *Symphoricarpos species/cvs.
 Syringa chinensis cvs.
 *Viburnum species (seed raised)
 Weigela cvs. (vigorous)

4.2.5.

**GROUP D 1:
 exceptions**

number of branches only:

shrubs	2 br.
	3-4 br.
	5-7 br.
	8/+ br.

Examples:

Hydrangea paniculata cvs.
 Laburnum wat. 'Vossii'
 Prunus serr. 'Amanogawa'
 Prunus triloba
 Rhus typhina 'Dissecta'
 Syringa species/cvs.
 Viburnum opulus cvs.

4.2.6.

**GROUP D 2:
 hedging plants**

minimum number of branches with length in cm.:

light shrubs	3 br. 30- 50
	3 br. 50- 80
	5 br. 50- 80
shrubs	6 br. 40- 60
	6 br. 60/+
	8 br. 80-100
	8 br. 100/+

Examples:

Ligustrum iboleum
 Ligustrum ovalifolium
 Ligustrum vulgare/cvs.
 Ribes alpinum/cvs.

PYRAMIDS:

4.2.7. minimum number of laterals; **Examples:**

total height in cm.:	3 br. 80-100
	5 br. 100-125
	5 br. 125-150
	7 br. 150-200

Crataegus laevigata cvs.

Malus cvs.

Prunus serr.

*Kiku-shidare-zaku

CLIMBERS:

Example:

- 4.2.8. minimum number of branches: 3; Parthenocissus
- minimum length: 125 cm.

4.3. -Packing

- 4.3.1. Light bushes: 10 plants per bundle
- 4.3.2. Bushes: 5 plants per bundle
- 4.3.3. Climbers: 10 plants per bundle

5: ORNAMENTAL SHRUBS - ROOTBALLED

5.1. -Specific quality requirements

The General Requirements apply in addition.

- 5.1.1. For container grown plants see the requirements: chapter 8.
Where plants are container grown, this must be indicated.

EVERGREEN WOODY PLANTS

- 5.1.2. Evergreen foliage plants must be transplanted regularly, at least every three years. They must be grown at wide spacing and must be lifted rootballed or established in containers. No soil should be added afterwards; only soil adhering to the roots when lifted should be used in a firm and solid rootball.

SPECIMEN

- 5.1.3. Specimens of evergreen foliage plants must be transplanted every three years, grown at extra wide spacing. They must be lifted rootballed or in containers. Evergreen foliage plants which are measured by spread, must have balanced branching.

GRADING

- 5.1.4. The grading is done corresponding with the sizes.
For marking a size, the colour as indicated can be used.
- 5.1.5. For species/cvs. with a vigorous growing topshoot, half of the annual topshoot is the upper limit for the measure of the length.

5.2. -Sizes

5.2.1. **low/compact** **mark:**

height or spread in cm:	10-15	40-50 blue	100-125 white
	15-20 blue	50-60 yellow	125-150 blue
	20-25 yellow	60-70 red	150-175 red
	25-30 red	70- 80 white	175-200 yellow
	30-40 white	80-100 yellow	200-225 blue
			225-250 white
	above 250 in 50 cm. steps, above 400 in 100 cm. steps		

5.2.2. **medium** **mark:**

height or spread in cm:	15-20 blue	60-80 red	150-175 red
	20-30 yellow	80-100 yellow	175-200 yellow
	30-40 white	100-125 white	200-225 blue
	40-60 blue	125-150 blue	225-250 white
	above 250 in 50 cm. steps, above 400 in 100 cm. steps		

- 5.2.3. **vigorous** **mark:**
 height or spread in cm:
- | | | |
|--------------|----------------------------|----------------|
| 20-30 yellow | 60-100 red | 200-250 blue |
| 30-40 white | 100-150 white | 250-300 yellow |
| 40-60 blue | 150-200 red | 300-400 blue |
| | above 400 in 100 cm. steps | |
- 5.2.4. **specimen**
 The spread can be additionally declared beside the height.
- 5.2.5. Number of branches:
- | | | | |
|---|-----|-----|------|
| 2 | 3/4 | 5/7 | 8/12 |
|---|-----|-----|------|
- 5.2.6. Ground cover plants:
 spread in cm:
- | | |
|---------|-------|
| 10-15 | 30-40 |
| 15-20 | 40-50 |
| 20-(25) | 50-60 |
| (25)-30 | 60-80 |
- 5.2.7. Standard forms of shrubs:
 height of the stem in cm:
- | | |
|-----|-----|
| 40 | 125 |
| 60 | 150 |
| 80 | 200 |
| 100 | |

6: RHODODENDRON/AZALEA - HEATHERS

6.1. -Specific requirements

The General Requirements apply in addition.

- 6.1.1. . For container grown plants see chapter 8.
 Where plants are container grown, this must be indicated.

RHODODENDRON and AZALEA

- 6.1.2. Rhododendrons up to 60 cm height must be **transplanted** at least every two years, from 60 to 100 cm at least every three years.
 Azaleas must be transplanted at least every two years.
- 6.1.3. They should have flowerbuds and must be delivered with rootballs.
 The rootball must be firm and solid.
 Appropriate for the cultivar, soft rootballs must be burlapped.
- 6.1.4. Rhododendrons and Azaleas **without or with few flowerbuds** (except species) must be designated as "Without flowerbuds".
- 6.1.5. Tissue cultured plants should be marked 'TC' the first three years after weaning.

SPECIMEN

- 6.1.6. Specimen of Rhododendrons must be transplanted at least every three to four years, depending on variety and soil condition.
Specimen of Azaleas must be transplanted at least every three years.
- 6.1.7. The plants must be furnished with foliage which is appropriate to the species/cvs. and be well supplied with flowerbuds. They must be delivered with protected and supported rootballs.
 Height and spread must be declared.

HEATHERS

6.1.8. Heathers are Calluna, Daboecia and Erica.
They must be transplanted every year.

6.1.9. Heathers age must be indicated.

6.2 -Sizes

6.2.1. Rhododendron:

low/compact and medium

height or spread in cm:

10-15	25-30	50-60	80-90
15-20	30-40	60-70	90-100
20-25	40-50	70-80	100-120

6.2.2. Rhododendron:

vigorous

height or spread in cm:

30-40	70-80	120-140	200-225
40-50	80-90	140-160	225-250
50-60	90-100	160-180	250-275
60-70	100-120	180-200	275-300
		above 300 in 50 cm steps	

6.2.3. Azalea, deciduous:

height in cm:

30-40	60-70	100-125	175-200
40-50	70-80	125-150	200-250
50-60	80-100	150-175	250-300

6.2.4. Japanese Azalea:

spread in cm:

15-20	30-40	60-70	90-100
20-25	40-50	70-80	100-120
25-30	50-60	80-90	120-140

6.2.5. Specimens of Rhododendron and Azalea:
height and spread have both to be declared.

7: CONIFERS

7.1. Specific requirements

The General Requirements apply in addition.

7.1.1. For pot- or container grown plants see chapter 8.
Where plants are container grown, this must be indicated.

GENERAL

7.1.2. Conifers should be transplanted or undercut every two years. After being undercut in the second year, conifers must be transplanted in the fourth year at the latest.

They must be delivered with a well protected rootball. **Exceptions** to this are species/cvs. and gradings which are usually sold as several times transplanted items without rootballs.

7.1.3. Plants should not be lifted and soil added afterwards; only soil adhering to the roots when lifted should be used in firm and solid rootballs.

- 7.1.4. Depending on the species/cvs. and the growing habit, conifers must be well furnished overall from above ground level. Leafed conifers must be regularly pruned to maintain the growing habit.
The foliage must have colouring typical of the variety.
- 7.1.5. Vigorous growing conifers must be well furnished overall up to the last annual shoot and the whorl distances as well as the length of the last annual shoot must correspond to the total habit of the plant.
Upright growing forms must have **one** leader (A single dominant shoot). Exceptions: Plants for hedges and bushy forms of Taxus, Thuja etc.
- 7.1.6. Upright compact growing conifers like Picea glauca 'Conica' must have no more than **one** leading shoot.

SPECIMEN

- 7.1.7. Specimens of conifers must be transplanted at least every **four** years. In exceptional circumstances a specimen can be sold five years after transplantation. In that case, it must be indicated.
- 7.1.8. Specimens of conifers must be grown at adequate spacing. They must be delivered with a firm and solid rootball.

HEDGES

- 7.1.9. Hedging plants must be well furnished and if necessary must be regularly pruned during the growing period.

SIZES

- 7.1.10. The sizes are done corresponding to the grading steps.
For marking a size, the colour as indicated can be used.
- 7.1.11. For species/cvs. with a vigorous growing top leading shoot, half of the annual top shoot is the upper limit for the measure of the length.
Examples: Pseudotsuga, Picea omorika etc.

7.2. -Sizes

7.2.1. Conifers, dwarf or bushy:

low/compact	mark:		
height or spread in cm:	12-15	40-50 blue	90-100 blue
	15-20 blue	50-60 yellow	100-125 white
	20-25 yellow	60-70 red	125-150 blau
	25-30 red	70-80 white	150-175 rot
	30-40 white	80-90 yellow	175-200 yellow
		above 200 in 50 cm. steps	

7.2.2. Conifers, upright growing:

medium	mark:		
height in cm:	30-40 white	80- 90 yellow	175-200 yellow
	40-50 blue	90-100 blue	200-225 blue
	50-60 yellow	100-125 white	225-250 white
	60-70 red	125-150 blue	250-275 yellow
	70-80 white	150-175 red	275-300 red

7.2.3. Conifers, upright growing:

vigorous	mark:		
height in cm:	40- 60 blue	100-125 white	200-250 blue
or	50- 60 yellow	125-150 blue	250-300 yellow
	60- 80 red	150-175 red	300-350 blue
	80-100 yellow	175-200 yellow	350-400 white

- 7.2.4. Conifers, specimen:
The spread is additionally declared beside the height.

8: CONTAINER GROWN PLANTS

8.1. Specific requirements

The General Requirements apply in addition.

- 8.1.1. Container grown plants must be defined by 'C' followed by a number, indicating the volume of the container in Litres. Ex.: C5 = 5 Litres.
- 8.1.2. Potgrown plants must be defined by 'P' followed by a number. The number indicates the outside width of the square pot (upside) in centimetres. Ex.: P11 = 11 cm pot(□). If round pots are used, this must be indicated.
- 8.1.3. The size of the container/pot must be in a reasonable proportion to the plant size. The container volume must be at least 2 litres. Plants which are cultivated in smaller containers are described as "potgrown".
- 8.1.4. It is assumed that plants will be grown in rigid pots or containers. In some cases e.g. amenity and landscape markets, alternative pot forms may be used e.g. polybags.
Any variation from rigid pots or containers must be designated.
- 8.1.5. All sizes given in the specifications are minimum. For larger plants the container volume, the plant shape, the number of branches, etc. must be in proportion to the size of the plant. The sizes in the chapters 5; 6; 7; 9; 10; 12; and 13 should be used.
- 8.1.6. In correspondence, offers, and on delivery notes, invoices and labels the container/pot plants shall be identified with the volume or pot width.
- 8.1.7. Container- and pot grown plants must have been grown in the container/ pot for sufficient time for the root growth to have substantially penetrated the medium but not be root bound. The growing period for the plant in the pot should be at least one vegetation season and not more than two.
- 8.1.8. All plants to be supplied in clean containers or pots. Plants to be well centred in the container/pot, well rooted, firmed and well watered, with the medium coming within a suitable depth of the pot rim, taking account of the size of the container/pot and age since potting.
- 8.1.9. The plants to be supplied free of weeds and the pot surface free from moss and liverworts etc.
- 8.1.10. **Rhododendrons and Azaleas** "without or with few flowerbuds" (except species and new cultivars) must be designated as "Without flowerbuds"
Tissue cultured plants of Rhododendron should be marked "TC" the first three years after weaning.
- 8.1.11. **Heathers:** The age must be indicated.
- 8.1.12. All plants must be true to name and adequately labelled, with the label the right way up and securely affixed to the plant or inserted into the compost.
- 8.1.13. For information, the following table gives the ES norm (ø) equivalents:
- | | | | | | |
|-------------------|-----|-------|-------------------|-----|-------|
| Volume in litres: | 1 | ES 13 | Volume in litres: | 4 | ES 21 |
| | 1,5 | ES 15 | | 5 | ES 24 |
| | 2 | ES 17 | | 7,5 | ES 27 |
| | 3 | ES 19 | | | |

8.2. -Specifications:

8.2.1.

Climbing- and wall plants soft fruits

Item	Minimum Pot Cont. size vol. in L.	Minimum height above mediallevel	Plant- shape	Minimum no. of breaks in lower third	Example
Actinidia	P13 1.5	40	Single or several		A. kolomikta
Akebia	P13 1.5	40	Several shoots	3	A. quinata
Campsis	P13 1.5	60	Several shoots	2	C. radicans
Clematis	P11 1	40	Several shoots	2	C. 'Jackmannii'
Clematis	1,5	60	Several shoots	2	C. 'Jackmannii'
Hedera, vigorous	1,5	60	Several shoots	2	H. colchica 'Dentata Variegata'
Hedera, medium	P13 1,5	40	Several shoots	2	H. helix 'Goldheart'
Hydrangea	2	30	Several shoots	2	H. anomala petiolaris
Jasminum	P13 1,5	40	Branched	3	J. nudiflorum
Lonicera	P13 1,5	60	Several shoots	2	L. per. 'Serotina'
Parthenocissus, vigorous	2	60	Several shoots	2	P. quinquefolia
Parthenocissus, medium	1	40	Several shoots	3	P. tricuspid. 'Veitchii'
Passiflora	P13 1,5	60	Several shoots	2	P. caerulea
Polygonum (Fallopia)	P13 1,5	60	Several shoots	2	P. aubertii
Pyracantha	P13 1,5	40	Leader - laterals		P. 'Orange Glow'
Vitis	P13 1,5	40	Single or several		V. vinifera 'Purpurea'
Wisteria	2	60	Single or several		W. sinensis cvs.

For larger sizes the container volume and the plant habit must be in proportion.

8.2.2.

Conifers

Item	Minimum Pot Cont. size vol. in L.	Minimum height above mediallevel or ø in cm	Plant- shape	Minimum no. of breaks in lower third	Example
Abies, medium	3	30	Leader-laterals		A. koreana

Cedrus, med/vigorous	3	40	Leader-laterals	C. deodara
Chamaecyparis, vigorous	2	30	[Single leader	C. laws. 'Columnaris'
	3	40	furnished to base]	C. - 'Columnaris'
Chamaecyparis, medium	2	30	Single leader	C. - 'Ellwoodii'
Chamaecyparis, dwarf	2	15 ø	Bushy	C. obt. 'Nana Gracilis'
Cupressocyparis(x), vigorous	2	30	Leader-laterals	C. leylandii
	3	40	Leader-laterals	C. leylandii
Cupressocyparis(x), med/vig.	2	30	[Single leader	C. - 'Castlewella Gold'
	3	40	furnished to base]	C. - 'Castlewella Gold'
Ginkgo	3	40	Leader-laterals	G. biloba
Juniperus, med/vigorous	3	50	[Single leader	J. scop. 'Skyrocket'
			furnished to base]	
Juniperus, dwarf	1,5	15 ø	Bushy	J. squamata 'Blue Star'
Juniperus, prost/vigorous	3	30 ø	Branched	3 J. media(x)'Pfitzeriana'
Juniperus, prost/medium	2	20 ø	Branched	3 J. hor. 'Wiltonii'
Larix	3	20 ø	Leader-laterals	L. kaempferi
Metasequoia	3	60	Leader-laterals	M. glyptostrobooides
Picea, dwarf	2	15	Bushy	P. gl. 'Alberta Globe'
	2	20	Bushy	P. abies 'Nidiformis'
	2	25	[Single leader	
			furnished to base]	P. glauca 'Conica'
Picea, med/vigorous	3	30	Leader-laterals	P. pungens cvs.
Pinus, vigorous	3	30	Leader-laterals	P. sylvestris
Pinus, medium	2	20	Bushy	P. mugo
Taxus, med/vigorous	3	30	Leaders furnished	T. baccata
Thuja, vigorous	2	30	[Single leader	T. plicata cvs.
	3	40	furnished to base]	T. plicata cvs.
Thuja, medium	2	15	[Single leader	T. occ. 'Rheingold'
			furnished to base]	
Tsuga, vigorous	3	30	Leader-laterals	T. canadensis
Tsuga, dwarf	2	15 ø	Bushy	T. canadensis 'Nana'

For larger sizes the container volume and the plant habit must be in proportion.

8.2.3.

Ericaceae & camellia

Item	Minimum Pot. Cont. size vol. in L.	Minimum height above medial level or ø in cm	Plant- shape	Minimum no. of breaks in lower third	Example
Azalea, deciduous	3	30	Branched	4	A. 'Persil'
	7.5	50	Branched	7	-
Azalea, evergreen	2	20	Bushy	6	A. 'Mothers` Day'
	3	30	Bushy	8	-
	5	40	Bushy	10	-
Camellia	2	20	[Leader-laterels or branched]	-	Camellia jap. cvs
	3	30		3	-
	5	40		5	-
Erica/Calluna	P 8		Bushy	6	E. carnea 'Myretoun Ruby'
Rhododendron Hybrids Large Flowered	3	20	Branched	4	
	5	40	Branched	5	R. 'Gomer Waterer'
	7.5	50	Branched	6	-
	10	60	Branched	7	-
	15	70	Branched	9	-
Rhododendron, dwarf	2	10	Bushy	7**	R. impeditum
dwarf-medium	3	20	Branched	5	R. 'Scarlet Wonder'
dwarf-strong	3	25	Bushy	5	R. russatum
Rhododendron yakushmanum compact	2	15	Branched	4	R. yakushmanum
medium	3	25	Branched	5	R. 'Morgenrot' R. 'Sneezy'
hybrids	5	35	Branched	7**	
	7.5	40	Branched	9**	

** In lower half

For larger sizes the container volume and the plant habit must be in proportion.

8.2.4.

SHRUBS (1)

Item	Minimum Pot Cont. size vol. in L.	Minimum height above medial level or ø in cm	Plant- shape	Minimum no. of breaks in lower third	Example	
Abelia	2	25	Bushy	3	A. grandiflora(x)	
Acer palmatum, small	2	25 ø	Branched	2**	A. palm. 'Dissectum'	
Acer palmatum, medium	3	40	Branched	3	A. - 'Atropurpureum'	
Amelanchier	3	50	Branched	3	A. lamarckii	
Aralia	3	40	Single leader		A. chinensis	
Arbutus	2	30	Branched	2	A. unedo	
Artemisia	2	20	Bushy	3	A. 'Powis Castle'	
Arundinaria (see Fargesia)						
Aucuba, vigorous	3	25	Bushy	3	A. japonica	
Aucuba, medium	2	20	Bushy	3	A. - 'Crotonifolia'	
Bambu, vigorous (see Fargesia)						
Bambu, medium (see Fargesia)						
Bambu, dwarf (see Pleioblastus)						
Berberis, evergreen vigorous	3	40	Bushy	3	B. stenophylla(x)	
Berberis, evergreen medium	3	25	Bushy	3	B. darwinii	
Berberis, evergreen dwarf	2	20 ø	Bushy	3	B. candidula	
Berberis, deciduous vigorous	3	40	Branched	3	B. ottawensis(x)	
Berberis, deciduous medium	3	30	Branched	3	B. thunbergii cvs.	
Berberis, deciduous dwarf	2	15	Branched	3	B. - 'Atropurp. Nana'	
Buddleja	3	40	Branched	3	B. davidii & cvs.	
Buxus, medium	2	20	Bushy	3	B. sempervirens	
Caryopteris	2	25	Branched	3	C. clandonensis(x)	
Ceanothus, vigorous medium	2	40	Leader-laterals		C. 'Burkwoodii'	
Ceanothus, prostrate	2	25 ø	Bushy	2	C. thyrsoflorus repens	
Ceratostigma	2	20	Bushy	3	C. willmottianum	
Cercis	3	30	Branched	3	C. siliquastrum	
Chaenomeles	3	30	Branched	3	C. speciosa & sup. cvs.	
Choisya	2	20	Bushy	2	C. ternata	
Cornus, vigorous	3	40	Branched	3	C. alba cvs.	
Cornus, medium	3	40	Branched	3	C. florida rubra	
Cornus, dwarf	P11	1	15 ø	Several shoots	3	C. canadensis

Cortaderia	3	40	Several shoots	3	C. selloana (Gynerium argenteum)
Corylopsis, vigorous medium	3	40	Branched	2	C. sin. (willmottiae)
Corylopsis, dwarf	2	25	Branched	3	C. pauciflora

** Minimum breaks not necessarily in lower third

For larger sizes the container volume and the plant habit must be in proportion.

8.2.4.

SHRUBS (2)

Item	Minimum Pot Cont. size vol. in L.	Minimum height above medialevel or ø in cm	Plant- shape	Minimum no. of breaks in lower third	Example	
Corylus	3	40	Branched	3	C. maxima 'Purpurea'	
Cotinus	3	30	Branched	3	C. coggygria	
Cotoneaster, vigorous	3	50	Branched	2	C. watereri(x)	
Cotoneaster, medium	3	40	Branched	3	C. franchetii	
Cotoneaster, prostrate vig.	2	25 ø	Branched	3	C. suecicus 'Skogholm'	
Cotoneaster, prostrate med.	2	25 ø	Branched	4	C. horizontalis	
Cotoneaster, prost. slow	1.5	20 ø	Branched	4	C. dammeri	
Cytisus, vigorous	2	35	Branched	5	C. scoparius cvs.	
Cytisus, medium	1,5	30	Branched	5	C. praecox(x)	
Cytisus, dwarf	1.5	15 ø	Branched	5	C. beanii(x)	
Deutzia, vigorous	3	40	Branched	4	D. scabra 'Plena'	
Deutzia, medium	3	25	Branched	4	D. purpurascens 'Kalmiflora'	
Elaeagnus, vigorous	2	30	Branched	3	E. ebbingei	
Elaeagnus, medium	2	25	Branched	3	E. pungens 'Maculata'	
Escallonia	3	30	Branched	3	E. 'Donard Seedling'	
Euonymus, vigorous	3	40	Branched	3	E. europaeus	
Euonymus, medium	2	25	Branched	3	E. japonicus	
Euonymus, dwarf	1,5	15 ø	Bushy	5	E. fortunei cvs.	
Exochorda	3	30	Branched	3	Ex. macrantha(x) 'The Bride'	
Fargesia, vigorous	3	45	Several shoots	5	F. murielae	
Fargesia, medium	3	30	Several shoots	5	F. - 'Simba'	
Forsythia, medium	3	40	Branched	3	F. int. 'Spectabilis'	
Forsythia, dwarf	2	20	Branched	3	F. 'Courtasol'	
Gaultheria	P11	1	10 ø	Several shoots	3	G. procumbens
Genista, medium	1,5	30	Branched	3	G. tinct. 'Royal Gold'	

Genista, dwarf		1,5	20	Bushy	4	G. lydia
Hamamelis		3	40	Branched	2	H. mollis
Hebe, medium		1,5	20 ø	Bushy	3	H. rakaiensis
Hebe, dwarf	P11	1	10 ø	Bushy	3	H. ping. 'Pagei'
Hibiscus		3	30	Branched	3	H. syriacus cvs.
Hippophae		3	40	Branched	2	H. rhamnoides
Hydrangea, vigorous		3	40	Branched	3	H. paniculata cvs.
Hydrangea, medium		2	25	Branched	3	H. macrophylla (hortensis) cvs.
Hypericum, vigorous medium	2	30	Bushy	3		H. 'Hidcote'
Hypericum, dwarf	P9		10	Bushy	3	H. calycinum
Ilex, vigorous medium		2	40	Leaders-laterals		I. aquifolium cvs.
Ilex, dwarf		2	20	Branched	3	I. crenata & cvs.

For larger sizes the container volume and the plant habit must be in proportion.

8.2.4. SHRUBS (3)

Item	Minimum Pot. Cont. size vol. in L.	Minimum height above medial level or ø in cm	Plant- shape	Minimum no. of breaks in lower third	Example	
Kerria, vigorous		3	40	Branched	3	K. japonica
Kerria, medium		2	30	Branched	3	K. - 'Aureovariegata'
Kolkwitzia		3	30	Branched	3	K. amabilis
Lavandula	P11	1	15	Bushy	3	L. angustif. 'Hidcote'
Leucothoe		2	25	Bushy	3	L. walteri 'Rainbow'
Ligustrum		2	30	Branched	3	L. ovalifolium 'Aureum'
Lonicera, vigorous		3	40	Branched	3	L. tatarica cvs,
Lonicera, dwarf		2	25 ø	Branched	4	L. pileata
Magnolia, vigorous		3	40	Branched	3	M. soulangeana
Magnolia, medium		3	30	Branched	3	M. stellata
Mahonia vigorous		3	25	Leader		M. media(x) 'Charity'
Mahonia, medium		2	20	Branched	2	M. aquifolium
Olearia		2	25	Bushy	3	O. haastii(x)
Osmanthus		2	20	Bushy	3	O. heterophyllus
Pachysandra	P9		10 ø	Several shoots	3	P. terminalis
Parrotia		3	40	Leader-laterals		P. persica

Pernettya	2	25	Bushy	5	P. mucronata cvs.
Perovskia	3	30	Branched	3	P. atriplicifolia
Philadelphus, vigorous	3	40	Branched	3	P. 'Virginal'
Philadelphus, medium	3	40	Branched	3	P. 'Belle Etoile'
Philadelphus, dwarf	2	25	Branched	4	P. 'Manteau d'Hermine'
Photinia	3	30	Branched	3	P. fraseri(x) 'Red Robin'
Physocarpus	3	30	Branched	3	P. opulifolius 'Darts Gold'
Pieris, medium	2	20	Bushy	3	P. 'Forest Flame'
Pleioblastus, dwarf	2	15	Several shoots	5	P. humilis var pumilus
Potentilla	3	25	Bushy	4	P. fruticosa 'Jackman's Variety'
Potentilla, medium	2	20 ø	Bushy	4	P. - 'Elizabeth' (arbuscula)
Prunus, evergreen vigorous	3	40	Branched	3	P. laurocerasus
Prunus, evergreen medium	3	30	Branched	3	P. lusitanica
Prunus, evergreen med. pros.	3	30 ø	Branched	3	P. laur. 'Zabeliana'
Prunus, evergreen dwarf	2	20	Branched	3	P. laur. 'Otto Luyken'
Prunus, deciduous vig. medium	3	60	Leader-laterals		P. cerasifera 'Nigra'
Prunus, deciduous dwarf	3	30	Branched	3	P. cistena(x)

For larger sizes the container volume and the plant habit must be in proportion.

8.2.4.

SHRUBS (4)

Item	Minimum Pot Cont. size vol. in L.	Minimum height above medialevel or ø in cm	Plant-shape	Minimum no. of breaks in lower third	Example
Pyracantha	1,5	40	Leader-laterals		P. 'Orange Glow'
Rhus	3	40	Single or several shoots		R. typhina
Ribes, vigorous	3	40	Branched	4	R. sanguineum 'Pulborough Scarlet'
Robinia	3	40	Branched	2	R. hispida
Rosmarinus	1,5	20	Bushy	3	R. officinalis
Rubus, vigorous medium	3	40	Branched	3	R. 'Benenden' (tridel)
Rubus, vigorous low	1,5	30 ø	Branched or several shoots	2	R. tricolor
Salix, bush medium	3	40	Branched	3	S. eleagnos
Salix, bush dwarf	2	25	Branched	3	S. lanata

Sambucus, vigorous	3	50	Branched	3	S. nigra
Sambucus, medium	3	30	Branched	3	S. racemosa 'Plumosa Aurea'
Sarcococca	2	15 ø	Bushy	5	S. ruscifolia
Senecio (Brachyglottis)	2	25	Branched	3	B. 'Sunshine'
Skimmia	2	20	Bushy	5	S. japonica 'Rubella'
Sorbaria (aitchisonii)	3	40	Branched	3	S. tomentosa var angustifolia
Spartium	2	40	Branched	5	S. junceum
Spiraea, vigorous	3	40	Branched	3	S. vanhouttei(x)
Spiraea, medium	2	20	Bushy	5	S. japonica 'Anthony Waterer'
Spiraea, dwarf	2	15 ø	Bushy	5	S. - 'Little Princess'
Stephanandra	1,5	25 ø	Branched	3	S. incisa 'Crispa'
Symphoricarpus, vigorous med.	3	40	Branched	3	S. doorenbosii . 'Mother of Pearl'
Symphoricarpus, prostr.	1,5	30	Branched	3	S. chenaultii(x) 'Hancock'
Syringa, vigorous medium	3	40	Branched	3	S. vulgaris cvs.
Syringa, medium	3	30	Branched	3	S. microph. 'Superba'
Syringa, dwarf	1,5	15	Branched	3	S. meyeri 'Palibin' (velutina)
Tamarix	3	40	Branched	2	T. ramosissima (pentandra)
Ulex	2	20	Bushy	3	U. europ. 'Flore Plena'
Vaccinium, vigorous medium	3	30	Bushy	3	V. corymbosum
Vaccinium, dwarf	P9	10 ø	Several shoots	3	V. vitis-idaea 'Koralle'

For larger sizes the container volume and the plant habit must be in proportion.

8.2.4. SHRUBS (5)

Item	Minimum Pot Cont. size vol. in L.	Minimum height above medial level or ø in cm	Plant- shape	Minimum no. of breaks in lower third	Example
Viburnum, evergreen vigorous	3	40	Branched	3	V. burkwoodii(x)
Viburnum, evergreen medium	2	20	Bushy	3	V. tinus
Viburnum, evergreen slow		2	20 ø	Bushy	4 V. davidii
Viburnum deciduous vigorous	3	40	Branched	3	V. opulus 'Roseum' (sterile)
Viburnum deciduous medium	3	30	Branched	3	V. carlesii 'Juddii' V. plic. 'Mariesii'

Vinca	P9	10 ø	Several shoots	3	V. minor
Weigela, vigorous	3	40	Branched	3	W. 'Bristol Ruby'
Weigela, medium	3	30	Branched	3	W. florida 'Folliis Purpureis'

For larger sizes the container volume and the plant habit must be in proportion.

8.2.5.

feathered-trees

Item	Minimum container volume (Litres)	Minimum height above mediarevel in cm.	Plant-shape	Minimum no. of breaks(or feathers)	Example
Acer negundo	7.5	125	Feathered	3	A. neg. 'Fleming'
Acer platanoides	5.0	100	Whip	1	A. platanoides
	7.5	150	Feathered	3	A. - 'Drummondii'
Acer Snake Bark	7.5	125	Feathered	3	A. davidii grosseri (hersii)
Aesculus	7.5	125	Feathered	2	A. carnea 'Briotii'
Amelanchier	5.0	125	Feathered	3	A. lamarckii
Betula	5.0	100	Feathered	5	B. pendula
	7.5	125	Feathered	5	B. - 'Youngii'
Caragana arborescens	7.5	125	Branched head	3	C. arb. 'Walker'
Carpinus betulus	5.0	100	Feathered	5	C. betulus
Crataegus laevigata (oxyacantha)	7.5	125	Feathered	5	C. laevigata 'Paul's Scarlet'
Fagus	5.0	100	Feathered	5	F. sylvatica
	7.5	125	Feathered	5	F. - 'Riversii'
Gleditsia triacanthos	7.5	125	Feathered	3	G. triac. 'Sunburst'
Laburnum	7.5	125	Feathered	2	L. watereri(x) 'Vossii'
Liquidambar	5	125	Feathered	5	L. styraciflua
Liriodendron	5	125	Feathered	3	L. tulipifera
Malus	7.5	125	Feathered	5	M. 'Profusion'
Prunus cerasifera	7,5	125	Feathered	5	P. cerasifera 'Nigra'
Prunus serrulata	7.5	125	Feathered	3	P. serr. 'Kanzan'
Pyrus calleryana	7.5	125	Feathered	5	P. call. 'Chanticleer'
Quercus	5.0	100	Feathered	3	Q. robur
	7.5	125	Feathered	3	Q. robur 'Fastigiata'
Robinia pseudoac.	7.5	125	Whip	1	R. ps. 'Frisia'

Salix caprea	5.0	125	Branched head	4	S. caprea 'Kilmarnock' (Pendula)
Salix sepulcralis(x)	7.5	150	Feathered	5	S. sepulcralis 'Chrysocoma'('Tristis')
Sorbus aucuparia	5.0	100	Feathered	3	S. aucuparia
	7.5	125	Feathered	5	S. aucuparia 'Sheerwater Seedling'
Sorbus aria	7,5	125	Feathered	3	S. aria 'Lutescens'

For larger sizes the container volume and the plant habit must be in proportion.

9: TREES

9.1. -specific requirements

The General Requirements apply in addition.

For container grown plants see the requirements: chapter 8.

GRADING:

9.1.1. For marking a size, the colour as indicated can be used.

NUMBER OF TIMES TRANSPLANTED

9.1.2. A tree is described by the number of times it has been transplanted in production prior to lifting for sale.

The first transplant is the time the tree is lifted from its propagation place (whether propagated from seed, cuttings or stoolbeds) and planted out in a new position. Thereafter each time the plant is lifted and replanted in a new position there is one more transplant.

9.1.3. An ornamental tree grower commences each production cycle by planting out a young plant, often a two year old transplant (1/1 or 0/1/1 or -1/1) and after planting out it is therefore ***twice transplanted***. These trees are often grown to 8-10 or 10-12 cm girth before lifting and planting again to become ***three times transplanted***.

9.1.4. Exceptions:

With certain species listed below the tree grower chooses a selected one year old young plant to commence the production cycle. It is acknowledged that with these species the quality of the tree and its root system at size 8-10-12 is no different from the same size trees which started as two year old young plants. For practical purposes, therefore, these trees will be designated as ***twice transplanted***.

Acer platanoides cvs., Acer pseudoplatanus cvs., Fraxinus cvs.,
Prunus avium cvs., Tilia cvs., Celtis, Cercis, Catalpa,
Morus, Platanus, Populus, Robinia, Salix.

PERIOD BETWEEN TRANSPLANTING

9.1.5. All trees must be kept transplantable through regular transplanting, at least once every 5 years, depending on species/cvs, on soil, root system.

WHIPS

9.1.6. Light whips must be once transplanted.

Whips must be twice transplanted and grown at wider spacing.

FEATHERED TREES

9.1.7. Feathered trees have a defined central leader and a stem furnished with evenly spread and balanced lateral shoots down to near ground level, according to species/cvs.

The rootball diameter should at least represent 3 times the tree girth, measured at the collar.

- 9.1.8. Feathered trees must be described by girth as well as by height.
Feathered trees ***twice transplanted*** must be grown at wider spacing.
- 9.1.9. Feathered trees ***three times transplanted*** must be transplanted as twice transplanted feathered trees for a third time with extra wide spacing.
- 9.1.10. **Specimen *feathered trees*** must be transplanted at least three times and delivered with a rootball. From a stem girth of 30 cm they must be transplanted at least four times.
They must have substantial branching overall appropriate to species/cvs.

MULTISTEMS

- 9.1.11. Multistems are trees that have several stems which start below a height of 50 cm. This can be achieved either through cutting down a single stem tree or by planting several plants into one hole.
The rootball diameter should at least represent 3 times the tree girth, measured at the collar.
- 9.1.12. **Specimen, *multistem trees*** must be transplanted at least three times and delivered with a rootball.
From a total girth of 40 cm they must be transplanted at least four times and delivered with a wired rootball.
They must have substantial branching overall appropriate to species/cvs.

STANDARD TREES

- 9.1.13. Standard trees must have a clear, substantially straight stem, free of branches and a well defined head. Grafted and budded trees shall have no more than a slight bend at the union.
The rootball diameter should at least represent 3 times the tree girth, measured one meter above the soil.
- 9.1.14. Standard trees ***twice transplanted*** must have a straight stem (typical of the species/cvs.) of at least 150 cm for 6-8 cm girth trees and of 180 cm for 8-10 cm girth trees and larger.
- 9.1.15. Standard trees ***three times transplanted*** must be transplanted as twice transplanted standard trees for a third time at an extra wide space. The clear stem height must be at least 200 cm. The head must correspond to the girth size.
- 9.1.16. Standard trees ***four times transplanted*** must be transplanted as three times transplanted standard trees for a fourth time. The clear stem height must be at least 200 cm. The head must correspond to the girth size.
- 9.1.17. **Specimen standard trees** must be at least three times transplanted and those with a stem girth greater than 30 cm must be transplanted four times.
The clear stem height must be at least 200 cm. The head must correspond to the girth size.
- 9.1.18. Standard trees ***for road planting*** (Trees for urban use).
For certain uses (e.g. city roads) an extra high head is required. Allowing for the fact that the cultivation possibilities concerning the species/cvs. are different, it must be possible to prune the lower branches of the trees to increase the clear stem height without spoiling the final shape and appearance of the tree, either during the cultivation or later when finally planted.
- 9.1.19. Standard trees with **globe shapes** and **weeping forms** are cultivated without straight leaders.

STANDARD FORMS

- 9.1.20. For standard forms of shrubs such as Hydrangea, Laburnum, Prunus, Salix, Syringa, Viburnum and the like, the head must consist of at least 4 strong branches appropriate to the species/cultivar.

9.2. Sizes

9.2.1. Whips:

	<u>light whips</u>	<u>whips</u>
	mark:	mark:
height in cm:	80-100 yellow	100-125 white
	100-125 white	125-150 blue
	125-150 blue	150-175 red
		175-200 yellow
		200-250 blue

9.2.2. Feathered trees:

	mark:
height in cm:	150-175 red
	175-200 yellow
	200-250 blue
	250-300 yellow
	above 300 cm in 50 cm steps

9.2.3. Feathered trees

-*twice transplanted*:

When the girth size is greater than 6 cm it may be specified as for standard

trees e.g. 6-8 or 8-10

-*three times transplanted*:

the girth size starts at 12-14 cm.

9.2.4. Feathered trees *four times transplanted* as well as

Specimen feathered trees and

Specimen multistem trees:

As for 9.2.5 except the girth size starts at 14-16 cm.

According to the cvs. and sizes additional statements of width and height can be made.

9.2.5. Standard trees

girth in cm., measured at 100 cm height above soil level:

mark:			
5- 6 white	12-14 white	20-25 white	40-45 white
6- 8 blue	14-16 blue	25-30 blue	45-50 blue
8-10 yellow	16-18 yellow	30-35 yellow	
10-12 red	18-20 red	35-40 red	
		above 50 cm girth in 10 cm steps.	

According to the cvs. and sizes additional statements of stem height, total height and top width can be made.

9.2.6. Standard forms of shrubs:

height of the stem in cm:

40	125
60	150
80	200
100	

9.2.7. Size of rootballs:

The root system (on bare rooted trees) should have a diameter that's at least 4 times the steam diameter. A tree with a root clump should have a root system that's at least 3 times the steam diameter.

The rootballs will be too small and it should always be at least 30 cm.

Size	Min. size of rootball (in cm)	Number of transplanting
6-8	25	
8-10	30	
10-12	30	
12-14	40	3 times
14-16	45	3 times
16-18	50	3 times
18-20	55	3 times
20-25	60	4 times
25-30	70	4 times
30-35	80	4 times
35-40	90	5 times
40-45	100	5 times
45-50	120	5 times
50-60	130	6 times

9.3. Packing

bundling

9.3.1. Light whips: 10 or 25 plants per bundle

9.3.2. Whips: 5 or 10 plants per bundle

9.3.3. Feathered trees and Standard trees:

Twice transplanted without rootball must be bundled according to the tree species and girths.

Feathered trees up to 2.5 M tall and Standard trees up to 8 cm girth should have no more than 10 plants per bundle.

Larger Feathered and Standard trees should have no more than 5 plants per bundle.

9.4. designation

Trees must be designated on the documents by:

- the name of the cultivar and species
- the name of the rootstock for grafted or budded trees, and the name of the interstock (intermediate stock), if any
- for grafted or budded trees, the specification "bottom worked" or "top worked".

10: ROSES

10.1. -Specific requirements

The General Requirements apply in addition.

GENERAL

- 10.1.1.. All requirements apply to rose plants for garden and landscape.
- 10.1.2. Rose plants for sale must be in good health and have all the characteristics mentioned in these requirements. Branches may not be bruised or damaged.
- 10.1.3. Rose plants must be designated by the full and true name of the cultivar. This designation by a label must be applied to every unit or in case of single plants to every plant. Plants under breeders rights have to be labelled according to the breeders' policy (and appropriate to the UPOV Convention).
- 10.1.4. Saleable plants, which do not belong to Quality A must be identified as Quality B.

BUDED ROSE PLANTS

- 10.1.5. The following requirements apply to all rose plants intended for garden and landscape, budded and after one season of vegetative growth.
- 10.1.6. Rose plants having vegetative and dimensional characteristics inferior to those described for quality B cannot be sold.
- 10.1.7. Budded rose plants are sold in the following forms: bushes and standards.

ROOT SYSTEM

- 10.1.8. Rose plants sold bare rooted must be in a condition of vegetative rest. With each handling or transportation the roots must be protected from drying out.
- 10.1.9. The root system must be well balanced and well developed to ensure a good support of the plant growth, balanced to the upper part and in relation to the variety. The minimum length of the roots from the budding point is 20 cms.

BUSHES

- 10.1.10. Rose bushes must have strong, very mature branches, at least 2 of them starting from the budding point. See also 10.2.
- 10.1.11. The diameter of the collar is measured just below the graft.

STANDARDS

- 10.1.12. The stem of standard roses must be straight and the height must be measured from the ground level up to the lowest budding point and must always be clearly identified.
- 10.1.13. The diameter of the stem of standards is measured 1 cm. below the lowest budding point.

CONTAINER GROWN

- 10.1.14. Budded rose plants grown in container must be one or two years old. They must meet the specific requirements for container grown plants (see chapter 8.1) and the vegetative and dimensional characteristics for rose plants. (10.2.1, 10.2.2) The minimum container volume must be 3 litres excluding presentation- packs.

ROSE PLANTS, NOT BUDED

- 10.1.15. For rose species grown from seed for landscaping see chapter 4.
- 10.1.16. Rose plants raised outdoors from hard- or softwood cuttings may be one or two years old.

ROOT SYSTEM

- 10.1.17. The root system must be sufficient and well developed to ensure good plant growth and to support the plant.
With each handling or transportation the roots must be protected from drying out.

POT/CONTAINER GROWN

- 10.1.18. Rose plants, not budded and grown in container must be one or two years old and must meet the vegetative and dimensional characteristics mentioned in 10.2.7. and 10.2.8.
- 10.1.19. Depending on the habit and growth of the cultivar, the pot size or container volume must be minimum P11 resp. 1 litre.
The size of the pot/container shall always be indicated.

10.2. -Vegetative and dimensional requirements

BUDDED BUSHES

- 10.2.1. **quality A:** **minimum 3 branches**
Diameter of the collar: minimum 1,3 cm.
Minimum 3 strong branches, at least 2 of which start from the budding point with the 3rd starting at the most 10 cm from that budding point.
- 10.2.2. **quality B:** **minimum 2 branches**
Diameter of the collar: minimum 1,1 cm.
Minimum 2 strong branches starting from the budding point.

BUDDED STANDARDS

- 10.2.3. minimum diameter of the stem: 1 cm.
- 10.2.4. stem height in cm, e.g.:
40
60
90
110
140 (for weeping roses)

Head

- 10.2.5. **quality A:** **minimum 3 branches**
Minimum number of 2 grown buds with a maximum distance of 10 cm between the two grown buds.
Minimum number of 3 strong and matured branches starting from the budding point.
- 10.2.6. **quality B:** **minimum 2 branches**
Minimum 1 grown bud.
Minimum number of 2 strong and matured branches starting from the budding point.

BUSHES, PROPAGATED FROM CUTTINGS

- 10.2.7. **strong growing:** **minimum 3 branches**
Minimum 3 branches starting within 10 cm above ground level.
- 10.2.8. **slow growing:** **minimum 2 branches**
Minimum 2 branches starting within 10 cm above ground level.

10.3. -Packing

	<u>Bundling</u>	
10.3.1.	bushes:	5 or 10 plants bundled per unit. maximum 5 units per bundle.
10.3.2.	standards:	5 plants per bundle

11: FRUIT TREES; ROOT STOCKS and LINERS

11.1. -Specific requirements

The General Requirements apply in addition.

GENERAL

- 11.1.1. Rootstocks must be in compliance with the species/cvs. and be of specified geographic origin for plants produced from seedlings. They must be free of insects or diseases covered by health regulations. They must be free of injuries of biological origin so that growing on and further development are not in danger.

ROOT STOCKS

- 11.1.2. The stem of the rootstocks for grafting fruit tree species/cvs must be free of lateral shoots at least 10 cm above the collar. The stem must be straight and without any significant bends.
- 11.1.3. Rootstocks can be sold at the age of one year and must have the minimum characteristics stipulated in the specific gradings.

TRANSPLANTED LAYERS AND CUTTINGS

- 11.1.4. Plants, produced by layering or cuttings, which have been transplanted at a depth of at least 12 cm for a second year of growth. A slight bend is acceptable where it results from the mode of propagation.

LINERS

- 11.1.5. Liners, sold as dormant eyes must be lifted during the winter or spring season following budding at a dormant bud stage. The bud must be living but not grown, well joined and protected effectively during handling operations.

DESIGNATION

- 11.1.6. Rootstocks must be designated by:
- name of the species and where applicable the cultivar
 - diameter class;
 - a code to indicate the type of method employed to produce the rootstocks.

11.2. -Sizes

ROOTSTOCKS

11.2.1.	<u>Seedlings:</u>				
	diameter of the stem at the collar:	minimum 3 mm.			
	diameter class in mm:	3/5	5/7	7/9	9/11 or:
		3/4	4/6	6/8	8/10
	minimum height in cm from the collar:				
	for: Pear 1/x0	10	20	30	40
	St. Julien	20	30	50	70
	Mazzard	15	30	40	50
	Apple 1/x0	15	30	40	50

- 11.2.2. Layers and divisions of stolons:
diameter of the stem: minimum 3 mm.
diameter class in mm: 3/5 5/7 7/9 9/11 or:
3/4 4/6 6/8 8-10 10/+
the diameter is measured 10 cm above the base of the plant.
- 11.2.3. Transplanted:
diameter class in mm: 3/5 5/7 7/9 9/11 or:
3/4 4/6 6/8 8/10 10/12
the diameter is measured above the upper root or at least 12 cm
above the base of the plant.
- 11.2.4. Hardwood cuttings of length less than 20 cm:
diameter of the stem: minimum 3 mm.
diameter class in mm: 3/5 5/7 7/9 9/11 or:
3/4 4/6 6/8 8/10 10/12
the diameter is measured at the start of the first break.
- 11.2.5. Hardwood cuttings of length more than 20 cm:
diameter of the stem at the collar: minimum 3 mm.
diameter class in mm: 3/5 5/7 7/9 9/11 or:
3/4 4/6 6/8 8/10 10/12
the diameter is measured at the collar of the cutting.
- 11.2.6. Softwood cuttings:
diameter of the stem at the collar: minimum 2 mm.
diameter class in mm: 2/3 3/5 5/7 7/9 or:
2/3 3/4 4/6 6/8
the diameter is measured at the collar of the cutting.
- 11.2.7. In-vitro stocks acclimatized in the open air (TC/0/1, TC/1/1):
diameter of the stem at the collar: minimum 2 mm.
diameterclass in mm: 2/3 3/5 5/7 or:
2/3 3/4 4/6
the diameter is measured at the collar.
minimum height: 15 cm.

LINERS

- 11.2.8. Fig plants (Ficus carica cvs.):
layers (-/1/0), length from base: 30 cm.
transplanted one year root cuttings (-/0/1):
minimum length of one year shoot: 10 cm
- 11.2.9. Chestnut (Castanea):
one year layers (-/1/0), minimum length: 45 cm
- 11.2.10. Walnut (Juglans):
the seedlings of common walnut trees shall have the following characteristics: -age one or two years;
-straight, mature stem;
-radicular system of minimum length 20 cm from the collar;
these seedlings can have only one tap root, this being a specific feature of the species.

11.3. Packing

- 11.3.1. At the time of delivery and at the request of the buyer, the rootstocks can be cut back before shipment.
- 11.3.2. Rootstocks for fruit cultivars must be bundled 50 plants per bundle, with the exception of those sold in the vegetative stage and for those of diameter 10 mm and more.
- 11.3.3. Walnut trees (*Juglans* sp.) and chestnut trees (*Castanea* sp.) shall be packed in bundles of 25 and each bundle shall have two ties, one on the roots and one on the stems.

LABELLING

- 11.3.4. The labelling of rootstocks, fruit liners and shrubs shall be in compliance with the regulations in force.

12: FRUIT TREES; TOP FRUITS

12.1. -Specific requirements

The General Requirements apply in addition.

For container grown plants see the requirements: chapter 8.

Where plants are container grown, this must be indicated.

GENERAL

12.1.1. This chapter applies to grafted fruit trees of the species:

Almond (Prunus dulcis)	Peach (Prunus persica)
Apple (Malus domestica)	Pear (Pyrus communis)
Apricot (Prunus armeniaca)	Plum (Prunus)
Cherry (Prunus)	Quince (Cydonia oblonga)
Chestnut (Castanea sativa)	Walnut (Juglans regia)
Fig (Ficus carica species)	

FEATHERED FRUIT TREE (2-3 YEARS)

12.1.2. Must be cultivated at wide spacing for a minimum of two years.

The side branches may have been pruned appropriate to the species/cvs in question.

PYRAMID FRUIT TREE

12.1.3. Tree of pyramidal or tapered appearance. The leading shoot shall be very straight and aligned with the trunk.

The main branches are regularly distributed around the trunk, the lowest branch shall originate at a distance of 30 to 45 cm from the graft.

BUSH FRUIT TREE

12.1.4. Plant having the same characteristics as the pyramid but with no leading shoot.

BRANCHED FRUIT TREE (KNIPBOOM)

12.1.5. One year graft cut back at a minimum of 40 cm from the soil level and with 3 or 4 shoots on the new growth, well distributed and located between 50 to 100 cm above soil level.

Note: The "budded understock sold with dormant eyes" belongs to the liners (11.1.5.).

TRAINED FORMS

12.1.6. Fruit trees can also be grown and sold in trained forms. The main branches of these forms must be situated in the same plane and bear spurs, which are well distributed over the two or three year old wood.

The trained forms are specified under 12.4.

DESIGNATION

12.1.7. Fruit trees must be designated on the labels and on all other documents by:

- the name of the cultivar or species
- the name of the rootstock for grafted trees
- the form specification (definition of shape) according to the chapters 12.1 and 12.4.
- the age for pyramids or bushes.
- the diameter or girth for standard trees

12.2. -Sizes

12.2.1. One year grafted trees (Maidens):

minimum diameter in mm, measured 10 cm above the graft.

minimum height in cm. measured above the graft.

	Understock	ø	height
Apricot	any Prunus rootstock	10	100

Almond	Plum	10	80
	Almond & hybrid peach	10	100
Cherry, P.avium	Mahaleb and Mazzard	10	100
Cherry, other	Mahaleb and Mazzard	10	80
Quince	Quince	10	100
Peach	Almond, plum	10	80
	Peach seedling	10	100
	Almond-peach hybrid	10	100
Pear	Quince	10	80
	Pear seedling	10	100
Apple	M.4; 7; 9; 26; 106; A.2	10	80
	M.27	10	70
	M.2; 25; 111	10	100
- standards	Apple seedling	10	100
	other vigorous types	10	100
Plum	dwarf of St.Julien type	8	80
	vigorous, Myrobolan type	8	100
	Mode of grafting:		
Walnut tree	Bench grafting	10	20
	Plate grafting	20	100
Chestnut tree	Bench grafting	10	20
	Tongue grafting	20	100

One year plants grafted with a growing bud must have a woody shoot.

12.2.2. Two-three years Feathered trees:

height in cm, measured from the collar, minimum height 125 cm:

100-125 (for walnut only)	
125-150	200-250
150-200	250-300

above 300 cm: (the girth is measured 100 cm above the collar)

girth in cm:	6-8	10-12
	8-10	12-14 etc.

Particular characteristics may be specified for cultivars whose natural growth is considered as far less than the average growth of the cvs.

12.2.3. Pyramids and fruit-tree bushes:

number of laterals: (branches) at the age of:

(Pyramids: in addition to the leading shoot)

4	two years
6	three years
8	four years
10	five years
12	six years

12.2.4. Standard trees:

height of the stem in cm, measured from the collar to the lowest branch: 50 dwarf standard

80	short standard
130	half standard
180	full standard

12.2.5. girth in cm, measured at 100 cm above soil level: (60 cm for short- and 30 cm for dwarf standards):

5 (minimum)	
6-8	10-12

8-10

12-14 etc.

12.2.6. Branched Fruit Tree (Knipboom):

minimum length of the shoots in cm:

with 3 shoots: 30

with 4 shoots: 15

minimum length of the leader: 50; measured from its base

diameter of the leader in mm: 9; measured at 10 cm from its base

diameter of the stem in mm: 12; measured at 10 cm above the grafting point.

12.2.7. Trained trees:

the dimensions for trained trees are given together with the specifications in 12.4.

12.2.8. Container grown fruit trees:

minimum volume of the container: 7,5 litres (except one year grafted plants).

12.3. -Packing

BUNDLING

12.3.1. Fruit trees can be delivered separately or packed in bundles.

Each bundle may contain only fruit trees of the same cultivar and of identical characteristics, except if the trees are labelled individually.

12.3.2. One year grafted: 10 plants per bundle

Older plants except trained trees: 5 plants per bundle

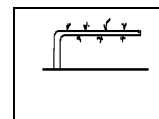
LABELLING

12.3.3. Fruit trees must be labelled according 12.1.7 and in compliance with the plant health regulations in force.

12.4. -Trained trees

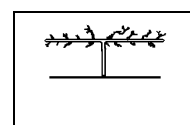
HORIZONTAL CORDON WITH ONE ARM

12.4.1. Tree with a stem which is first vertical and then trained horizontally, either 40 cm or 80 cm from ground level. The horizontal part shall be spur-bearing and shall have, from the axis of the vertical part up to its mature end, a minimum length of 70 cm.



HORIZONTAL CORDON WITH TWO ARMS

12.4.2. Tree with a stem which is first vertical and then divided without extension in two main branches bent sharply 40 cm or 80 cm from ground level. The two branches must be suitably spur-bearing and be more or less of equal strength and length. Each horizontal part shall have a minimum length of 60 cm, from the axis of the vertical part up to its mature end.



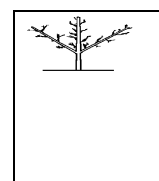
OBLIQUE PALMET

12.4.3. Tree with, 30 cm from ground level, a main branch formed of one or more pair of two side branches whose points of origin on the vertical axis are spaced 30 cm apart (50 cm for peach trees), and a vertical leading shoot. The branches of a given pair must be more or less of equal length and strength and must form an angle of 45° with the extension.

SINGLE-STAGE OBLIQUE PALMET

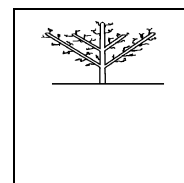
12.4.4. The vertical part of the central axis (leading shoot) shall have a minimum length of 70 cm from the origin of the oblique branches.

Each oblique branch shall have a minimum length of 65 cm from the axis of the central branch up to its mature end.



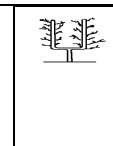
TWO-STAGE OBLIQUE PALMET

- 12.4.5. The leading shoot shall have a minimum length of 50 cm from the branching of the central stage. Each branch making up the 1st. stage (lower stage) shall have a minimum length of 90 cm from the axis of the central branch up to its mature end. Each branch making up the 2nd stage (upper stage) shall have a minimum length of 40 cm from the axis of the central branch up to its mature end.



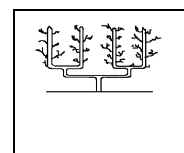
SINGLE U

- 12.4.6. Tree with, 30 cm from ground level, a division of the stem into two main branches trained horizontally over 15 cm each (25 cm for peach trees), then vertically so as to give two branches spaced 30 cm apart (50 cm for peach trees) more or less of equal length and strength. The vertical part of the two branches making up the single U shall have a minimum length of 70 cm from the axis of the horizontal part of those branches up to its mature end.



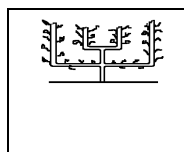
DOUBLE U

- 12.4.7. Tree with, 20 cm from ground level, a division of the stem into two main branches trained horizontally over 30 cm each and then straightened vertically over 10 to 20 cm. Each of these two vertical branches is divided into two main branches trained horizontally over 15 cm and then straightened vertically to obtain a tree with four vertical branches of virtually equal strength, spaced 30 cm apart. The tips of the four branches shall be at approximately the same level.



TWO STAGE DOUBLE U

- 12.4.8. Tree with, 30 cm from ground level, a division of the stem into three main branches, the central branch forming the extension which, 30 cm higher up, will be formed into a single U. The other two branches trained horizontally over 45 cm are straightened vertically to obtain a tree with four branches spaced 30 cm apart, on which the tips of the outer branches are at least at the same level as those of the inner branches.

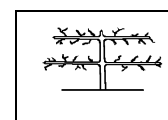


The vertical part of the two branches making up the central U shall have a minimum length of 35 cm from the axis of the horizontal part of those branches up to its mature end.

The vertical part of the two branches making up the outer U shall have a minimum length of 70 cm from the axis of the horizontal part of those branches up to its mature end.

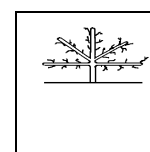
HORIZONTAL ESPALIER

- 12.4.9. A tree with a central stem with balanced, i.e. the same number of horizontal branches in one vertical plane on each side, the bottom tier being 30 to 40 cm from ground level and additional tiers spaced 30 to 40 cm apart. The branches at the same level must have about the same length and the same size.



FAN

- 12.4.10. Tree with a leg not more than 50 cm in height and a balanced fan-shaped system of branches in one vertical plane, with a minimum of 5 branches at least 30 cm long. Shoots must have about the same size and length.



13.2.4. black, red currant and gooseberry:
 2-3 years bushes
 minimum 3 branches within 5 cm. above soil level:
 minimum length in cm 40
 grading: 3-4 5-7 8-12

13.2.5. hazelnut:
 2-3 years bushes
 minimum 3 branches above soil level:
 minimal length in cm: 60
 grading: 3-4 5-7

STANDARDS

13.2.6. height of the stem in cm:
 dwarf standard: 40-50
 half standard: 80-100

CANES

13.2.7. raspberry and blackberry:
 minimum length in cm: 60
 can be cut back before delivery to minimum: 45 cm.

POTS/CONTAINERS

13.2.8. minimum volume in litres:
 liners: 1 (P11)
 bushes of hazelnuts: 5
 bushes of currants: 3
 bushes of gooseberries: 3
 standards: 5
 blackberries: 1.5 (P13)
 raspberries: 1 (P11)

14: PERENNIALS

14.1. -Specific requirements

The General Requirements apply in addition.

GENERAL

- 14.1.1 Perennials are plants which die above ground in the winter, and in the spring grow from the root.
- 14.1.2. In addition to this group which is easy to define, there is a group of ground covers that do not die to which several low sub-shrubby plants belong and evergreen alpine plants which still should be included among the group of herbaceous plants. Also perennial herbs, ornamental grasses, bamboos, ferns and water- and bog plants belong to the perennials.
- 14.1.3. In the winter rest period of perennials we should distinguish buds and axillary buds.
Buds can flower, which means that from one bud a minimum of one flower will grow in the following growing season.
Axillary buds are growth buds, which means that from one axillary bud in the following growing season a growth will develop which forms a leaf and does not have to be flowering. These are often the minor buds on plants.
- 14.1.4. Perennials protected by the 'Washington Convention' can not be traded without a proof of exemption in the covering papers. The proof should satisfy the prescriptions that apply at that moment.
- 14.1.5. Plants which are multiplied by tissue culture must be labelled with the letters **TC** for Tissue Culture.

POT-AND CONTAINER

- 14.1.6. Plants grown in pot or container should have a good root system applicable to the species/cvs. The plants must stand well and upright in the pot or container and the pot or container must be filled for at least 90% with plant roots and soil.
- 14.1.7. Plants which have been plunged should not have too many roots outside the pot or container, so that they have a good chance of survival.
- 14.1.8. Plants to be delivered in the autumn should not be cut back too early, so that renewed growth is not endangered and the plant can still harden off.
- 14.1.9. The pot size P9 square is a basis for trading.

BARE ROOTED PLANTS

- 14.1.10. Bare rooted plants must have a good balance between the growing parts, i.e. buds, axillary buds and the root system. This is mainly important for plants grown from divisions. Buds and axillary buds must not be cut in pieces, not even when buds are visible.
- 14.1.11. Cooled plants must have a good viability. Plants which have been in cool storage for a shorter or a longer period must not be dried out and must be free from fungus. The plants should also have the chance to finish the entire growth cycle in the coming growing season, so that the viability in the following years is guaranteed.
- 14.1.12. Perennials that are delivered out of cold storage after 1st May must be designated as cooled plants.

LINERS

- 14.1.13. Liners (young plants) of deciduous perennials (delivered in the autumn) must have good lateral buds, so that a renewed growth is guaranteed.
- 14.1.14. Liners from the open ground must be well packed so that they are protected from drying-out.
- 14.1.15. Buds and axillary buds must not be damaged by tearing or cutting.

14.1.16. If liners are delivered directly from a greenhouse or covered area, this should be made known to the buyer.

14.1.17. For water plants the same conditions apply to quality and rooting.

14.2. -Sizes

14.2.1. Perennials that are tuberous can be indicated with their circumference (girth) in cm. 10-12 means that the plant in question has a circumference of between 10 and 12 cm.

For perennials with a tap root the length of the root should be mentioned.

14.2.2. Other bare rooted perennials (Hosta, Paeonia) can be designated with the number of buds or axillary buds. Example: from 2, 3 or 4 buds.

14.2.3. For bamboos the number of branches and the length in cm must be designated.
2/3 of the number of branches must have the indicated length.

14.2.4. On demanding, offering and trading perennials one of the following points must be designated:

1: Pot grown and size or container grown and volume. Ex.: P9 or C3.

For bamboo and sub-shrubs the length and number of the branches.

2: Bare rooted plants

If applicable, depending on the species/cvs.:

-The number of buds or axillary buds.

-The circumference of the root ball or the length of the roots.

3: Liners.

Bare rooted or grown in pot or in plugs.

14.3. -Packing

14.3.1. On delivery there should be one label per packaging unit, with the generic name, species and/or cultivar name.

14.3.2. The packing of bare rooted plants should be done in such a way that drying-out is avoided, To avoid over heating, plants with leaves should not be packed airtight.

14.3.3. Plants should be provided with good information, which means photo label or label with sufficient information.

15: PALM TREES

15.1. -Specific requirements

Palms trees are classified in three different types: one stem, multiple stems and others.

15.1.1. Palm trees with only one stem.

Acanthophoenix rubra, *Acrocomia totai*, *Aiphanes caryotifolia*, *Archontophoenix alexandrae*, *Archontophoenix cunninghamiana*, *Areca catechu*, *Areca vestiaria*, *Arenga pinnata*, *Bismarckia nobilis*, *Borassus flabellifer*, *Brahea armata*, *Brahea brandegeei*, *Brahea dulcis*, *Brahea edulis*, *Butia capitata*, *Butia eriopatha*, *Butia yatay*, *Carpentaria acuminata*, *Caryota urens*, *Ceroxylon alpinum*, *Chamaerops humilis*, *Coccothrinax alta*, *Coccothrinax argentata*, *Coccothrinax argentea*, *Coccothrinax crinita*, *Coccothrinax miraguama*, *Cocos nucifera*, *Colpothrinax wrightii*, *Copernicia alba*, *Copernicia baileyana*, *Copernicia macroglossa*, *Dictyosperma album*, *Dypsis "lucubensis"*, *Dypsis decaryi*, *Elaeis guineensis*, *Euterpe edulis*, *Euterpe oleracea*, *Gaussia maya*, *Gaussia princeps*, *Hedyscepe canterburyana*, *Howea belmoreana*, *Howea forsteriana*, *Hydriastele wendlandiana*, *Hyophorbe lagenicaulis*, *Hyophorbe verschaffeltii*, *Hyphaene coriacea*, *Jubaea chilensis*, *Laccospadix australasica*, *Latania loddigesii*, *Latania lontaroides*, *Latania verschaffeltii*, *Licuala ramsayi*, *Livistona australis*, *Livistona chinensis*, *Livistona decipiens*, *Livistona mariae*, *Livistona muelleri*, *Livistona rotundifolia*, *Livistona saribus*, *Normanbya normanbyi*, *Orbignya cohune*, *Parajubaea cocoides*, *Phoenix canariensis*, *Phoenix dactylifera*, *Phoenix rupicola*, *Phoenix sylvestris*, *Pritchardia affinis*, *Pritchardia pacifica*, *Pseudophoenix sargentii*, *Pseudophoenix vinifera*, *Ptychosperma elegans*, *Ptychosperma macarthurii*, *Ravenea rivularis*, *Rhopalostylis baueri*, *Rhopalostylis sapida*, *Roystonea borinquena*, *Roystonea elata*, *Roystonea oleracea*, *Roystonea regia*, *Sabal bermudana*, *Sabal blackburniana*, *Sabal causiarum*, *Sabal mauritiformis*, *Sabal mexicana*, *Sabal palmetto*, *Sabal princeps*, *Syagrus coronata*, *Syagrus romanzoffiana*, *Syagrus schizophylla*, *Thrinax morrisii*, *Thrinax parviflora*, *Thrinax radiata*, *Trachycarpus fortunei*, *Trachycarpus martianus*, *Trachycarpus takil*, *Trachycarpus wagnerianus*, *Triptrinax acanthocoma*, *Veitchia arecina*, *Veitchia merrillii*, *Washingtonia filifera*, *Washingtonia robusta*, *Wodyetia bifurcate*.

15.1.2. Palm trees with multiple stems, originated from basal growth.

Acoelorrhape wrightii, *Areca vestiaria*, *Arenga engleri*, *Caryota mitis*, *Chamaedorea seifrizzi*, *Chamaerops humilis*, *Cyrtostachys renda*, *Dypsis cabadae*, *Dypsis lutescens*, *Euterpe oleracea*, *Hydriastele wendlandiana*, *Jubaeopsis caffra*, *Laccospadix australasica*, *Licuala spinosa*, *Nannorrhops ritchieana*, *Phoenix dactylifera*, *Phoenix reclinata*, *Phoenix theophrastii*, *Pinanga coronata*, *Ptychosperma macarthurii*, *Raphia farinifera*, *Rhapidophyllum hystrix*, *Rhapis excelsa*, *Rhapis humilis*, *Triptrinax campestris*, *Wallichia densiflora*.

15.1.3. Other types.

Allagoptera arenaria, *Calamus australis*, *Calamus caryotoides*, *Calamus muelleri*, *Caryota ochlandra*, *Chamaedorea costaricana*, *Chamaedorea elatior*, *Chamaedorea elegans*, *Chamaedorea ernesti-agustii*, *Chamaedorea glaucifolia*, *Chamaedorea metallica*, *Chamaedorea microspadix*, *Chamaedorea oblongata*, *Chamaedorea radicalis*, *Chamaedorea sartorii*, *Chamaedorea seifrizzi*, *Chamaedorea tepejilote*, *Hyphaene coriacea*, *Hyphaene thebaica*, *Licuala grandis*, *Linospadix monostachya*, *Lytocaryum weddellianum*, *Phoenix loureirii*, *Phoenix pusilla*, *Phoenix roebelenii*, *Reinhardtia gracilis*, *Sabal etonia*, *Sabal minor*, *Sabal uresana*, *Serenoa repens*, *Syagrus flexuosa*.

15.2. -Sizes

Measurement:

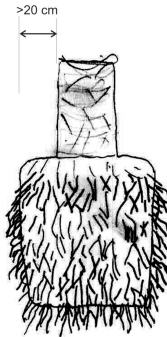
- Type A palm trees are measured by the height of the stem.
- Type B and groups of palm trees: number of stems higher than 0,30 m and the addition of heights of all stems must be indicated.
- Type C palm trees must be measured by the height of the stem and, if necessary, specifying total number of stems.

The height of the stem is measured in 10 cm. intervals.

Root ball dimension: there will be a distance between the stem and the exterior of its root ball, according to palm tree height:

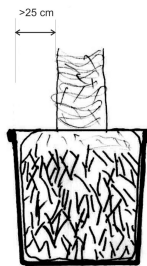
- Small palm trees: around 15 cm
- Till 5 m height: at least 20 cm
- Higher than 5 m: at least 30 cm

Root ball deep will be similar to root ball diameter.



Container dimension: there will be a distance between the stem and the exterior of root ball, according to palm tree height:

- Small palm trees: around 15 cm
- Till 5 m height: at least 25 cm
- Higher than 5 m: at least 35 cm



15.3. -Package

Palm trees may be supplied with root ball or in container.

Container grown palm trees must be transplanted to bigger containers or be root pruned at least every 2 years, excepting slow growing species.

16. PLANTS COLLECTED FROM THE WILD OR FROM ABANDONED FRUIT PRODUCTION FIELDS

Plants collected from the wild or from abandoned fruit production fields with permission of authorities will be considered nursery stock when they have recovered from transplant and grown in the nursery for at least one growing season.

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