

E.N.A

EUROPEAN
NURSERYSTOCK ASSOCIATION

EUROPEAN TECHNICAL and
QUALITY STANDARDS

-For-

HARDY' NURSERYSTOCK

i n c l u d i n g

ROSES
FRUIT TREES
HERBACEOUS PERENNIALS

I n t r o d u c t i o n

E.N.A. - EUROPEAN 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 fulfil this need.

During its constitution 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 harmonisation has been successfully carried out thanks to the personal input of several European specialists, notably Mr. Vuijk from Holland, co-ordinator and compiler.

These standards are a synthesis of work, carried out in 1990 and early 1996. There are obviously, constantly evolving and therefore likely to be reviewed and re-written.

The 1996 edition should therefore be considered the current version until further notice.

Alex Spaargaren
President 1991-1993

Andre Briant
President 1994-1996

Lorenz von Ehren
President 1997-1998

I N D E X

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Members

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1 : GENERAL CONDITIONS

1.1. - Technical and Quality Requirements

GENERAL

1.1.1. Plants which are brought into trade must conform to the following quality requirements.

Plants which do not meet these requirements are unsuitable for planting and should not be offered or sold either to wholesalers or to ultimate customers without specific agreement.

1.1.2. Variations on specification must be separately indicated and agreed.

HEALTH

1.1.3. 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

1.1.4. 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.

1.1.5. 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.

1.1.6. Freshly potted plants cannot be considered as pot/container grown and must be indicated as "Freshly potted".

1.1.7. 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.

1.1.8. The rootballs of specimen plants must be protected additionally with ungalvanized (bright-steel) screen wire, wire basket or wood-box.

1.1.9. 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.

1.1.10. Lattice pots are considered unusable for selling to the end-user. If plants have been grown in lattice pots, it must be indicated and agreed.

1 : GENERAL CONDITIONS

t . n . - T e c h n i c a l a n d
Q u a l i t y R e q u i r e m e n t s

GROWTH

- 1.1.11. 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.
- 1.1.12. The stems and branches must not show any, physiological damage which might be prejudicial to the appearance of the plants or its subsequent development.
- 1.1.13. 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 (0) or height can be specified.
- 1.1.14. Grafts must have a good union.
- 1.1.15. 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.
- 1.1.16. 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.
- 1.1.17. Ground cover plants are graded according to the height or spread.
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

- 1.1.18. All plants must be true to name.
- 1.1.19. 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).
If more information is needed, it will be given in the particular chapters.
- 1.1.20. Each delivery should comply with the passporting system in place at the time.
- 1.1.21. 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.
- 1.1.22. In offers, delivery notes and invoices, tissue cultured liners must be marked with the letters 'TC\

1 : GENERAL CONDITIONS

1.1. — Technical and

Quality Requirements

GRADING

1.1.23. 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.

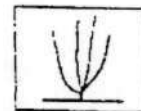
For plants with several stems, (multistems) the number of stems and the girth of the weakest of them, measured one meter from soil level, must be indicated.

1 : GENERAL CONDITIONS

1.2. - definitions :

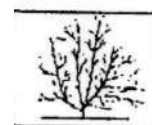
1.2.1. BRANCHED

A plant with lateral shoots arising either from a main stem or from a central point. Relatively few sub-lateral shoots.



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 round pots 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 evenly spread and balanced lateral shoots down to near ground level, according to species/cvs.

1.2.9. HEAD

The head shall be 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 formed hedges because of their growing habit and toleration to pruning.

1 : GENERAL CONDITIONS

1.2 - definitions :

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.

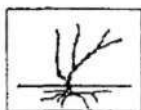
1.2.12. LEADER AND LATERALS

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 and 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.

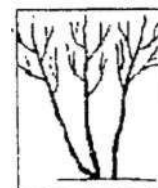
1.2.15. MAIDEN

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 1.5 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 : GENERAL CONDITIONS

1.2. - definitions :

1.2.21. SEEDLINGS IN SITU (1/0)

Plants from seed, not transplanted which can only 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.

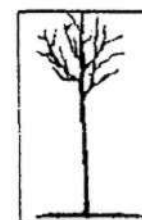
1.2.26. SHRUBS

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.



1.2.28. UNDERCUT SEEDLINGS (1/0*)

Plants, on which the main root has been cut below the earth 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.



1 : GENERAL CONDITIONS

g l o s s a r y

w o o r d e n l i j s t

ENGLISH	FRANCAIS	HOLLANDS	DEUTSCH
Bare root plant	Plante a racines nues	Wortelgoed	Wurzalnackte
Branch	Branche	Tak	Trieb
Branched head tree (-Standard tree)	Arbre tige	Hoogstam	Kochstamra
Break	Ramification	Tak vanuit basis	Grundtrieb
Budded Rose plant	Rosier greffe	Geoculeerde roos	Okulierte Rose
Burlap	Tontine	Gaaslap	Ballentuch
Bushy	Buissonnant	Struikvorm	Strauchform, buschig
Collar	Colet	Wortelhals	Wurzelhals
Container grown	Cultivee en conteneur	Container gekweekt	Container kultiviert
Crown	Souche (plante3 vivaces)	Stronk (vaste plant)	Strunk (Staude)
Deciduous	a Feuilles caduques	Bladverliezend	Laubabwerfend
Evergreen	a Feuillage persistant	Bladhoudend	Immergrun
Feathered tree	Baliveau ramifie	Geveerde boom	Stammbiische
Freshly potted plant	Plante raise en conteneur peu de temps avant d'etre commercialise	Vers gepot	Frisch gatopft
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 laterala	Zijtak	Seitentrieb
Lattice pot	Pot-panier	Handjes pot	Gittertopf
Layer	Marcotte	Aflegger	Ableger
Leader	Fleche	Hoofdscheut	LBitrieb
Light shrub	Touffette	Lichte struik	Leichter Strauch
Light whip	Jeune baliveau	Spi 1 (1-jarig)	Leichter Heister
Liner	Jeune plant a recultiver	Plantgoad	Jungpflanze
Medium	Substrat	Grondmengsel	Substrat
Multistem	Cepee	Boom met raeerdere stammen	Mehrstaromig
Plug	Alveole	Plug	Jungpflanze aus Kulturplatte
Plug tray	Plaque alveolae	Stekplaat	Kulturplatte
Pot	Godet, pot	Pot	Topf
Pot grown plant	Planta cultive an godet	Potplant	Hit Topfballen
Pyramid tree	Arbre pyramidal	Piramide gekweekt	Pyramidenform
Rootball	Hotte	Kluit	Ballen
Rootballed plant	Plante en motte	Plant met kluit	Pflanze mit Ballen
Rootballed plant with wirebasket	Plante en motte grillagee	Plant met kluit in ijzergaas	Mit Drahtballen
Rootstock/Wunderstock	Porte-grefte	Onderstam	Veredlungsunterlage
Scion *	Greffon	Greffel	Reiser
Shrub	Touffe	Struik	Strauch
Softwood cutting	Bouture herbacea	Zomerstek	Krautartig Steckling
Specimen/'solitaire, .	Solitaire	Solitaire	Solitar
Standard form (for Hydrangea)	Demi tige	Stamvorm (halfstam)	Halbstamm
Standard Rose Tree	Rosier tige	Stamroos	Stammrose
Standard tree	Arbre tige	Stamboom, hoogstam	Hochstamm
Stolon	Stolon	Moerplant	Mutterpflanze
Transplant (a)	Plant repique	Verplante zaailing	Verpflanzte Samling
Transplant (to)	Repiquer, transplanter	Verplanten	Verpflanzen
Undercut seedling	Semis soulevs	Afgepende zaailing	Samling, unterschritten
Young plant	Jeune plante	Plantgoad (1-jarig)	Jungpflanze (1-jarig)
Weaned	Acclimatise (in vitro)	Afgehard (in vitro)	Abgeharte Meristem Pflanze
Whip	Baliveau	Spi 1	Heister
Wirebasket	Panier grillage	Draadverpakking	Drahtballierung

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1 : GENERAL CONDITIONS

g l o s s a r y

w o o r d e n l i j s t

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e r k l a r u n g

ENGLISH

FRANCAIS

HOLLANDS

DEUTSCH

FRUIT FREE TERMS:

Bush fruit tree	Gobelet	Lage vruchtboom	Miedrige Obstbaum
Cane	Un éclat	Wortelscheut	Wurzelauslaufer
Feathered fruit tree	Baliveau fruitier	Geveerde vruchtboom	Stammbusche
Maiden	Scion	Ueredeling (1-jarig)	Veredlung (1-jShrig)
Pyramid fruit tree	Quenouille ou fuseau	Piraraide vruchtboom	Pyramidenform
Soft Fruit	Petits Fruits	Zacht fruit	Bearanobst
Top Fruits	Arbres fruitiers	Fruitbomen	Obstbaume
Trained forms:	Formes palisses:	Boomvormen:	Baumforme:
Horizontal cordon	Cordon horizontal	Horizontal cordon	Horizontale Schnur
with one arm	a 1 bras	met 1 arm	mit 1 Arm
with two arms	a 2 bras	met 2 armen	mit 2 Hrme
Oblique palmet	Palmette oblique	Schuine palmet	Schrage Palmette
single-stage	a 1 etage	met 1 etage	mit 1 Etage
two-stage	a 2 stages	met 2 etages	mit 2 Etagan
Single U	U simple	Enkele U-vorm	Einzel U-formig
Double U	U double	Dubbele U-vorm	Doppalt U-formig
Two stage double U	Palmette candelabra	Kandelaar vorm	Doppelt U-formig
	a 4 branches	met 4 takken	in 2 Etagen
Horizontal espalier	Palmette & branches	Horizontale leiboom	Horizontale Spalierbaum>
	horizontals		
Fan	Sventail	Waaier vorm	Facherformig

1 : GENERAL CONDITIONS

1 . 3 . — c o d e s

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")
- 1/0 # 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 One year graft
- X/2/0 Two year grafts
- X/0/1 One year transplanted graft
- X/1/1 Two year transplanted or re-potted 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. 0
- O/1/0 A5 One year rooted cutting in plug of 5 cm. 0
- O/1/1 P9 Two year transplanted cutting in pot of 9 cm. 1

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 : GENERAL CONDITIONS

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

The sign # 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 V between the second and the third figure indicates that the cutting has been transplanted or re-potted within the very 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.

1 : GENERAL CONDITIONS

1 . 4- . — s p e c i f i c a t i o n s

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'.

2 : L I N E R S

2 - 1 - - s p e c i f i c r e q u i r e m e n t s

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 : L I N E R S

2.2. - s i z e s

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 "	Examples:
height or spread in cm:	6- 8	Berberis candidula
	8-10	Spiraea jap. 'Little Princess'
	10-12	Abies balsamea 'Nana'
	12-15	Picea abies 'Little Gem'

2.2.2.	medium/vigorous	Examples:
height or spread in cm:	15-20	Hedera helix 'Arborescens'
	20-25	Cornus alba 'Sibirica'
	25-30	Jun. media 'Mint Julep'
	30-40	Thuja occ. 'Pyr. Compacta'
	40-50	

Open ground:

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

2.2.3.	low/compact	Examples:
height or spread in cm:	6-10	Andromeda polifolia
	10-15	Kalmia latifolia
	15-20	Pieris japonica cvs
		Cham, obtusa 'Nana Gracilis'
		Picea abies 'Ohlendorffii'

2.2.4.	medium	Examples:
height or spread in cm:	15-20	Enkianthus campanulatus
	20-25	Hibiscus syriacus cvs
	25-30	Syringa microphylla 'Superba'
	30-40	Jun. media 'Blaauw'
		Tsuga canadensis

2.2.5.	vigorous	Examples:
height in cm:	20-30	Cornus alba cvs.
	30-45	Weigela 'Bristol Ruby'
	45-60	Cham. laws. 'Columnaris'
/	60-80	Taxus cuspidata 'Hicksii'
		Thuja oce. 'Pyr. Compacta'

— ROOT-STOCKS:-

2.2.6. Deciduous woody plants:

0 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:

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

2.3. — p a c k i n g

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 conservation will be preserved.

3: YOUNG PLANTS and TRANSPLANTS "For AMENITY and LANDSCAPING MARKETS"

3 - 1 - - s p e c i f i c r e q u i r e m e n t s

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 . - s i z e s

DECIDUOUS TREES and SHRUBS:

3.2.1. GROUP A:

Examples:

<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
	50- 80
	80-120
	120-150

Aesculus	Prunus
Castanea	Quercus
Fagus	Sorbus
Juglans	Tilia

3.2.2. : GROUP B:

Examples:

<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
	60- 80
	80-100
	100-140
	140-180

Acer	Populus
Alnus	Robinia
Betula	Salix
Carpinus	Ulmus
Fraxinus	

CONIFERS:

3_2_3_

GROUP C:

Examples:

height in cm:	Medium		
	8-12"	Jun	"communis" " " "
	12-20	Abies	Cedrus
	20-30	Ginkgo	Taxus
	30-50	Pinus mugo etc.	

3.2.4. GROUP D:

Examples:

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.

HEDGING PLANTS

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

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: BARE ROOTED PLANTS

4.2. -sizes

SHRUBS:

4.2.1.

GROUP A.1.:

compact

Examples:

minimum number of branches with length in cm:

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

Deutzia gracilis/kalmiaefl.
Ligustrum vulg. 'Lodense'
Philadelphus, cvs. (dwarf)
Rosa nitida
Salix purpurea 'Nana'
Spiraea jap. 'Little Princess'
- cvs. (dwarf)
Weigela, cvs. (dwarf)

4.2.2.

GROUP A.2.:

low

Examples:

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

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'

4.2.3.

GROUP B:

medium

Examples:

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/+

(* = 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

4: BARE ROOTED PLANTS

4.2. -sizes

SHRUBS:

4.2.4.

GROUP C:

vigorous

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/+

Examples:

(* = 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

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;
 total height in cm.:

	3 br. 80-100
	5 br. 100-125
	5 br. 125-150
	7 br. 150-200

Examples:

Crataegus laevigata cvs.
 Malus cvs.
 Prunus serr.
 'Kiku-shidare-zakura'

CLIMBERS:

4.2.8. minimum number of branches: 3; minimum height: 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: ORNAMENTAL SHRUBS - ROOTBALLED

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. - s p e c i f i c r e q u i r e m e n t s

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.
i) Appropriate for the cultivar, soft rootballs must be burlapped.

- 6.1.4. Rhododendrons and Azaleas **without** or with few flowerbuds (except species and new cultivars) 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. Heather are Calluna, Daboecia and Erica.
They must be transplanted every year.

- 6.1.9. Heather age must be indicated.

6 : RHODODENDRON/AZALEA - HEATHERS

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 : C O N I F E R S

7.1 - — s p e c i f i c r e q u i r e m e n t s

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 a variety-typical colouring.
- 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: CONIFERS

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.

S : 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 (upperside) 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.
- 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.
- 8.1.13. For information, the following table gives the ES norm (0) 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: CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.1. climbing- and wall plants
soft fruits

Item	Minimum Pot size	Cont. 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. tricusp. '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: CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.2. conifers

Item	Minimum Pot size in L.	Cont. vol. in L.	Minimum height above media level or \varnothing 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 furnished to base]		C. laws. 'Columnaris'
	3		40			C. - 'Columnaris'
Chamaecyparis, medium	2		30	Single leader		C. - 'Ellwoodii'
Chamaecyparis, dwarf	2		15 \varnothing	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 furnished to base]		C. - 'Castlewellan Gold'
	3		40			C. - 'Castlewellan Gold'
Ginkgo	3		40	Leader-laterals		G. biloba
Juniperus, med/vigorous	3		50	[Single leader furnished to base]		J. scop. 'Skyrocket'
Juniperus, dwarf	P13	1,5	15 \varnothing	Bushy		J. squamata 'Blue Star'
Juniperus, prost/vigorous	3		30 \varnothing	Branched	3	J. media(x) 'Pfitzeriana'
Juniperus, prost/medium	2		20 \varnothing	Branched	3	J. hor. 'Wiltonii'
Larix	3		20 \varnothing	Leader-laterals		L. kaempferi
Metasequoia	3		60	Leader-laterals		M. glyptostroboides
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 furnished to base]		T. plicata cvs.
	3		40			T. plicata cvs.
Thuja, medium	2		15	[Single leader furnished to base]		T. occ. 'Rheingold'
Tsuga, vigorous	3		30	Leader-laterals		T. canadensis
Tsuga, dwarf	2		15 \varnothing	Bushy		T. canadensis 'Nana'

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

8: CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.3. ericaceae & camellia

Item	Minimum Pot Cont. size vol. in L.	Minimum height above media 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. 'Moederkensdag'
	3	30	Bushy	8	-
	5	40	Bushy	10	-
Camellia	2	20	[Leader-laterals	-	Camellia jap. cvs
	3	30	or branched]	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
	3	20	Branched	5	R. 'Scarlet Wonder'
	3	25	Bushy	5	R. russatum
Rhododendron yakushimanum	2	15	Branched	4	R. yakushimanum
	3	25	Branched	5	R. 'Morgenrot'
	5	35	Branched	7**	R. 'Sneezy'
hybrids	7.5	40	Branched	9**	

** In lower half

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

8: CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.4. SHRUBS (1)

Item	Minimum Pot size in l.	Minimum Cont. vol. in l.	Minimum height above media level or ϕ 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 ϕ	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 ϕ	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 ϕ	Bushy	2	C. thyrsiflorus repens
Ceratostigma		2	20	Bushy	3	C. willmottianum
Cercis		3	30	Branched	3	C. siliquastrum
Chaenomeles		3	30	Branched	3	G. 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 ϕ	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: CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.4. SHRUBS (2)

Item	Minimum Pot Cont. size vol. in L.	Minimum height above mediallevel or \varnothing 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 \varnothing	Branched	3	C. suecicus 'Skogholm'
Cotoneaster, prostrate med.	2	25 \varnothing	Branched	4	C. horizontalis
Cotoneaster, prost. slow	P13 1.5	20 \varnothing	Branched	4	C. dammeri
Cytisus, vigorous	2	35	Branched	5	C. scoparius cvs.
Cytisus, medium	P13 1,5	30	Branched	5	C. praecox(x)
Cytisus, dwarf	P13 1.5	15 \varnothing	Branched	5	C. beanii(x)
Deutzia, vigorous	3	40	Branched	4	D. scabra 'Plena'
Deutzia, medium	3	25	Branched	4	D. purpurascens 'Kalmiiflora'
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	P13 1,5	15 \varnothing	Bushy	5	E. fortunei cvs.
Exochorda	3	30	Branched	3	Ex. macrantha(x) 'The Bride'
Fargesia, vigorous	3	45	Several shoots	5	F. murielliae
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 \varnothing	Several shoots	3	G. procumbens
Genista, medium	P13 1,5	30	Branched	3	G. tinct. 'Royal Gold'
Genista, dwarf	P13 1,5	20	Bushy	4	G. lydia
Hamamelis	3	40	Branched	2	H. mollis
Hebe, medium	P13 1,5	20 \varnothing	Bushy	3	H. rakaiensis
Hebe, dwarf	P11 1	10 \varnothing	Bushy	3	H. ping. 'Pagel'
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 -CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.4. SHRUBS (3)

Item	Minimum Pot size vol. in L.	Minimum Cont. height above media level or \varnothing 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 \varnothing	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 \varnothing	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 \varnothing	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 \varnothing	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 - CONTAINER GROWN PLANTS

8.2. - specifications:

8.2.4. SHRUBS (4)

Item	Minimum Pot size in L.	Cont. vol. in L.	Minimum height above media level or \varnothing in cm	Plant- shape	Minimum no. of breaks in lower third	Example
Pyracantha	P13	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	P13	1,5	20	Bushy	3	R. officinalis
Rubus, vigorous medium		3	40	Branched	3	R. 'Benenden' (tridel)
Rubus, vigorous low	P13	1,5	30 \varnothing	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 \varnothing	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 \varnothing	Bushy	5	S. - 'Little Princess'
Stephanandra	P13	1,5	25 \varnothing	Branched	3	S. incisa 'Crispa'
Symphoricarpus, vigorous med.		3	40	Branched	3	S. doorenbosii 'Mother of Pearl'
Symphoricarpus, prostr.	P13	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	P13	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 Plenà'
Vaccinium, vigorous medium		3	30	Bushy	3	V. corymbosum
Vaccinium, dwarf	P9		10 \varnothing	Several shoots	3	V. vitis-idaea 'Koralle'

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

8 -CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.4. SHRUBS (5)

Item	Minimum Pot size in L.	Cont. vol. in L.	Minimum height above media level or \varnothing 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 \varnothing	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 \varnothing	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 -CONTAINER GROWN PLANTS

8.2. -specifications:

8.2.5. feathered-trees

Item	Minimum container volume (Litres)	Minimum height above media level in cm.	Plant- shape	Minimum no. of breaks(or feathers)	Example
Acer negundo	7.5	125	Feathered	3	A. neg. 'Flamingo'
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. - 'Youngli'
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.

PERIOD BETWEEN TRANSPLANTING

9.1.5. All trees must be kept transplantable through regular transplanting, at least once every 3 years. (For specimen trees at least once every 5 years.)

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.

9 : T R E E S

9. 1 - - s p e c i f i c r e q u i r e m e n t s

The General Requirements apply in addition.

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: TREES

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 : TREES

9.3. - p a c k i n g

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.

1 0 : R O S E S

1 0.1 - - s p e c i f i c r e q u i r e m e n t s

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.

BUDEDDED 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.

10 : R O S E S

10.1. — s p e c i f i c r e q u i r e m e n t s

The General Requirements apply in addition.

BUDEDDED ROSE PLANTS

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.

>y ; ,

ROSE PLANTS, NOT BUDEDDED

- 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.

l

1 0 : R O S E S

1 0 . 2 . - v e g e t a t i v e a n d
d i m e n s i o n a l r e q u i r e m e n t s

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.

i 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.

v)

BUSHES, PROPAGATED FROM CUTTINGS

10.2.7. strong growing: minimum 3 branches

Minimum 3 branches leaving within 10 cm above ground level.

10.2.8. slow growing: minimum 2 branches

Minimum 2 branches leaving within 10 cm above ground level.

1 0 . 3 . — p a c k i n g

Bundling

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 for a better understanding of the cultivation methods employed on the rootstocks.

11: FRUIT TREES; ROOT STOCKS and LINERS**11.2. --sizes****ROOTSTOCKS****11.2.1. Seedlings:**

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 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/+

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 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 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 (M/0/1, M/1/1):

diameter of the stem at the collar:	minimum 2 mm.			
diameter class 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.

1 1 : FRUIT TREES; ROOT STOCKS and LINERS

1 1 - 2 . —sizes

LINERS

11.2.8. Fig plants (Ficus carica cvs.):

layers (-/1/0), length from base: 30 cm.

transplanted one year root cuttings (-/1/1):

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.

1 1 . 3 . - p a c k i n g

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 fasteners, 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.

1 2 : F R U I T T R E E S ; T O P F R U I T S

1 2 . 1 - — s p e c i f i c r e q u i r e m e n t s

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

FEATHERED FRUIT TREE (2-3 YEARS)

12.1.2. Must be cultivated at wide spacing with 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: FRUIT TREES; TOP FRUITS

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
	Apple seedling	10	100
- standards	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: FRUIT TREES; TOP FRUITS

12.2. -sizes

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:

minimum volume of the container: 10 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 CEE regulations in force.

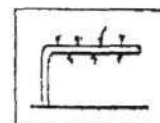
12: FRUIT TREES; TOP FRUITS

12.4. -trained trees

A tolerance of plus or minus 10 cm shall be acceptable for the dimensional characteristics of trained forms.

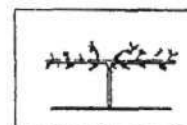
HORIZONTAL CORDON WITH ONE ARM

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 mellowed end, a minimum length of 70 cm.



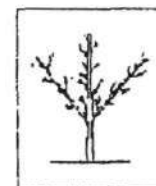
HORIZONTAL CORDON WITH TWO ARMS

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 mellowed end.



OBLIQUE PALMET

12.4.3. Tree with, 30 cm from ground level, a main branch formed of one or more series 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 series must be more or less of equal length and strength and must form an angle of 45° with the extension.

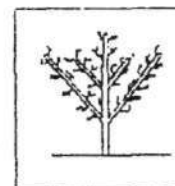


SINGLE-STAGE OBLIQUE PALMET

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 mellowed 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 mellowed 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 mellowed 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 mellowed end.



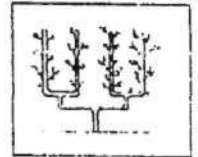
12: FRUIT TREES; TOP FRUITS

12.4. -trained trees

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.

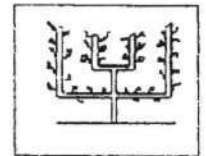


of the four

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.

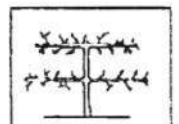


The vertical part of the two branches making up the central U shall have a minimum length of 35 cm from the axis of the horizontal part of those branches up to its mellowed end.

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 mellowed end.

HORIZONTAL ESPALIER

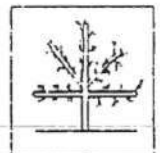
12.4.9. A tree with a central stem with balanced, i.e. the same number of horizontal branches in one vertical plane on each side, the bottom tree being 30 to 40 cm from ground level and additional tiers spaced 30 to 40 cm apart. The branches at the same level must have about the same length and the same 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 : FRUIT TREES ; SOFT FRUITS**13.1 - 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

13.1.1. This chapter applies to non grafted, vegetative propagated fruit plants of the following species:

Black currant (*Ribes nigrum*)

Blackberry (*Rubus* and *Rubus* hybrids)

Gooseberry (*Ribes uva-crispa*)

Hazelnut (*Corylus*)

Raspberry (*Rubus idaeus*)

Red currant (*Ribes rubrum*)

ROOT SYSTEM

13.1.2. Liners of blackberries and raspberries must present a good root system with root buds typical to the variety.

BUSH

13.1.3. Bushy plants should have at least three strong branches, the lowest of which comes out at soil level or the level of the graft.

13.1.4. They must have the minimum characteristics stipulated in the specific gradings for each group of plants. ,

STANDARDS

13.1.5. The head shall have undergone formation pruning appropriate to the type of vegetation of species/cvs.

Currants must have at least 3 strong branches, goosberrles 4 strong branches.

LABELLING

13.1.6. Labelling of fruit liners and shrubs shall be in compliance with the regulations in force.

13: FRUIT TREES; SOFT FRUITS

13.2. -sizes

LINERS

13.2.1. black currant- and red currant:

cuttings (0/1 or 0/1/1):

minimum length in cm: 1 branch of 20
2 branches of 15

13.2.2. gooseberry:

minimum length in cm:

layers (-/1/0): 25
transplanted layers (-/1/1): one year shoot of 10
cuttings (0/1/1): one year shoot of 10

13.2.3. Hazelnut:

layers (-/1/0), transplanted layers (-/1/1):

cuttings (0/1/1/):
length from base in cm: 30

BUSHES

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. The plants must not be too much rooted 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.

1 4 : P E R E N N I A L S

1 4 . 2 . — s i z e s

- 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.

1 - 4 . 3 . — p a c k i n g

- 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, It is not allowed to pack plants with green parts airtight, so that these plants cannot assimilate anymore.
- 14.3.3. Plants should be provided with good information, which means photo label or label with sufficient information.

Members of the ENA

BELGIUM

AVBS
Kortrijkse Steenweg 390
B 9000 GENT

Tel.: ..32 9 241 04 20
Fax : ..32 9 241 04 26

FRANCE

F.N.P.H.P.
19 Boulevard de Magenta
75010 PARIS

Tel.: ..33 142 40 99 22
Fax : ..33 142 40 92 53

GERMANY

BdB
Bismarckstrasse 49
2080 PINNEBERG

Tel.: ..49 4101 20 59 11
Fax : ..49 4101 20 59 31

GREAT-BRITAIN

NFU
Agriculture House
164 Shaftesbury Avenue
LONDON
WC2H8HL

Tel.: ..44 171 331 7200
Fax : ..44 171 331 7313

IRELAND

Irish Farmer's Association
Irish Farm Centre
Bluebell
DUBLIN 12

Tel.: ..353 1 450 02 66
Fax : ..353 1 455 10 43

NETHERLANDS

Nederlandse Raad
voor de Boomkwekerij
Utrechtseweg 44
Postbus 900
NL 3700 AX ZEIST

Tel.: ..31 30 69 62 836
Fax.: ..31 30 69 59 199

PORTUGAL

Associação Portuguesa
de Viveiristas
Rua do Salitre 171-1*
1250 LISBOA

Tel.: ..351 1 387 72 86
Fax : ..351 1 385 39 95

SPAIN

Federacio de Viveristes
de Catalunya
Ctra N-II
km 639,5 (Edifici Mercat)
E-08340 VILASSAR DE MAR
(BARCELONA)

Tel.: ..34 3 750 13 66
Fax : ..34 3 750 13 66

SWEDEN

TRF Plantskola
Klara Östra Kyrkogata 12
S 105 33 STOCKHOLM

Tel.: ..46 8 78 75 300
Fax : ..46 8 78 75 310