

THORNHAYES NURSERY

A simple guide to the planting, establishment and formative pruning of ornamental and fruit trees

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Retail customers please note. Any failure of trees experienced will not be replaced if these guidelines have been deviated from

INTRODUCTION

Irrespective of type, all trees establish more easily and effectively if planted small. Furthermore, if so planted, these trees will tend to thrive, grow larger and live longer than those that undergo the physiological shock of being moved as large specimens. Trees planted small also tend to develop a stronger root system, which is less prone to windthrow during storms.

When choosing trees, you should always work with nature and plant trees that will naturally thrive on your site. If you have sharply draining, acidic soil, it is pointless to plant a species that requires rich, moist alkaline soil. Equally don't waste time planting a specimen requiring woodland shelter on a blasted hilltop.

PRE-PLANTING

Grass and weeds should be removed from the planting site prior to planting, either by physical stripping of each pit site or spraying with a translocated herbicide, eg 'Roundup'. If the site is compacted, a pit wider than the spread of the tree roots and deep enough to break through the compacted pan should be dug immediately prior to planting. Pits dug in advance fill with water and thereby damage occurs to the soil structure. If soil structure is good, disturbance during planting should be minimised and a system similar to forestry 'notch' planting used with small trees. The only soil improvement should consist of relieving compaction and removing large stones. No organic material should be dug in. A slow release fertiliser may be useful in the backfill on poor soils. Large areas of planting can be improved by heaving and ripping the dry soil in late summer/early autumn with a subsoil plough or mole plough.

The excavation of large, deep 'luxury tree pits' and the addition of large quantities of organic material can severely damage soil structure and create drainage sumps, particularly in heavy clay soils and high rainfall areas. The result is that autumn/winter planted trees sit in a soggy mess until late spring or early summer. As a result they die or become diseased, before they have a chance to grow away. Such pits should not be used, although they are recommended in most traditional tree planting literature.

If trees survive planting in a luxury pit they often do not form extensive roots beyond the pit. This results in an unstable tree that may well blow over in a storm 5-10 years after planting. Excessive use of manure or fertiliser around newly planted trees can also promote lush growth that is more easily storm damaged.

PLANTING SMALL TO MEDIUM SIZED TREES

Field or container grown trees up to 6-8 feet (1.8-2.2m) tall can be successfully established without staking. Some gentle support from a cane may be appropriate in some cases. The tree should be firmly planted, about 1-2 inches (4-5 cm) below its previous level in the soil or pot. If the top growth is dense and out of proportion with the roots, thin out the head to reduce wind resistance. It is generally inadvisable to cut the dominant central 'leader'. On windy sites, don't stake! Plant smaller trees. If gentle support is provided in the first season post planting, by tying to a cane, use soft materials that do not chafe. On no account use string. The plant and cane must not be rigid. Bending gently in the wind causes stronger stems and more extensive roots to develop. (See diagram on page 2)

PLANTING LARGE TREES

In certain situations it is necessary to plant large 'standard' or 'heavy standard' trees. They have to be staked, to anchor the roots while they establish. These should be short stakes that protrude no more than 12 inches (30cm) above ground and are removed 12-15 months after planting. The stem must be allowed to sway in the wind to strengthen it and encourage the roots to spread. Tall staked trees develop thin stems and poor root systems and are thus more prone to wind damage. (See diagram on page 2)

In certain situations, particularly in close proximity to buildings and in paved areas or raised beds, large trees will require irrigation for several years after planting. The means to do this should be installed during the planting process.

GRAFT UNIONS

Fruit trees should be planted with the union above ground to stop the scion variety making its own roots. Grafted ornamentals should be grafted low enough to allow the union to be planted at or below the surface, to suppress suckering and not look unsightly.

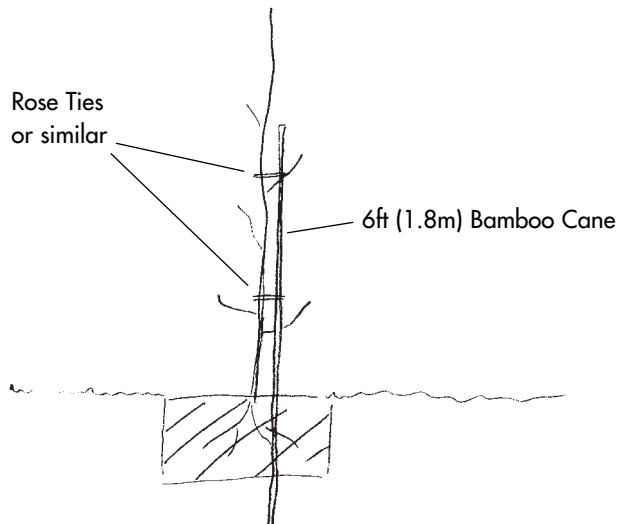
POST-PLANTING TREATMENT

An area of at least 3 feet (1m) diameter should be kept weed free for 2–3 year minimum. This can be achieved with a mulch of organic material or polythene or a mulch mat, or be kept clean with a herbicide. This allows the tree to establish and grow away without competition for water and nutrients. An application of fertiliser around the base can be beneficial, particularly in the second season after planting. If the tree base becomes weedy it should be cleared but **never strimmed**. Strimmers can kill or severely maim even quite mature trees.

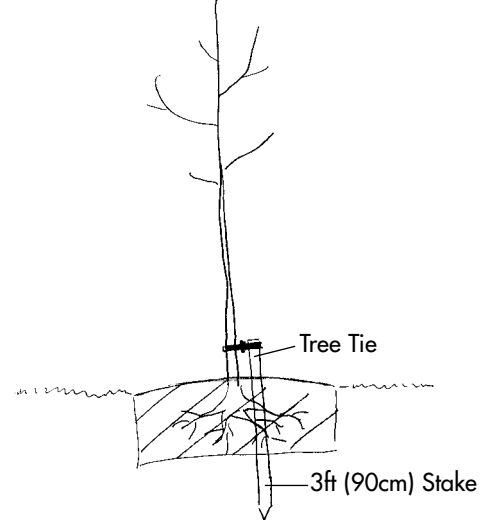
Most trees kept weed free in this way rarely need watering in their first season unless on very light soil or in a very dry summer.

SUPPORTING OR STAKING NEWLY PLANTED TREES

Caning and tying a small to medium sized tree

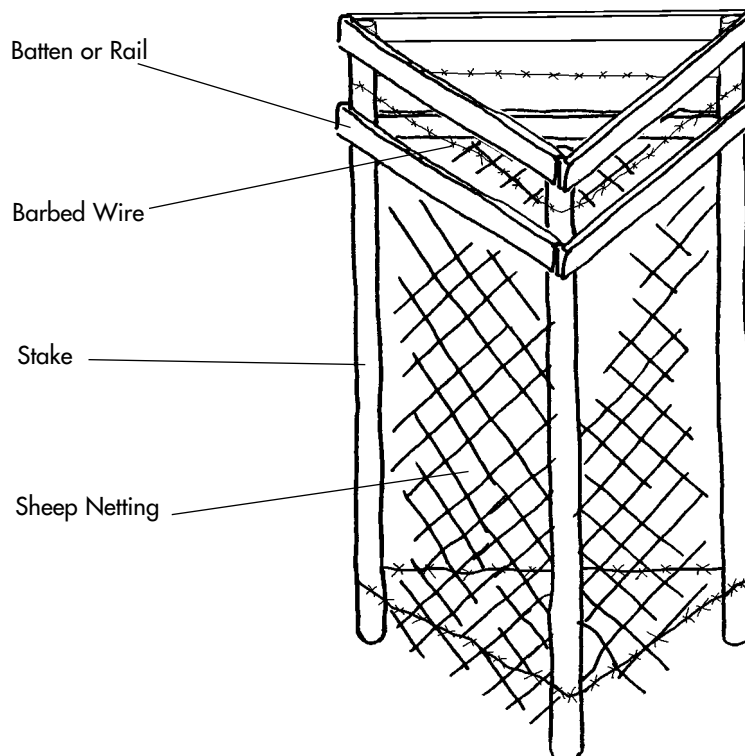


Short staking a standard tree



GUARDING YOUNG TREES

In many situations, particularly domestic gardens, no form of guard is necessary. A plastic spiral guard should be used if rabbits are a threat. The presence of hare or deer will require a taller 'tree tube', up to 6 feet (1.8m) tall to ward off red deer. Remember that newly planted trees may prove attractive to wild and domestic animals, therefore check boundary fences. A couple of sheep or bullocks can cause immense damage overnight. Rabbit or deer guards should be attached immediately after planting. The following day could be too late! Certain trees such as apples and pears can get 'sweaty' inside rabbit guards in humid weather, possibly encouraging canker in the stem. This can be avoided by guarding the stem with a tube of chicken netting.



Orchard Guard

The overall height of the guard is approximately 4 feet (1.2m), assuming the stakes are driven 18 inches (45cm) into the ground. The stakes are 18 inches (45cm) radius from the base of the tree, to form the points of an equilateral triangle.

GUARDING ORCHARD TREES

Bush orchards are mown and should normally be planted with rabbit guards. Standard orchards are normally grazed by sheep and therefore each tree needs an individual guard. Traditional practice was to plant standard trees with a tall stake and attach a 6 feet (1.8 m) tall heavy gauge wiremesh tube to the stake. Tall staking has been proven to produce unstable trees with weak stems. Furthermore, the wiremesh guard generally damages the tree by rubbing or constricting. It is better to plant a tree inside a guard that is physically detached from the tree. This type of guard can be used for trees from maiden up to standard size and does not cause them physical damage. It consists of:

- 3 x 5'6" (1.65m) tanalised stakes
- A length of 3'6" (1m) sheep netting
- 6 lengths of tanalised rail or batten
- A length of barbed wire
- Nails and fencing staples

Note: A 50m roll of sheep netting will build at least 15 such guards. Stock or pig netting is not adequate for this guard.

This guard is suitable for lowland sheep. It needs to be increased in height to cope with mountain and moorland sheep or deer. If you have Red Deer, you will need a six feet tall guard. I would not advise cattle or goats in an orchard; certainly not a young one. On no account put horses or donkeys in an orchard. A rabbit guard will still be needed on the tree base, as sheep netting is not proof against them.

TRAINING YOUNG TREES INTO STANDARDS OR HALF STANDARD

STAGE 1: Building a strong stem

Autumn/Winter 1 (tree planted as a maiden or whip)

(a) with no feather



(b) with feather

Feather reduced to snags of 2-3 buds



Autumn/Winter 2 (12-15 months after planting)

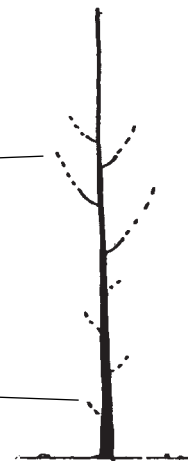
(a)



New season's feather reduced to snags

(b)

Last year's snags removed

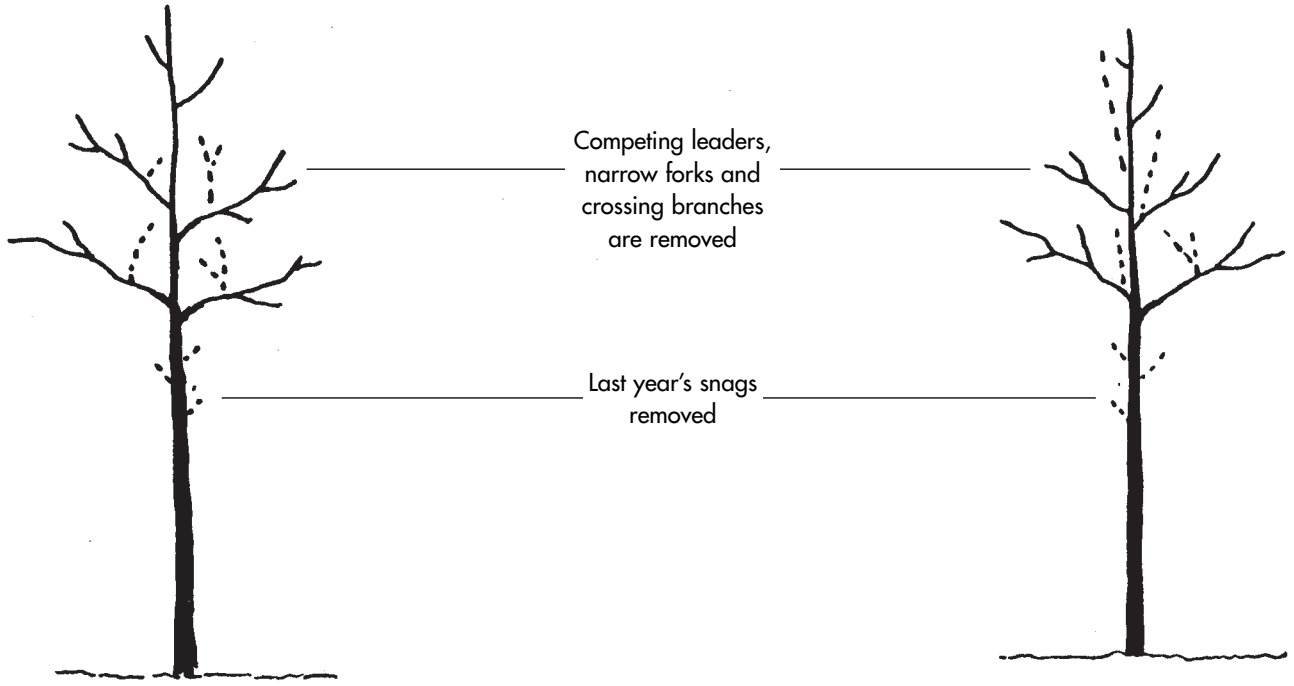


This process builds a strong stem to support the head of the tree. Removing feather earlier, without 'snagging', produces a weak stem. The leading stem or bud should seldom if ever be removed. If it is broken or damaged, a new strong bud should be encouraged to replace it. If necessary a cane can be used to make it grow up straight for the first season.

STAGE 2: Forming a balanced head

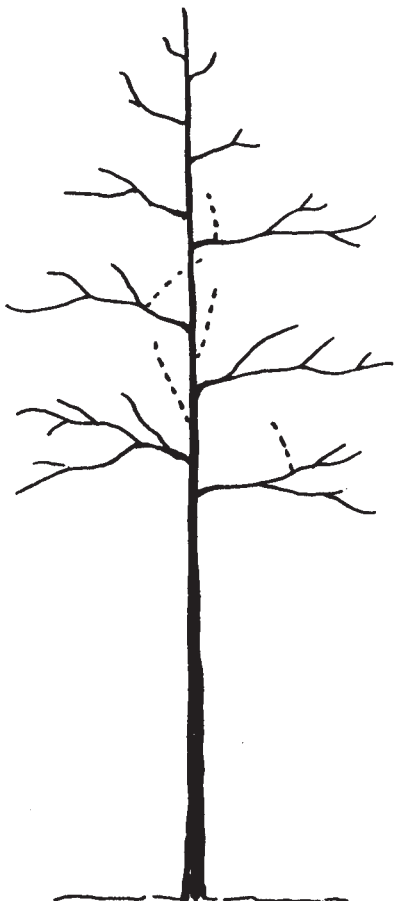
Autumn/Winter 3 or 4 (depending on vigour of tree)

(a)

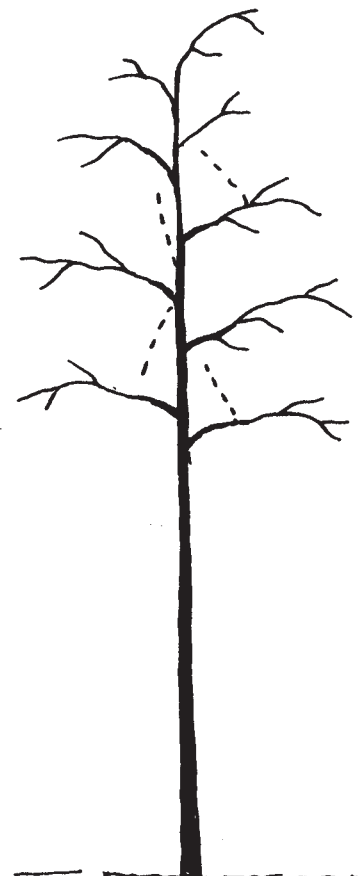


Autumn/Winter 4 or 5

(a)



(b)



A balanced tiered branch system should now be forming. Some types are now losing their dominant leader. Continue to remove badly placed or weak branches