

Tree care guide

» A simple
handbook
for nurturing
young trees

In association with:





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» Why trees are important.

Trees absorb air pollution

- Trees absorb carbon dioxide as part of photosynthesis and so reduce greenhouse gases that cause global warming.
- They also remove harmful particulates (dust, diesel exhaust solids, etc.) which cause asthma and other respiratory problems.
- Lime trees and sycamores are especially good at this because of the hairs and Honey Dew on their leaves. (Aphids drink sap from the leaves and secrete Honey Dew).

Trees moderate temperatures

- In summer trees keep us cool.
- They provide shade from the sun's rays.
- They also actively cool the air as water evaporates from their leaves during transpiration.
- In winter trees keep us warm.
- Wind chill is reduced because trees obstruct and slow the air. Trees reduce noise pollution.
- When in leaf trees interrupt sound waves travelling through them, reducing noise pollution.
- The rustling of leaves in the wind also creates a natural background noise.

Trees make you feel better

- Studies have shown that people in hospital get better more quickly if they can see trees outside.
- We are all influenced by our environment. Trees can make you feel calmer whereas traffic generates anxiety.
- The longevity of trees help us to connect to the past. Trees live much longer than us. Some can live for 1000 years.
- The natural processes of leaf growth, flowering, fruiting and leaf fall connect us with the cycle of the year.

» Quick tree care tips

Trees come in many shapes and forms, the traditional definition of a standard tree is of approximately 10cm-12cm girth with a clear stem to about 1.2m to 1.5m metres with a sub-divided branch structure above this of about 3m in height. They are usually planted in streets or where an immediate presence is required. Whips are younger tree saplings of about 600mm in length and are planted in great numbers to achieve coverage of a large area

Watering newly-planted trees

- In spring and summer, water new trees as often as possible.
- Once in the ground it is almost impossible to over-water a tree.
- A 2m (6ft) 'standard' needs at least 30 litres (about 6 gallons) a week.

• Water is heavy to carry.

Recycle your old 5 litre water bottles: they have handles and lids, and are not too heavy (5kg when full). This re-uses plastics that are difficult to recycle.

- When possible avoid evaporation by watering early or late, not in the middle of the day.

Weed and mulch new trees (any time)

- Removing grass and weeds prevents them competing with the tree for water and nutrients.
- Mulch (woodchip, leaf mould, etc.) keeps the soil moist and prevents weeds.

Check guards, stakes and ties (any time)

- Guards protect trees from damage by dogs, cars, mowers, strimmers and vandalism.
- Stakes are important to support a tree until its anchor roots grow.
- If a stake comes loose the tree may rock in the wind. This will prevent roots developing and can kill the tree.
- Tree ties secure the tree to the stake.
- Ties that come loose do nothing to prevent the tree rocking, however ties also need loosening as the tree grows.



A five litre water bottle costs nothing.

Mulch suppresses weeds and preserves soil moisture.

»» Why bother?

This guide is designed to give you the basic information you need to care for trees in your area

Young trees are dying

Many people do not realise that newly-planted trees need watering for three to five years. The more aftercare a tree receives – particularly in its first two years – the more likely it is to survive and flourish.

Historically, local authorities had many more staff working in parks and in their tree gangs (i.e. tree surgeons). These people would have watered and mulched newly-planted trees. This is still done, but not nearly as much time is allocated to tree aftercare as in the past. Recent droughts and hot summers in London have greatly exacerbated the problem. In addition, many older staff who had the skills and knowledge to care for trees have retired or moved on and there are fewer apprenticeships for training younger staff. This is why volunteers are now so important.

Why water trees?

The bigger a tree is when it is planted, the more aftercare it will require. A 'whip' (less than 6cm in girth) may not need much watering because it will establish itself quickly. However, most trees planted in parks or streets are 'standards' (2–3m tall and 10–18cm girth). These are grown in nurseries and therefore have unnaturally small root systems. Nurseries crop the roots to save space and aid transportation. So trees grown in nurseries do not have the extensive root systems that naturally seeded trees have. Consequently nursery trees need a lot of watering to help them establish more roots after planting.

Bare-rooted trees need more aftercare than container grown trees because many of their roots can be lost in lifting and transportation. It is the tiny fibrous roots which are most important because they absorb the water and nutrients. These very thin roots are easily damaged or lost completely. The bigger roots provide anchorage and connect the smaller roots to the tree.

A bare-rooted tree has to completely replace its feeder roots after planting.



»» What you can do

Volunteers have nurtured and saved hundreds of trees in London. Many of the trees that have been planted have been adopted by local residents. Those that have been adopted often grow more than twice as quickly as unadopted trees.

Like many things, trees that are looked after do well but once they start to decline they are much harder to bring back to health. Trees that suffer from drought have fewer, smaller leaves. This means they have less ability to photosynthesise and so less energy to grow more roots and leaves.

To break the circle of decline, a tree that is struggling has to be watered regularly so that it can gradually put out new leaves and replenish its resources. Obviously it is better to catch a tree before it begins to decline. For this reason the most important time to water is during the first growing season after planting.

Adoption and regular watering of the street tree saved it from serious drought damage.

The root-ball of the container-grown 'standard' tree (below) is about 50cm (20in) in diameter. Roots of a tree of this height (3m/10ft) grown in the ground would have spread to more than double this distance.



» Tree maintenance

Maintaining young trees

- For the first 2-3 years, new trees should be watered at the beginning of the growing season (April/May) and regularly throughout the summer. If there is little rain during hot weather, trees will need even more water.
- A new standard tree should have about 30 litres (6 gallons) a day in the spring and the same during any dry period throughout the summer. If there is a lot of rain, watering can be reduced. If it is hot and sunny, it may have to be increased. Watering regularly for the first year will greatly reduce later problems.
- With a little experience it is easy to tell whether or not a tree needs water.
- Leaves vary between species but generally a healthy tree will have a full crown of large, firm, green leaves.
- Symptoms of drought include unusually small leaves; few leaves; yellow or brown leaves (right); drooping or brittle leaves; blistered or cracking bark. Ultimately a tree suffering from drought will shed all its leaves to save water.
- Ideally a new tree should be watered before it shows any signs of drought. The longer it is left, the harder it is to repair the damage.
- Water at regular intervals if you can (subject to rainfall). Once every week is better than two days running then nothing for two months. However, any



A watering can is ideal for reaching the filling hole of a root drencher through the guard.

water is always better than nothing.

- 20–30 litres (4–6 gallons) per visit is ideal for healthy new trees (50+ litres may be necessary if it is struggling.)
- Some trees have a root drencher, a plastic box fixed between the stake and the tree. This has a hole at the top and can quickly be filled with 20 litres (4 gallons) of water. Soil in the base of the box allows the water to seep gradually down to the tree's roots.
- If there is no root drencher, water directly at the base of the tree. This ensures the water reaches the roots. If the ground is very dry, you may have to water very slowly to stop it running off. Once the soil is damp, the water will penetrate better. Mulch helps contain water close to the tree.
- Watering early or late in the day reduces water lost by evaporation.

Monitoring

You do not have to be super-fit to help young trees. Having the awareness to notice that something needs doing and pass on the message to someone who can do it is as important as anything else.

So keep your eyes open for:

- Trees in need of watering (see symptoms of drought, above)
- Trees and stakes that are
- loose and need re-staking
- Damaged guards
- Trees rubbing on their guards or stakes
- Tree ties that have come loose or are too tight
- Broken branches that need trimming
- Instances of vandalism.



A scar from a rubbing guard leaves the tree open to disease.

Mulching

Mulching helps to retain water and suppress weed growth

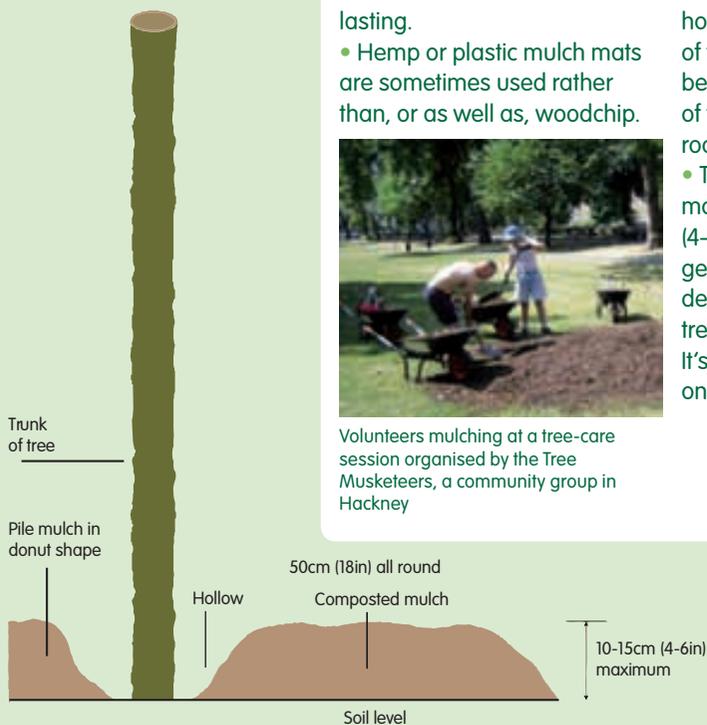
- Mulching with wood chip or leaf mould around the base of a tree helps to reduce weeds (which compete for water and nutrients).
- Mulch greatly reduces water evaporation from the soil, so helps to retain moisture. Mulch also gradually fertilises the tree.
- Often mulch is even more important than watering because the effects are more lasting.
- Hemp or plastic mulch mats are sometimes used rather than, or as well as, woodchip.

Tips for mulching

- Mulch should be partially composted. If too fresh it will leach nitrogen from the soil as it decomposes. 6-month-old woodchip is ideal.
- Remove weeds or grass growing close to the tree. These compete with the tree for water and nutrients.
- Place the mulch in a mound about 1m (3ft) in diameter around the tree. Don't pile it up against the tree in a cone: create a donut shape with a hollow in the centre at the base of the trunk (see diagram below). This is to stop the base of the tree rotting or putting out roots above ground.
- The mulch should have a maximum depth of 10–15cm (4–6in). Any deeper and it could generate too much heat as it decomposes and damage the tree's roots. It's always preferred to mulch onto damp soil.



Volunteers mulching at a tree-care session organised by the Tree Musketeers, a community group in Hackney



» Tree maintenance continued...

Stakes

Stakes help to stabilise trees

- Unless very small, new trees have to be staked until their roots grow sufficiently to provide adequate anchorage. Trees move a lot in the wind and, if not staked, the root-ball of a young tree can quickly become loose. This will kill the tree because the roots will fail to establish.

Tips for staking:

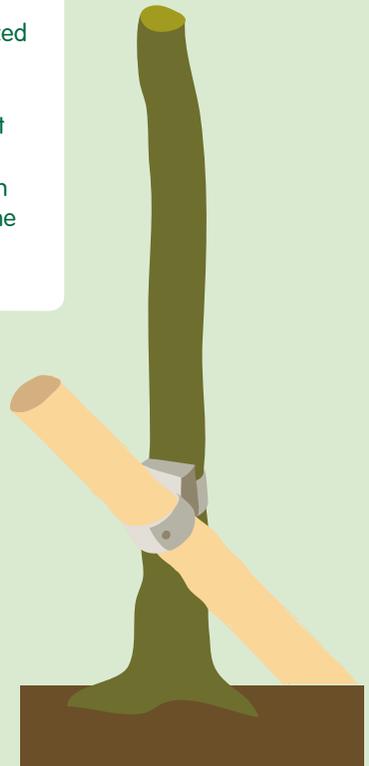
- Stakes must be firm enough to prevent movement of the root-ball.
- Stakes should be between the tree and the most likely direction of the wind so that the tree pulls away from the stake rather than rubbing against it.
- The prevailing wind comes from the west so the stake should generally be on the west side. However, street trees planted close to the kerb may benefit from staking on the road side to protect the tree from vehicle impact.
- Ideally, trees should be staked close to the ground (at

1/3 of the clear stem).

Movement of the trunk is natural. The tree responds to wind movement by growing a trunk thick enough to withstand the force of the wind. Stakes are important to stop roots from moving.

- Generally urban trees also have tree guards, and the stake performs a double function in supporting both the tree and the guard. For this reason most stakes are placed vertically.

However, if a tree is in a protected area and does not need a guard, a small stake can be used – often driven in at 45 degrees. This allows the tree to be tied to the stake closer to ground level (right).



»Tree maintenance continued...

Tree Ties & guards

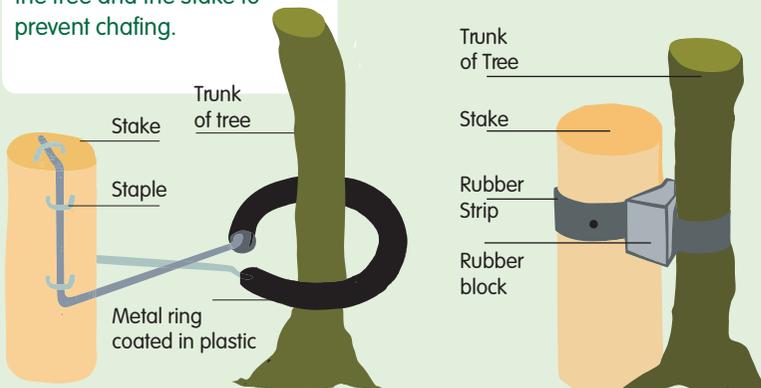
Tree Ties

- Trees are attached to stakes by tree ties. These come in a variety of forms.
- If a guard is to be used, the best ties are metal rings coated with plastic (below). These do not attach physically to the tree but encircle the trunk and prevent excess movement. They allow some movement and therefore encourage the tree to support itself. However they can only be used 1m (3ft) or more from the ground since all movement near the root base has to be prevented.
- Other ties usually consist of rubber strips (below right). These ground the tree and are then nailed to the stake. A rubber block is strung between the tree and the stake to prevent chafing.

- When staking close to the ground, ties have to be tight enough to prevent any movement of the root-ball.
- Ties must be loosened or removed as a tree grows. Ties left too tight cause serious bark damage, as they cut into a growing trunk. Fast growing trees, such as poplars and willows, may need ties loosening every year.
- Ties can usually be removed after three years; but if the guard is to remain for longer, a tie will often be necessary to prevent the tree from rubbing against it.

Guards

- Trees are often damaged by vehicles, dogs and people. Tree guards help to protect young trees but they need to be maintained. Guards come in various forms. Some are made of a thin wire mesh. This prevents animals stripping bark (right) but offers limited protection from vandalism and vehicles. Plastic coated metal guards are more rigid and more attractive (see picture, below). Both types are attached to a stake with staples. In particularly vulnerable sites, heavy cast iron guards may be necessary. These are bolted to the ground.



» Basic guide to planting a tree

Species

Trees take a long time to mature and can get very large, so selecting the correct species is important.

- An oak tree may be suitable in a large park but a smaller tree, such as a cherry or birch, might be more suitable in a narrow road or garden.
- Some trees need more light (usually those with light coloured leaves) or water (e.g. poplars and willows).
- Other trees are shade-tolerant (often those with dark green leaves, e.g. yew and holly).
- If unsure, it is best to get specific advice.

Location

- Always consider the size the tree will grow to when it is mature. It may look small when you plant it, but remember that it cannot be moved once it has established. Look at a mature tree of the same species to get some idea of the space the tree will need.

When to plant

- Trees should generally be planted in winter, when they are dormant, i.e. from November to February.
- Trees in containers can be planted at other times but if so they will need more watering and may suffer from shock.
- Bare-rooted trees can only be planted in winter.



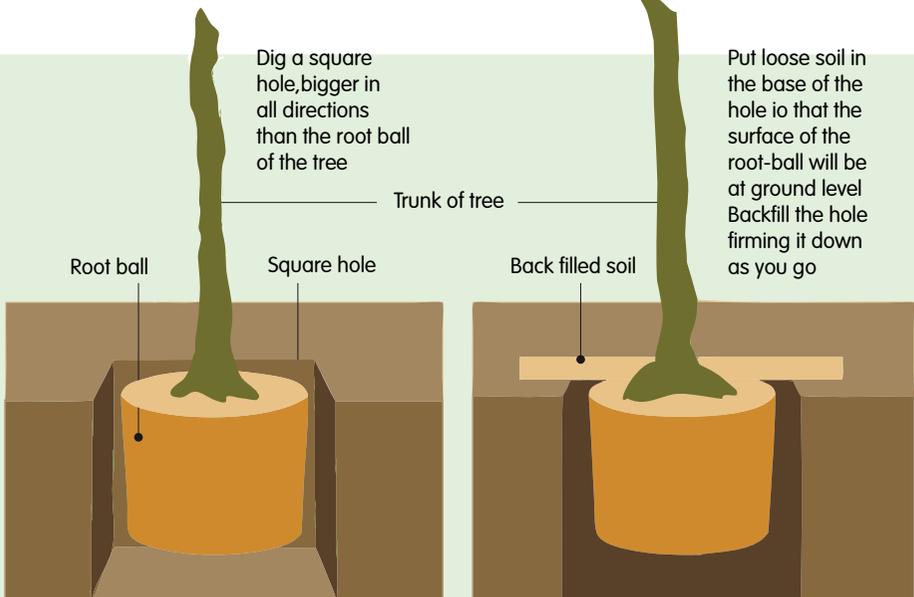
» Basic guide to planting a tree

How to plant

- Dig a hole that is slightly wider and deeper than the roots of the tree. The extra space below and at the sides will be in-filled; but, having been loosened, it will help the roots to establish.
- Square holes are better than round holes because tree roots can go round in circles if unable to break out of a round hole (yes, seriously!).

- Back-fill the hole a little so that the tree will be at exactly the same height in the ground as it was at the nursery. If a tree is planted too deep, the stem may rot; if too shallow, the roots above ground will die.
- Put the tree in the hole and replace the soil, firming it down all around the tree. It is essential that the tree is not loose in the ground: the roots need to be immobilised.

- Heel the soil firm (with the heel of your boot) as you back-fill, but do not compact the soil by hammering it down until it is like concrete.
- compacted soil prevents water and air circulation, causing roots to die.
- Now water the tree and cover the soil with a good heap of mulch (e.g. 6-month-old woodchip).







» Useful contacts

The Forestry Commission

www.forestry.gov.uk

London Tree Officers Association

www.ltoa.org.uk

The Tree Council

www.treecouncil.org.uk

The Woodland Trust

www.woodlandtrust.org.uk

Groundwork London

www.groundwork.org.uk/london