Watering

Don't forget that Birches will continue to drop leaves for up to a week after you discovered it was dry.

During its first growing season, newly planted trees will root out into the surrounding soil, typically enabling them to become completely independent by their second or third growing season after planting. However, during this establishment phase, trees will be relying on you for support. It is therefore **vital** that you understand how to water correctly based your specific conditions.

Watering newly planted trees is different to watering summer bedding plants, as trees have a much deeper and more extensive root system. You've got to get the balance right: too little support and they will show signs of stress and potentially fail, too much and they will never become fully independent or potentially suffer from waterlogging.

Whenever a tree is planted, **it is vital to immediately water** the entire root ball area of the tree to ensure there is good root contact with the soil. This initial watering will help to eliminate any air pockets which may have otherwise caused fibrous roots to dry out.

Once a **DECIDUOUS** tree drops all its leaves for the winter, **DO NOT** water until the leaves reappear in spring; however, **EVERGREEN** trees may need very occasional winter watering, especially if unseasonably dry or warm and particularly in their first season after planting.

Deciduous trees become dormant after losing all of their leaves in autumn until the following spring when new leaves flush out. Evergreen trees never become fully dormant and will grow slowly throughout the winter, as long as the temperature is, in general, above 5 degrees C.

How to water

The best approach is to give your trees deep soakings less frequently, rather than daily, light sprinkles. This encourages the roots to seek out water and thereby establish into the soil around the root ball. As the roots sense soil moisture levels reducing, the fibrous roots will be encouraged into the surrounding soil in search of more moisture.

Leaf Spot can be a sign of under or overwatering. Be sure to determine which before correcting the problem that is causing the condition.

For a minimum of the first 2 full growing seasons, it is **CRITICAL** that you leave a hose on top of the root ball trickling slowly, so that water soaks into the entire root ball of the tree, 2-4 times per week (dependent on applicable factors influencing your trees water requirement) under 'normal' weather conditions, throughout the growing season. Outward root development can be encouraged by watering

the soil around the outside of the root ball as well, gradually becoming more generous as you move out away from the root-ball, into the backfill zone and finally out into the adjoining soil beyond the tree pit. It is good practise to use this technique with trees of all sizes because watering in this way will encourage the roots to 'chase' the moisture outwards, which will result in better root establishment into new soil.

How much water; what factors influence a trees water requirement?

- **Soil type:** Heavy Clay soils do not drain as freely as sandy soils which will affect watering. For example, on a clay soil you may only need to water a tree for 5-10 minutes with a trickling hose, whereas on a lighter, free draining soil it may require 15-30 minutes, again with a trickling hose.
- **Aspect and exposure:** Always consider whether the tree is in full sun all day, or shaded for part of the day and/or if it is in an exposed/windy spot, as the water requirements can be radically different.
- **Species:** Generally, slower growing trees will require much less water than faster growing trees. Consider whether your tree(s) are high or low water uptake species.
- **Size:** Larger trees with larger leaf areas and bigger root balls will often require more water than smaller trees. Trees which have large canopies with relatively small root balls for the size of the tree may have higher water demands.
- **Season:** Water requirements vary dramatically according to season, starting relatively low, increasing throughout summer before tailing off in autumn. As temperatures rise up to and over 25C, the tree's water requirement increases exponentially, particularly if over 30C.

Deep Watering and Inspection Tubes

For larger trees with **root balls greater than 150L**, we will typically install an aeration and deep watering tube with a visible fill point at the surface. Primarily, this is used to supply the lower section of the root ball with moisture during extraordinarily warm/windy weather where considerable surface watering may be lost to evaporation. This can be particularly effective during times of drought when surface soil can be very hard. Water should **ONLY** be applied into the fill point for a **MAXIMUM** of 1 minute with a hosepipe (based on average UK flow rate, 10-15L per minute) to avoid waterlogging.

Perforated pipe is fitted as a loop, which is installed 200-300mm below the surface at the outer circumference of the rootball on all trees 150 litres or above.

This tube also provides the roots with oxygen, and whilst it can be very useful for deep watering, it should never replace the surface watering with a trickling hose. You will see the fill point slightly protruding from the soil at the base of the tree. We do not generally install the perforated pipe on trees where the pot size is 150L or smaller. This is because if applied correctly, a sufficient amount of water is able to reach the entire root ball, and air can actively diffuse to all of the roots.

The loop is finished off with a visible fill point above the ground for aeration and deep watering.

If your soil is heavily clay based or prone to water-logging, we may install an inspection pipe as well as a deep watering tube for you to monitor the water level at the base of the tree's root ball. Made from the same material as the deep watering tube, this pipe is installed vertically besides the root ball so you can check regularly for standing water at the bottom using a bamboo cane as a dip stick.

How much to water?

One hour after surface watering, the soil around the root ball to its full depth should feel **moist**, but should **not** be wringing with water if squeezed gently in the hand. The amount of water you need to apply, will depend on the applicable factors influencing your tree(s) water requirement.

Underwatering can lead to die back in the crown, but if caught quickly, can be pruned out before serious dieback or even failure occurs. In fact, often the tree can look even better afterwards as the neglect may induce root growth in search of water, and with a prune, the tree should explode into new growth.

It is **CRITICAL** not to over water a tree. Naturally, water molecules will displace air from pore spaces in the soil, which the roots require for respiration. Never allow a tree to be waterlogged for a prolonged period of time as this will cause serious damage to root systems, which may lead to serious decline, or even failure of the tree.

Under-watering is typically **easier** to correct than over-watering if caught quickly but nonetheless it is important to supply your tree with sufficient

water if it is not to become stressed. Trees express stress symptoms in different ways dependent on the species. Whilst drought stress **can be fatal** in a worst-case scenario, if caught quickly, the tree will likely fully recover but potentially lose many leaves and may experience some crown die back, depending on how dry it was.

Sometimes the symptoms of prolonged over watering can manifest themselves as very similar symptoms to a lack of water. This is because when a tree suffers root damage or dieback, roots cannot work effectively and are unable to take up sufficient water to support the canopy which therefore displays drought stress symptoms. A quick, physical inspection of the soil will often indicate whether it is wet or dry.

Please note **that rain fall typically does NOT water the tree**, unless excessive, especially during the spring and summer. Depending on the shape of the tree, the canopy can act as an umbrella, deflecting the rainfall outside the root area.

Never allow container-planted trees to dry out.

How often to water

Unfortunately, there is no easy formula for determining how often your trees will need to be watered. This will depend on a range of factors unique to your tree(s) which will influence your trees watering requirement.

Fortunately, we can offer advice about how to assess your tree's watering needs.

Signs that a tree could require **more water** are:

- **Wilting leaves**, commonly the younger, outer leaves.
- **Yellowing leaves**, commonly the oldest, inner leaves first.
- **Brown leaves** which have become crispy at the edges. However, this can also occur as a result of scorch damage.

If you ever find your tree completely dry and showing drought stress symptoms, **immediately** place a hose directly on top the root ball, against the trunk and let it dribble out for anywhere between 30 minutes and a couple of hours dependent on size and species of tree and how dry it was. Depending on the trees response to this water it may be necessary to be cautious over the amount of water supplied until it shows signs of recovery. Please note, it is very important at this point **not to over compensate** and allow the tree to become waterlogged, as this will only cause further damage.

Signs that a tree has been watered too much include:

- **Yellowing leaves.**
- **Rapid leaf drop.**
- **Poor, stressed growth.**
- **Leaf spot,** although there are various fungal and bacterial diseases which may also be the cause of leaf spots.

The black spotting on this leaf is a fungus called 'Entomosporium leaf spot', and is fairly common on Photinia x fraseri 'Red Robin', especially if overly wet and cold during winter. This condition is more common if the tree is planted on heavy clay, but as long as it does not become waterlogged or exceptionally cold it should survive, and rejuvenate in the spring.

The severity of underwatering and overwatering symptoms exhibited can **vary depending on the species of tree**, so, if in doubt it is best to very carefully dig a small test hole 30-40cm deep adjacent to the root ball, being very careful not to damage any establishing roots. Assess whether the soil feels dry, powder-like and unable to bind together or if it is too wet, sloppy or even just pure water.

With good care and excellent growth in the first growing season, you should be able to **reduce the level of supplementary water applied to smaller trees in the second season**, unless we have a prolonged period of drought. At the very least, you should be able to start watering later in the second growing season and finish sooner. Trees with girth sizes in excess of 20cm will likely still need further watering in the second season, but possibly less frequently than the first. In both cases, remember to keep an eye on your trees for any signs of dryness or stress for the first two growing seasons after planting and, in exceptionally dry conditions into the third season.

If you are ever unsure about moisture levels, or believe your tree is displaying watering related stress symptoms, please send photographs along with a description of your concerns to your sales advisor.

If you do still feel anxious about watering correctly, '**Tree Gators'** are an inexpensive solution. These hydration bags zip up around the trunk and are designed to be filled rapidly with a hose pipe or bowser, then slowly allow water to seep out through tiny perforations over the course of 24 hours or so. You may need to fill your 'Tree Gator' **once to three times per week** in the summer months depending on your tree(s) individual watering requirements. Multiple bags can be connected together for larger or high-water uptake trees.

Tree Gators are available through some garden centres and also from Majestic Trees; please contact a horticultural advisor for more information.

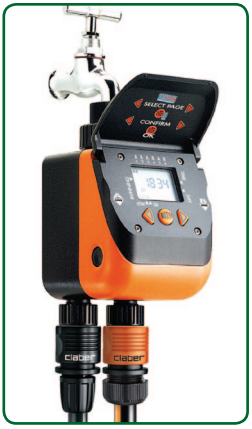
Automatic Irrigation

If you feel you are unable to commit to hand watering your new Majestic Tree(s) a few days each week, you have too many trees to effectively manage by hand watering, or you simply want the peace of mind to go away during the summer for a holiday without worrying about your trees, an automatic irrigation system may be the best solution.

Majestic Trees can install a timer controlled, surface mounted dripline

irrigation system which is inexpensive compared to a below ground system, and is designed to last 2-3 years while your tree(s) becomes established. All we need is an accessible tap that can be connected to the system not too far away from the area to be irrigated.

Our horticultural advisors can assist you on configuration and costs if you are interested. Typically, dripline is installed in rings around the tree with water output carefully calibrated to specific trees. Water pressure must be sufficient to supply the system with 1 bar of pressure. If your pressure is greater than 1 bar, we can install a pressure regulator to the timer to ensure the system will not be damaged by pressure that is too high.



We use a quality Italian made automatic irrigation system that is reliable and relatively simple to use.

Once the trees are fully established, usually after 2-3 years, you can remove the irrigation system, though it is wise to keep it in place if the trees are high water users, just in case there is a very long and hot summer. Furthermore, it is also useful to retain it for a few more years if you have fruit trees: and whilst a 'June drop' is to be expected, if it is very hot during the summer the tree may struggle to sustain the retained crop.

Timers are easily adjusted to change both duration and frequency of water applied.

Please note that timers **must not** remain outside over the winter months as they will be damaged by a heavy frost. Simply remove them before winter sets in, storing them inside, but don't forget to re install them the following spring.

Some customers request the less expensive seep hose, but we have found that a drip line with regulated drippers every 300 mm is far more reliable, especially where you have hard water.