

LOOKING AFTER BONSAI DURING THE COLD SEASON

WINTER CARE

Not all plants are as frost hardy below ground as they are above. In some species the previous season's growth, once properly hardened off, can tolerate up to 10°C lower temperatures than the roots. Common species to watch are Trident maple (*Acer buergerianum*) and Chinese elm (*Ulmus parvifolia*).

Pots standing on benches are more susceptible to root damage due to cold because the cold air can circulate beneath the pot as well as around the sides and top. The main damage occurs when the moisture in the roots expands as it freezes and literally bursts the tissue. Rapid freezing after watering or heavy rain can have the opposite effect. The water in the soil expands as it freezes and crushes the fleshy roots. You can mulch, use pine bark or packing plenty of bubble-wrap or loft insulation around and especially underneath the pots. Keep soil evenly moist but not wet all winter. Pots can also be placed under benches during the cold period. Do not place direct onto the ground, rather elevate using a brick or wood.

If you are over-wintering your bonsai in a garage that you also use for your car, make sure you switch the engine off as soon as you have driven in. When starting the car, back it out of the garage and let the engine warm up outside. The exhaust fumes from a car engine can do far more damage to dormant bonsai than the cold. The heat produced may also encourage early break of dormancy.

WINTER HYGIENE

Many fungal spores and small pests spend the winter in the debris that accumulates on the soil surface, between the Nebari, in forks in the branches and in fissures in the bark. Most will be present all year round, in one form or another, and are relatively harmless under normal circumstances. However, small bonsai in the cosy, predator-free environment of a polytunnel are more vulnerable. So before you tuck your trees up for winter clear all leaves, remove weeds, defoliate all deciduous trees and clear other debris from the twigs and branches and remove all small cobwebs. Keep an eye out for scale insects. Tweezers, a soft wire brush and an old toothbrush will come in handy.

If trunks and branches have algae growing on them, clean this off with water spray and an old toothbrush. Algae grow rapidly in damp enclosed environments during autumn and winter. Cleaning it now will save you many more hours of work in spring, when you'll have other things to do. It will also help the bark to 'breathe' and preserves emerging adventitious buds.

Some harmful pests over winter lay eggs in the fissures of the bark. Trees with flaky or cracked bark will benefit from an application of a proprietary winter wash.

Preventative spraying using Lime Sulphur is recommended. First cover the soil surface, and tilt the trees. Leave the trees outside for a few days after spraying before tucking them up for winter.

Foliage trees: 1/30= 1 part Lime Sulphur in 30 parts water.

Needle trees: 1/40

Flowering in winter: no treatment

The cosy spaces in and beneath the exposed roots are favourite hiding places for woodlice and other insects.

Whilst these are not a particular danger to the tree's health, they do burrow in loose material, disturbing surface roots, making gaps between the soil and the pot and dislodging flaky bark. Use tweezers to pick them out - and keep watch for strays!

Although you've spent all summer trying to keep the moss on your pots green and lush, it will provide a home for harmful insects and their larvae. Besides, in a polytunnel or shed, moss becomes lank and weak, and will normally wither as soon as you put the trees out in spring. If you want to keep the moss carpet for next year, peel it up in large pieces and replant them in a seed tray of moist soil, cover it with chicken wire to keep the birds and cats off, and put it outside on the benches.

Check all drainage holes and clean if necessary. Pay particular attention to removing woodlice, which may have burrowed up through the mesh. These pests can excavate copious amounts of precious soil in their search for decaying vegetable matter to eat.

Pull yellow or dead needles off conifers. Many will have died because their natural useful term has ended, but a pathogen or insect pest may have killed others, so best remove the lot. Take special care to clean the inner branches of dead needles as well, taking your time in order to be thorough. Many pests, especially spider mites, live in this detritus where they reproduce and feed remarkably quickly under winter protection and could devastate a spruce or juniper in a matter of a few weeks.

WATERING

The best time to water is before 10 am in the morning and no later than 3 pm in the afternoon.

Only water the Bonsai if it is dry. If it is windy, your trees will dry out very quickly.

They must be moist at all times to avoid damage by frost or wind.

WINTER JOBS

Sharp tools are essential for efficient working and for the health of your trees, and nothing blunts tool quicker than pruning grit-covered roots. It's worth keeping one set of essential tools for root pruning only if you can afford it. Take some time out now to sharpen all your tools carefully.

Inspect your staging and benches now and replace any rotten or broken slats.

Have you noticed that you never seem to have the right pot for the tree when you need it? This is the time of year when decisions like that are made, so prepare for next year by deciding on what pots you really need and ordering them now.

This is much better than turning up at a meeting in mid-summer and buying that nice-looking pot that seems about right. Nine times out of ten, you get home and find that it's not right at all, and there's one more pot destined to remain on the shelf and one more tree without the right pot for one more year!

PRUNING

The only problem with pruning in late autumn is protecting the wound from damage before it begins to heal in spring. Cut paste and protection from frost are necessary.

Deciduous species gain nothing from being pruned in autumn rather than early spring, but it can be done perfectly well if you want to save time later. Leave a slightly longer stub than you would if you were pruning in spring. Hollow the wound next year - in summer.

Pruning Chinese junipers in autumn is of no significant benefit and may result in a flush of juvenile foliage next year

On established deciduous trees the late winter or early spring prune sets the framework for the coming season's growth and has a profound effect on the appearance of the tree in future dormant seasons. If you don't prune hard enough you will be building bigger and bigger problems as the years go by.

WIRING

Before you wire - de-wire! Let your trees rest and stretch for a few months before re-wiring.

In practical terms, this is an ideal time of year to wire any species because the branches are clean, the buds are small and not so easy to dislodge and you probably have more time on your hands. But wiring does cause stress to the tree, which it won't begin to recover from until spring - so concentrate on adjustments rather than drastic shaping.

Finish wiring before June and keep the wired trees frost-free.

Cover any cracks or splits in the bark with cut paste or, in the case of many transverse cracks on the outside of a bend, with something like petroleum jelly.

Deciduous trees are best wired during the dormant season. Begin in mid- to late July, well before the buds begin to swell.

Wire when the soil is slightly on the dry side and water afterwards if necessary. If the plant is pumped full of water, the twigs and branches will be less flexible and will break more easily.

Don't wire while the roots are frozen. The action of bending branches causes a certain amount of tissue damage compressing some cells and expanding or stretching others. If the soil is frozen the tree cannot adjust its water content to compensate for the changes in cell size and some branches might die from drought.

Don't wire the whole tree at one sitting. Take your time by doing a little bit each evening. This way you can consider each move carefully and if you are making mistakes with either the application of the wire or the positioning of the branches, you will have plenty of opportunity to spot them before you have gone too far.

Wire is less likely to cut into the bark at sharp bends if you can ensure that it is on the outside of the bend, not the inside. This also helps prevent branch cracking by compressing the tissues rather than stretching them. This is not always possible, of course, but it is a good rule to try to keep.

Always cut wire away to avoid damaging fragile young branches or tender, swollen bark. The thicker the wire, the more important it is to do this. In the long run it is false economy to try to salvage the wire. It becomes progressively more brittle and difficult to re-apply accurately. You only have to break an important branch once to make the connection! If you must try to uncoil the wire, start with the thinner sizes first. from the tip of the branch towards the base, and hold each turn firmly as you work along the branch.

Bending branches

If you intend to make severe bends in conifer branches, it is best to do that while the tree is resting. The main danger to the tree during severe bending is the separation of the bark from the wood as it stretches on the outside of the curve and compresses on the inside.

It follows, therefore, that there is less danger of this happening when the bark is stuck fast. Having said that, there's no point in carrying out such operations if the tree has to wait three or four months before it can begin to recover with new growth. Late winter to early spring is best.

Bind the branch very tightly with several layers of wet raffia. (Raffia becomes suppler and less likely to snap when wet.)

It's easiest to use six or eight strands in a bunch, overlapping at each turn. Try to get the wire to cross the trunk on the outside of the curve. This helps to reduce the stretching effect on the bark as the branch is bent. If the wire crosses the trunk on the inside of the bend, it has the opposite effect - forcing the bark on the outside to stretch and fracture.

Jins and Sharis

Autumn and winter are not the best times of year to make new jins and sharis because the bark is very difficult to remove when the sap is not flowing, But it is a good time to treat existing deadwood areas with lime sulphur.

If the wood is bone dry, spray with clean water before applying the lime sulphur - this helps it penetrate.

To darken the usually snow-white lime sulphur you can add wood ash, charcoal or soot. Works just as well as inks but is cheaper!

ARRANGING YOUR BONSAI-EN

Plan for all similar species to be placed together so that their watering and feeding programs are done on a controlled basis.

You can start moving your trees around during August.