

Frequently asked questions

by Bob Wilcox

The two characters making up the word bonsai (pronounced bone-sigh), in both Chinese and Japanese, translate as tree and pot. This simple definition of bonsai as a tree in a pot is a good place to start, but for the serious bonsai artist there is much more. The artist is not creating the look of a shrub, or a sapling, but the illusion of a tiny ancient tree in a small container. This tree must be kept alive with horticultural knowledge and a great deal of day-to-day care. The tree's shape must be designed by the artist, with a schedule of development that can take place over many years.

What kind of a tree is a bonsai?

Bonsai are created using a wide variety of plant species, both coniferous and deciduous. Tropical species, usually obtained from a nursery, are kept outdoors in the summer, and overwintered inside. When winter-hardy species are used, either obtained from a nursery or dug up from the wild, they are kept outdoors all year round, which provides the winter dormancy they need. One important consideration when selecting a tree is the size of the foliage. Small-scaled foliage will create a more convincing miniature tree. For instance, some indigenous Ontario maples have very large leaves, but the Japanese maple (*Acer palmatum*) has smaller leaves and is more widely used as bonsai.

How do I keep a bonsai alive?

"I had a bonsai and it died." This is heard frequently. Most people do not try to find out what kind of care bonsai requires, assuming that the care is the same as for indoor tropical plants. This is not the case. Unfortunately, many retailers do not provide care sheets when they sell finished bonsai, but depend on the tree's new owner to buy a book, or borrow one from a library. There are many good books on bonsai and most are written for the beginner, so the information is readily available. If the information becomes difficult to understand, it could be helpful to join a local club and ask the more experienced members about bonsai care. There is also a large number of websites devoted to bonsai. The largest number are joined as a bonsai ring at the site: <http://nav.webring.org/cgi-bin/navcgi?ring=bunjin;list>

How do I make a bonsai?

To become bonsai, plant material usually requires more work than just placing the tree in a pot. If the aim is to create the illusion of an old tree it is necessary to be aware of what old trees look like. One description of an old tree could be the following: a very large trunk that tapers gradually to small branches at the top of the tree; the roots at the soil line, where the trunk is the largest, radiate outward all around the tree, giving the tree great stability; the branches do not grow straight upwards, but hang down at their ends because of their great weight; the bark is old and textured.

Most nursery-grown plant material does not match this description. Nursery trees have been grown to be bushy and tall. They grow quickly with no taper to the trunk. Nursery trees are frequently repotted as they get bigger, with no concern for the original soil line, so they come directly out of the soil like a telephone pole, with the roots not showing.

Some people dig up trees from the wild, which usually results in a tree with an interesting shape compared to nursery trees. This obviously requires more time and energy than buying something from a nursery, and requires learning how to do it.

The bonsai artist tries to create the illusion of age using whatever techniques are available. The roots must be visible at the soil line, the structure of the trunk and branching must be revealed, and the height must be reduced in a natural looking way. Another technique requires branches and areas of the trunk being stripped of bark and bleached white to give the appearance of parts of the tree dying due to great age and adversity.

A technique for controlling the shape of branches involves wrapping the branch in wire and bending the branch to the desired shape. The best time to do this will vary, depending on the time when it will do the least harm to the tree, and be the most effective. Some trees are easier to wire in the spring before new foliage develops. The branch will be held in its new position until just before the wire begins to cut into the bark, at which time the wire is removed. If the branch does not hold its new shape, it is rewired until it does. In most cases, wire should be carefully cut from the branches with a wire cutter. Do not unwind wires as this could break off the branch, existing foliage or new buds.

What's root pruning?

When a newly-acquired tree goes through its first radical restructuring, the roots are also radically reduced in size. This is a good time to reduce the size of the roots because, with less foliage, the tree can survive easily with fewer roots. The parts of the root that provide the tree with nutrition are the tiny, fragile root hairs at the very end of the long, thick roots. The job of the thick part of the root is to provide stability when the tree is in the ground. Since bonsai are secured in the pot with wire, stability is not a problem, so the long, thick roots can be reduced in size without harm. The result is that root hairs are developed very close to the underside of the trunk, allowing the tree to be placed in a small pot without limiting the source of nutrients.

Subsequent root pruning happens whenever the tree is repotted, which could be every year, or every few years, depending on the rate of growth of the tree. This should be done in the early spring when the tree is at its strongest. Do not fertilize for 3 to 4 weeks after repotting. Do not let the roots go dry while repotting, and water well when finished.

How do I keep it small?

A tree is kept to the size and shape you want by pruning the leaves and branches. Pruning is also used to expose the structure of the tree, revealing interesting features such as a thick trunk or interesting curves. Pruning in the spring can make the branches produce buds closer to the trunk so the foliage will be more compact and the branches can be shortened to keep them in scale with the tree's height. Quite often the desired profile of the foliage is a triangle, with a broad base. The apex of the tree is a soft rounded shape, characteristic of an old tree. The bottom branches are left the longest, so the upper branches do not block the sun.

Why is watering such a big subject?

Watering is a very important part of bonsai care. Since the pots are shallow, and the trees frequently are in direct sun, the soil dries out very quickly. During hot weather, trees are watered every day, sometimes twice a day. Large pots may have as many as 7 large drainage holes on the bottom, allowing excess water to run through. Trees are thoroughly watered until the water runs out of the holes. The holes are covered with plastic screening material to prevent the soil from washing through.

Trees have different water requirements depending on the species. For instance, pines will require less water than apples. To satisfy the particular water needs of the species, the growing medium is custom mixed, to regulate how much water should be retained. The pine may have a mixture of growing medium that is 1/3 soil and 2/3 crushed granite; the apple could have 2/3 soil and 1/3 crushed granite. This allows them both to be watered the same amount, but the water would be retained longer in the pot containing the apple.

Is fertilizing necessary?

Since bonsai are watered frequently, and the water washes through the pot, they require frequent fertilizing. Feedings vary from plant to plant, but generally a water-soluble fertilizer is applied every 2 to 4 weeks during the growing season at an appropriate strength. Make sure to check the directions on the package. Don't feed right after repotting (wait for 3 or 4 weeks), and don't feed if the tree is in a sick condition. Pre-moisten the plant soil first; never fertilize a very dry bonsai.

Insects & disease

Small trees potted as bonsai have the same problems as their bigger version, and all of the same treatments apply. Pests and fungus are dealt with using materials commonly available at commercial nurseries.

How do I keep it over the winter?

Tropical trees are taken indoors when the weather becomes too cold. They should be placed in an area with sun, or have artificial light provided. They need humid conditions and should be misted frequently.

Species that would naturally be outside in winter should overwinter outside even if they are in a pot. They require a dormant period for their health, and will not benefit from being indoors. In the Toronto area, the roots of bonsai left outdoors will need protection from the extreme cold, and (if they are coniferous) their foliage may require protection from the drying effects of wind and sun.

In Toronto, the air temperature can go as low as -30C, but the temperature of the ground seldom goes below 6C. This means that the roots of trees growing in the ground never get colder than 6C. If trees in pots are kept on a deck or shelf for the winter, their roots will go to air temperature, which could kill the tree. To protect outdoor bonsai, what has to be done is to duplicate what happens in nature, and prevent the roots from going below -6C.

This can be done by burying the tree and the pot in the ground with soil covering the top edge of the pot by a few inches. The soil in the pot will freeze and the tree will be eventually covered in snow, which will keep it moist. In the spring, the melting snow will water the tree.

An alternative to burying trees is to place them on the ground in a shed. At the first snowfall, gather buckets of snow and cover the trees almost to the first branch. The snow will freeze to the ground and keep the tree at ground temperature. In the spring make sure that the soil in the pot does not dry out when the soil has thawed.