

Bonsai Survival Techniques

From the Japanese dialect we get the word bonsai (bon) meaning tray, and (sai) meaning planting. Western and eastern cultures use this term to describe a practice that was actually started in China, described by the original name punsai. The practice was started in the 10th century but did not become commonplace in the average household until the 17th century. It was near this point that a Chinese ambassador brought a 'bonsai' to Japan as a gift on an official visit.

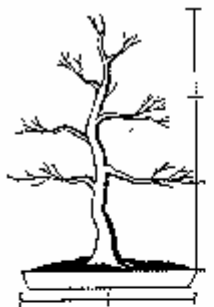
Bonsai is an art form that combines human resolve with nature's determination. It is a continuing struggle to force the plant to grow in the form that we want. Young plants that we train to become bonsai are actually just small well structured plants until they are many years old, and have achieved the features of a true bonsai.



Bonsai Sizing

(Measured from top of plant to the rim of its container)

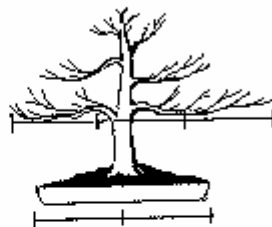
Miniature:	maximum 15cm
Small:	maximum 22cm
Small medium:	maximum 40cm
Medium:	maximum 90cm
Large:	anything over 90cm



As a rule, the length of the container must be slightly more than two-thirds of the height of the tree.

Choosing a container

If the tree is broader than it is tall, the length of the container should be slightly more than two-thirds the breadth of the tree at its widest point. It must never be equal to the breadth or the height of the tree.



The depth of the container should be equal to the diameter of the trunk, unless the tree is in a cascade style or unless there are multiple trunks.



Left: some of these containers were obtained by Rémy Sanson in Japan and China; others were made by French potters.

The breadth of the container should be a little less than the breadth of the tree at its widest point.



The Pot
Choosing the right container is a very important part of the over all look that you want to achieve.

Bonsai Styles

The art of bonsai is an attempt to imitate what is seen in nature except it is a miniature form. The reason for this miniature form is that is simply easier to work with, and does not preclude large scale. Technically a tree that is 3 meters tall could be a bonsai if it were trained in the proper manner (including root pruning, the pot etc...). As nature varies greatly so do the forms of bonsai. The following is a list of the most commonly accepted styles, and the corresponding Japanese term.

Moyogi is the informal upright style.

The trunk is straight, with a winding appearance that can make the form look more natural. The top is inline with the base and branches are distributed in an alternating manner. The leading branch is the largest, the others getting smaller as they ascend towards the top with several sides for viewing. Use oak, maple and beech for best results with this style.

Chokkan is the formal upright style.

A single trunk tapers gradually to the top. Branches are spread regularly. The largest branch at the bottom, the second branch (smaller) above that and to the opposite side. The third above and opposite the second and smaller again. Continuing to the top in this pattern. The over all shape is conical, with one preferred viewing side. Conifers are suitable for this style.

Shakan the slant style.

The trunk is slanted at various angles, with branches growing in all directions. The roots are large and visible on the surface growing in the direction of the plant slant. For best results use conifers for Shakan style.

Kengai the full cascade style.

An imitation of trees growing under specific conditions such as steep precipice swept by wind. The main feature is the trunk arched over itself, leaving the container for a cascade of growth. Branches alternate and are positioned so that the base of each one is directed towards the center of the container. A very deep /tall container is needed for this style. For this style the recommended plants are azaleas, conifers, cotoneasters, hawthorns and quinces.

Bunjing the literati style.

Literati is derived from literature. These plants are named from ancient Chinese paintings. The trunk is upright or at a slight incline, with no branches except at the top. The foliage is reduced to a bare minimum, and only that which is necessary to keep the plant alive. Choose conifers for this style.

Hokidachi the 'upside-down broom' style.

As its name describes, lateral shoots are trained to a shape similar to that of an upside down broom. The root structure must be placed in a manner that is harmonious. Branches from the mid point down should be removed. This style is best suited to plants grown from layering. Elm oak and birch are the easiest to grow into this style.

Fukinagashi is the windswept style.

Very sensational this style has a pronounced lean to the trunk and the branching all follows in the same direction of the trunk's slant. All branches growing "against the wind" should be removed. The roots must be well developed to convey the idea of the resistance the plant develops against the forces of nature. Tall growing pines, junipers and yews are best if you want to attempt this style.

Ishitsuki are bonsai that are the clinging to rock style.

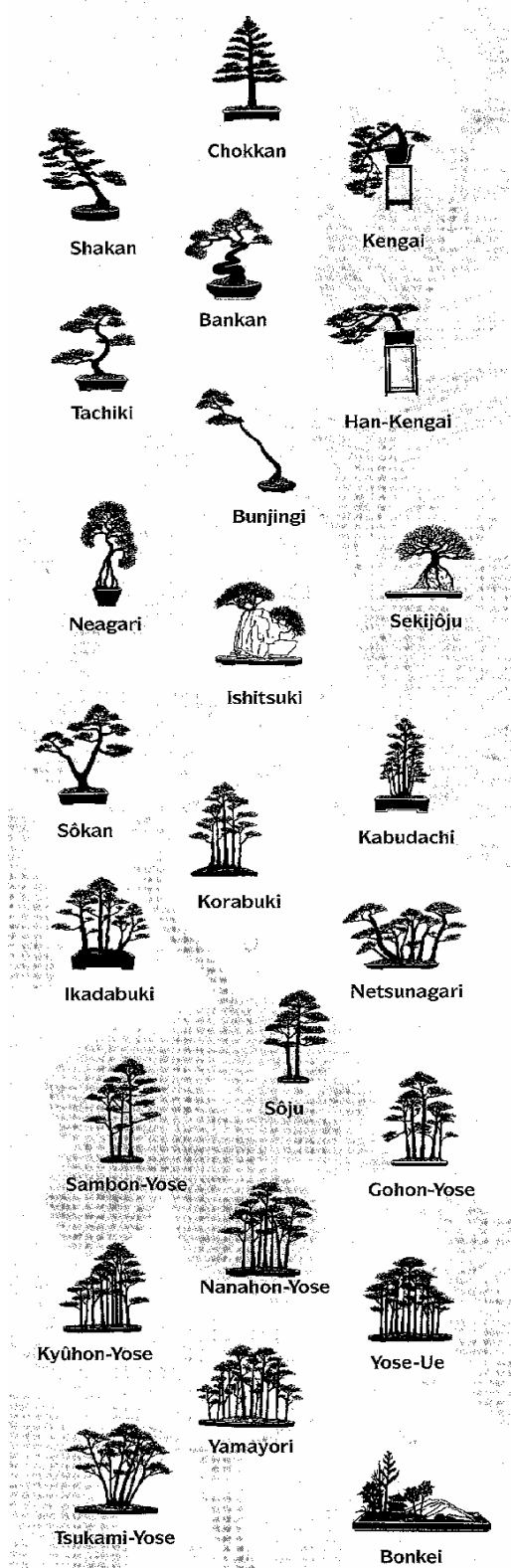
Either a small tree on a large rock or the reverse. In the case of the small rock the roots of the tree grow around it and into the container at the base. In the case of the large rock the tree is rooted in small soiled cavities on the rocks surface.

There are several forms of group bonsai. We will not go into great detail of the half dozen or so popular forms, except to say that the Japanese developers of these forms tended to avoid even numbers of trunks (two is the exception). There should be a single vantage point from which the plant is viewed. Placing the largest plants in front and the smallest back create perspective.

Bonsai Styles

In every bonsai you will find the shape of the triangle, which may be seen as representing god, earth and humankind. The angle of the triangle varies from tree to tree, and this is the essence of style in these dwarf trees.

The bonsai symbolizes eternity.



Principles of design

Root spread

The crown of the roots should be visible, and they should radiate in all directions from the trunk, but they need not be spaced evenly. A visible spread of roots adds the impression of age.

Trunk form

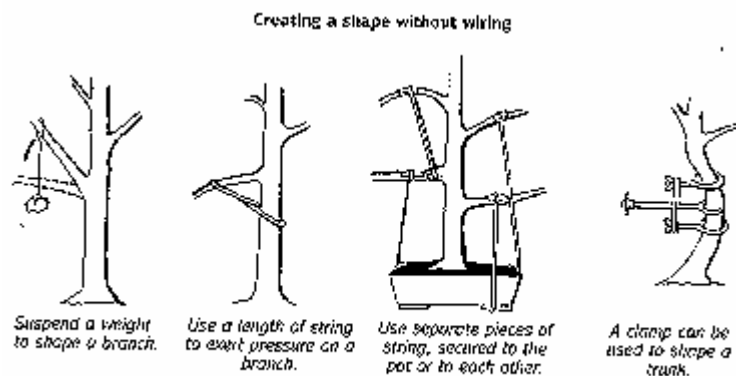
Trunks may be straight, angled, curved, or divided, though any of these forms must have a good taper, with the diameter decreasing from the base to the top. A thick base adds to the impression of age. A parallel trunk line passing into the tree's apex destroys the sense of balance. It is important to be able to see the trunk even if the foliage cuts across it in places.

Branching arrangement

Branches create the structure for the silhouette of the tree. The spacing should be well balanced and in harmony with the tree's character. They should also visually complement the trunk line. Pruning and wiring are used to make this effect. The leading branch is the largest, and starts about one third of the way up the trunk. The others get smaller as they ascend towards the top. Bonsai are normally pruned into somewhat of a cone shape. Branches that spread out from the same point of the trunk, or grow directly opposite one another should be removed. We can often use wiring to fill any gaps.

The view point

Bonsai always are design to be viewed from one side. The eye level should correspond with the midpoint of the trunk. Curves in the lower trunk should be to the left or right. A tree with a forward curve is difficult to observe and is considered undesirable. Only the upper third of the tree should have branches that face the viewer. Branches to the back should extend away from the viewer. The top of the tree should bow towards the viewer. Remember to orient the roots to be viewed from this side, as they are difficult to change later.



Regular Maintenance

To keep bonsai looking healthy and attractive, keep them tidy and clean. Remove dead leaves, and in conifers remove yellowing needles. Use a small brush to tidy the earth and fingers to pull out any weeds. Clip out any dead or diseased branches. Misting the plant regularly will help keep the foliage fresh and helps prevent pests from attacking the plant.

Growth

Bonsai, as with all living plants continue to get bigger, which is why they like the plants in the garden, will need regular pruning to keep in a pleasing shape. Growth rates vary greatly from tree to tree so some plants will require more pruning.

Pruning

Careful pruning is what gives the bonsai its shape and maintains that shape over the life of the plant. It is a regular and sometimes frequent requirement. There are several different types of pruning used on bonsai.

Pinching out is usually reserved for conifers.

Leaf pruning is done in the summer on healthy deciduous trees, except for in years in which they have been repotted or root pruned. This will produce a second set of leaves for the remainder of the season and these leaves will be smaller in size.

Pruning extra and top branches is necessary because sap tends to rise and the food that it carries is required to make lower branches become thicker, and to keep the plant from growing taller.

Structural pruning of deciduous plants should be reserved for winter, as this is the time of year when all of the branches are most visible, and the basic structure can be modified easier.

The use of high quality tools for pruning is recommended because they make cleaner cuts, are stronger, and require less maintenance to keep sharp. You get what you pay for with tools. High quality shears and saws like those made by felco and corona are worth every penny.

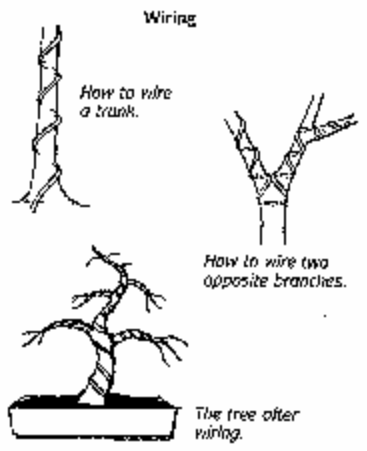
Repotting

Bonsai must be repotted regularly, as the quality of the compost (soil) deteriorates in structure and nutrient content. As roots develop they will compress the soil around them, reducing friability needed to hold moisture and allow oxygen to the roots. Also with age the roots become so thickly entwined that they limit their own ability to absorb water and nutrients.

The best time for repotting is in spring, just as the plants are starting to enter their active growth cycle. For conifers repot every 3-5years, deciduous trees every 2-3 years.

To repot, first wait for the soil to dry, then remove the plant from the pot. Gently shake the rootball to allow the soil to crumble away, this will also help loosen the roots. Once the soil is removed cut off any roots that are girdling, or look dead or diseased. Next prune the fine roots (which grow off the large main roots). Up to two thirds of these fine roots may be pruned out.

In the bottom of the pot place a small screen over the hole to prevent the compost from falling through. Next add a layer of coarse stone, followed by fine stone then sand. At this point add a thin layer of compost in the tray. Place the plant in the container and top up with compost. It is recommended to add the compost in layers from coarse to finest at the top.



Wiring

Bonsai are living sculptures; much of this sculpture is achieved by pruning which limits plants growth and can have some control over the direction of said growth. Where pruning cannot achieve the final habit of branches, wiring finishes the job. Wiring also slows the transmission of sap and thus slows plant growth. Wire is usually made of copper. And is available in several gauges. The wire should be wound in a spiral pattern from the base of the trunk or branch upward or outward. Conifers are wired in the winter and the wire is left on for 8-10 months. Deciduous plants are wired in the spring. The wire should be left on for a maximum of six months.

Feeding

Blood meal and fish fertilizer are excellent and natural sources of nutrients for bonsai; as well there are several water-soluble bonsai fertilizers on the market. Fertilizer may be applied from spring through till mid fall.

Pests

Dealing with pests on bonsai is really no different from dealing with them in the landscape. Insecticidal soap may be used for aphids. A pesticide with Permethrin is suggested for mealy bugs. For scale insects it is recommended to use a systemic pesticide like Cygon, with a brush onto the bark treatment. For caterpillars use BTK as a natural control agent.