

# BONSAI

*A Guide for the Beginner*



**THE SRI LANKA BONSAI ASSOCIATION**

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# **INTRODUCTION**

*By*

*Manel Gunawardena*

“Bonsai” or the Art of Miniature trees is one of the most popular arts in Japan. Although the origin of Bonsai was in China, it was only after this art was introduced to Japan thousands of years ago, it was introduced to the rest of the World.

The Japanese word “Bon” means a flat container. “Sai” means a tree. Therefore, “Bonsai” means a tree planted in a flat container. In China it is known as “Punsai”, and was mainly used as an object for meditation. Basic rules for Bonsai remain same irrespective of the Country of practice, but the species of trees used vary according to the location and its climate conditions.

Unlike most of the other art forms, Bonsai is a live art. Any other creation of Art work could be completed, but in Bonsai, it keeps on changing, where it has to be maintained and looked after. In Japan and China, there are Bonsai trees, which have been brought down from generation to generation.

Bonsai has been introduced to Sri Lanka only about twenty years ago, and is presently practiced by a large number of enthusiasts.

Development and spread of human settlements have resulted in reduction of Forests and natural landscapes. Bonsai gives an alternative way to enjoy this natural beauty, by bringing the beauty of a large tree or a landscape in to a home garden or to an upstairs balcony.

Just growing a tree in to a pot does not mean Bonsai. It has to be moulded in to an artistic, but natural shape or a style. A tree in nature, does not have it always easy, to grow the way it wants. Its shape, size and the form will be determined, depending on its terrain, prevailing weather patterns, and the competition it gets from the other trees. In its course of growth subject to the above criteria, all trees develop certain common characteristics, depending on the particular conditions they are subjected to. Bonsai styles are nothing but these beautiful creations of nature, but in refined forms. Understanding the styles of bonsai is understanding the styles of trees in the nature. Doing Bonsai is creating these forms in miniature size.

Any person could develop his or her own “style” while experimenting and exploring in the world of Bonsai. The pleasure gained in doing Bonsai does not necessarily relate to the excellence of the plant achieved. The effort put in to developing a single Bonsai can be as satisfying as having a beautiful collection of high quality plants.

Bonsai plant sheds all unnecessary or extra components of a plant leaving the bare essentials highlighted in their true beauty. Roots, stem, branches, and leaves are clearly displayed in its perspective. The art of Bonsai can be practiced only if you act in harmony with the nature, but with a desire to dominate it to do a faithful recreation, in a smaller scale.

# **SELECTION OF PLANTS FOR BONSAI AND SUITABLE TYPES OF PLANTS**

*By  
K M Tillakaratne*

The following types of plants can easily be trained into Bonsai;

- Plants growing naturally on rocks and cliff tops
- Plants growing in infertile surroundings
- Plants stunted by being continuously eaten by cattle, goats etc.
- Plants stunted by effects of nature
- Plants stunted by growing under dense vegetation in a forest

Plants which are suitable for Bonsai are hard wood varieties with rough bark and relatively small leaves. The maximum height of a Bonsai is 4 ft. The smallest Bonsai called "Mame Bonsai" is typically between 2-6 inches in height. Some of the ways of creating Bonsai is by growing plants from seeds, layering a selected branch or by grafting.

In selecting plants we have to consider several factors. There are different norms (rules) applicable to the various styles of Bonsai plants, to which we have to adhere to.

For example, there is a common set of rules applicable to Informal Upright Bonsai. If the plant is one foot in height, the base should be sufficiently thick so that the trunk will gradually taper upwards from the base. Branching should start about 4 inches from the base and the branches should be on alternate sides. For Example, Branches 1, 2 & 3 should be on the left, right and the back of the trunk. No branches should generally be allowed to grow in front of the trunk as they will interfere with the visibility of the line and form of the trunk. The lowest branches should be the thickest and the thickness of branches should gradually decrease as we move upwards along the trunk.

Some of these rules applicable to Informal Upright Bonsai may not be relevant to the other styles. Therefore you have to select the style most appropriate for the plant that you want to turn into Bonsai.

The following varieties of plants are not suitable for Bonsai.

- Plants with broad leaves such as Jack, Breadfruit etc.
- Soft wood varieties such as Araliya, Albisia etc.

Among the plants which are most suitable for Bonsai are Atteria, Candle Plant, Tamarind, Wood Apple, Heen Thambala, all varieties of Ficus (Nuga), Bougainvillea, Hora, Kumbuk, Delum and Veralu.

# PREPARATION OF SOIL FOR BONSAI

By  
*Pauline Herath*

Complete health of a Bonsai plant depends mainly on the quality of the soil in which it grows. It is important to understand the basic points about the preparation of soil. Most books on Bonsai give detailed information on how to prepare soil, but this information is based on the material available in the country where the book is published.

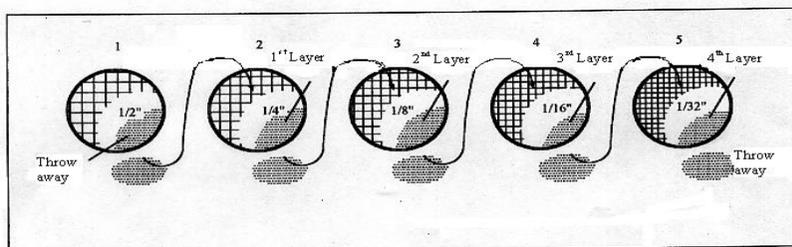
The texture of the soil should be coarse enough to drain out the water easily and at the same time the soil should retain a certain amount of moisture so that the plant will not dry out completely.

A well-balanced Bonsai soil mixture should contain in equal parts the material given below;

1. Coarse river sand
2. Cattle manure
3. Charcoal
4. Brick or tile pieces
5. Red earth

There are four sizes of soil grains used in Bonsai. Once these components are broken into large pieces each one should be sifted 5 times as shown in the diagram.

The sifters should be in 5 sizes of wire mesh as shown below;



1<sup>st</sup> Sift with the 1/2" sifter and collect the soil that passes through the sifter and resift with the 1/4" sifter. What remains in the sifter is the 1<sup>st</sup> layer or the bottom layer. The soil that passes through the 1/4" sifter should be resifted with the 1/8" sifter. The soil that remains in the sifter is the 2<sup>nd</sup> layer. The soil that passes through 1/8" sifter should be resifted with the 1/16" sifter and what remains in the sifter is the 3<sup>rd</sup> layer and what passes through should be resifted with 1/32" sifter. The soil that remains in the sifter is the 4<sup>th</sup> Layer or the top soil.

What passes through the 1/32" sifter should be thrown away.

# POTTING A BONSAI PLANT

by  
*H D Ariyasena*

## Material Required

- A healthy pre-bonsai plant
- New or clean pot (Preferably cement or ceramic - select the most suitable pot)
- Turn table
- Trimming shear
- Small trowel
- Soil scoop
- Chopstick blunt at one point and sharpened at the other end
- Soil in all grades well dried
- Bucket of water and a sprinkling can
- Vinyl mesh
- Wire in different gages (Preferably copper or a aluminum)
- String or polythene binding
- Moss or lichen (as you wish)

(HAVE ALL MATERIALS AT HAND)

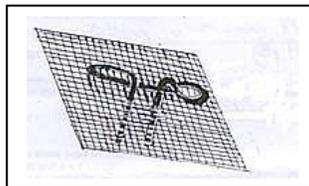
## Method

- Prepare the pot
- Study the plant well and decide the style of the potential bonsai
- Remove the excess branches / foliage and prepare the plant into the desired texture and the composition of the style
- Wire and shape the branches where necessary
- Remove the excess soil and roots
- Pot and plant, water and keep under a shade

Depending on the style of the proposed Bonsai, the pot should be selected and prepared.

Choosing the correct pot is very important, taking in to consideration that the pot forms an integral part of Bonsai, and has to harmonize with the shape and size.

**Cleaning of the Pot:** It must have drain holes in the bottom of at least 1/2-inch in diameter. Cover the hole with vinyl soil from falling out. Secure the looping wire, pushing it through the hole. Secure the ends twisting the other side (Figure 1). If the trunk are large, insert a long single wire pot base and through the drain



mesh to prevent mesh with mesh and drain wire from the and the root ball underneath the holes. This will

help you to set the root ball in the pot. Once the plant is set, the wire could be cut and removed.

Leave the soil and roots of the pre-bonsai plant untouched until you complete the foliage part. If you find it difficult to handle the plant while it is in the pre-bonsai pot itself, remove the plant with the entire root ball and wrap up the root ball completely with a rug or a polythene to avoid dry soil falling off thereby preventing it coming in to contact with air causing damage.

Place the plant on the turntable, focussing eye level on the centre of plant, which is important in determining the trunk line. Turn the plant in different angles and identify the trunk line. It is only after this you can continue the process of pruning and shaping into suitable texture and composition of the style desired. Once the main trunk line is identified, it will be easy to decide on the front and the back view of the bonsai.

Placing the plant in front of a white background or holding a white paper behind the plant at eye level makes the working with the plant easy, as it helps you to see through the plant.

Prune all unwanted branches and excess foliage. The basic shape of majority of bonsai is triangular. When a plant is pruned roughly into a triangular shape. It immediately takes on a "bonsai" look.

Study the plant carefully before you commence work, and see ways of saving and using existing branches/ stumps to your advantage. Use a concave Branch cutter.

Arrange the branches to suit the desired style of bonsai. The branches could be arranged in such a way that each of them could be visualized individually. If required, wiring the branches and foliage will help you to position them properly. Use different gauges of wire to suit the different thickness of branches. The tree may look much older if the branches slope downwards, specially the lower branches. It is important to shape individual branches into spearhead (triangular) shape. Foliage of entire branch could also be converted into a pad shape. The branches should be carefully directed and shaped.

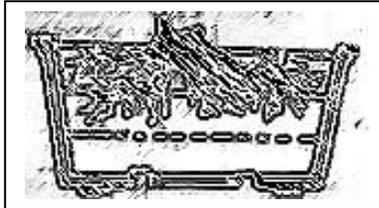
Generally in upright and slanting styles the lowest branch should start about a third of the way up the trunk. Lowest branch should be the largest extending either to left or right side and slightly towards the front. Second one should extend in opposite direction of lowest branch and a little higher. Both should angle slightly towards the front of the tree. Next, the third branch should extend towards the back of the plant. This pattern could be repeated. Avoid branches (especially lower ones) protruding front, blocking the view of the main trunk. But such branches at the upper third of the tree can be kept on if they add to the design. The apex should lean forward slightly but it should be within the rim of the pot.

Branch arrangement varies in accordance with the style and hence, there are no hard and fast rules.

Trimming the roots before potting the plant serves several purposes. It helps to secure the plant in the selected pot. Get rid of excess/ old roots and thicker ones, which disturb the plant. It will encourage new roots. It also enables the tree to have adequate air, water and nutrients through the roots and space to grow. It also stimulates finer root development.

Use a root hook, rake or chopstick to remove hard soil but be careful not to damage fine roots. Clear the roots using a chopstick.

Pruning roots will help to mass. Remember to leave the to expose on the soil top.



flatten the root roots you expect

Final root mass should cover of container. Its depth should 1/2 of the pot (Figure 2).

nearly 2/3 area be about 1/3 to

When the roots and foliage of entire plant are properly trimmed and pruned, commence with the potting of the plant in the container.

It is important to maintain the visual balance of Bonsai plant in a container.

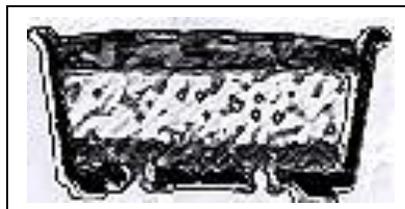
In a rectangular or oval shape container, place the tree off centre. The distance from the base of the tree to of the container should be 1/3 the container length. The stand slightly behind the container selected is round, hexagonal, put the plant in the cascade, plant should be off centre (Figure 3).



the nearest edge equal to about tree should centre line. If the square, or centre. But, in a placed slightly

First place a layer of the first grade of soil (Largest size), up to a depth of 1/4th of the depth, then sprinkle with a little of 2<sup>nd</sup> grade soil (medium size). Place the plant properly as mentioned above. Arrange the roots spreading properly. Holding plant with one hand, add more soil to the pot.

Use the soil scoop. The chopstick will help you evenly distribution of soil filling the air pockets evenly soil filling the air pockets, properly (Figure 4). Care not to damage hair roots. smallest size layer on the properly with the help of a away any excess.



distribution of and pack soil should be taken Place the top, pack trowel and brush

The top of soil should be about 1/4 inch below the top of pot, moulding a little at centre or around the base of the trunk of plant.

If heavy roots are to be exposed above the surface of the soil carefully press and pack soil under and around them. If roots protrude above the surface, push them down and cover them with soil. If they do not hold down, use wire clips.

If the top heavy plants do not hold down, use a long single wire brought up through drain holes of bottom of the container and twist the ends of wire together anchoring the plant. This wire could be cut and removed later.

Cover the top of soil with moss or lichen as you wish. It is better to secure the plant to the pot with a string or polythene binder as a precaution against uprooting the plant by any chance.

When the new bonsai is set in its new pot, submerge the pot in a large container of water up to the level below the rim of the pot. Let soak for about 1/2 hour. Sprinkle water using the can.

When the potting is over, keep the plant under a shade. Avoid direct sun light, wind or rain for sometime. Water the plant moderately. Do not fertilize a newly potted plant for about 3-4 weeks.

There are a few important matters to be considered when potting a bonsai plant.

It must bear a natural resemblance to a tree. Pleasing line and the form sum up the essence of a composition. Line of a tree is most powerfully felt in styles of literati, cascade and formal upright, where the eye naturally runs from base to apex.

A twisted trunk or beautiful driftwood could be made the centre of attraction of a Bonsai.

Balance and harmony imply a scene of equilibrium and product of total creation of Bonsai. Balance and harmony deals with placement and position, depth, shape, size and texture, which should correspond with roots, trunk, apex etc. Scale and proportion of all elements to one another should be matching. The height for plant, thickness of trunk, size of leaf, fruit and flower are seriously considered.

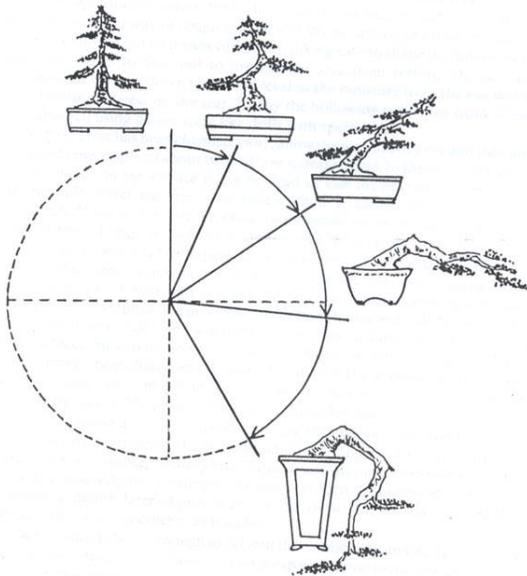
Perspective and depth is very important. Depth is created by having adequate branches at rear to give visual miss.

Movement could be created by wiring branches in such a way in curves and to directions desired. Texture of Bonsai is also important. A tapering trunk narrowing down gradually from base to apex is also important. Good surface roots well arranged branches, foliage pads facing upwards an apex lends to the creation of a good artistic Bonsai.

# **BONSAI STYLES**

*By*  
**Shanti Fernando**

A bonsai is not simply an old miniature tree. It must be trained. There are many different styles according to which a bonsai could be grown. The basic principles of using a triangular shape, branches in three dimensions remain the same in whatever the style. You should always be conscious of simplicity, austerity, the unconventional and the natural. The Bonsai should be telling you a great deal, but it must do so with a minimum of tree material. It must be rich in message, in intrinsic value.



*Do not seek to follow in  
the footsteps of the men  
of old; seek what they  
sought*

*Matsuo Basho*

## **FORMAL UPRIGHT – CHOKKAN**



It has a straight, erect trunk from base to apex. The trunk may be tall or short, but it never waves to and fro. It is the calmest, and most restful style because of the shape of the trunk. The top or the apex is always found directly over the rootage.

## **SLANTING STYLE – SHAKAN**



This has either a straight or a curved trunk leaning to the left or to the right with the apex generally above the rim of the container.

## **INFORMAL UPRIGHT – MOYOGI**



The trunk curves in the informal upright. The apex remains directly above the base of the trunk.

**SEMI-CASCADE –  
HAN KENGAI**



The trunk grows up and extends at a considerable angle between the level of the rim of the pot and the base of the container. The apex may be situated above the container or not – an apex is not a requirement of this style.

**BROOM STYLE –  
HOKIDACHI**



This has a straight, short trunk resembling an upside down broom.

**CASCADE – KENGAI**



The trunk bends sharply down, and the tip of the longest branch extends below the bottom of the cascade pot. The cascade pot is much taller than wide.

**TWIN TRUNK – SOKAN**



This is a one tree that has two trunks. One trunk is much taller than the other one. It is called 'Mother and Son' style.

**WINDSWEPT –  
FUKINAGAHSI**



The trunk leans in to the wind and the branches fly away in the same direction.

**ROOT OVER ROCK – SEKIJOJU**



The rock can be used either as a pot in itself, or the tree can be trained so that the roots grow down over the rock.

**GROUP PLANTING – YOSE UE**



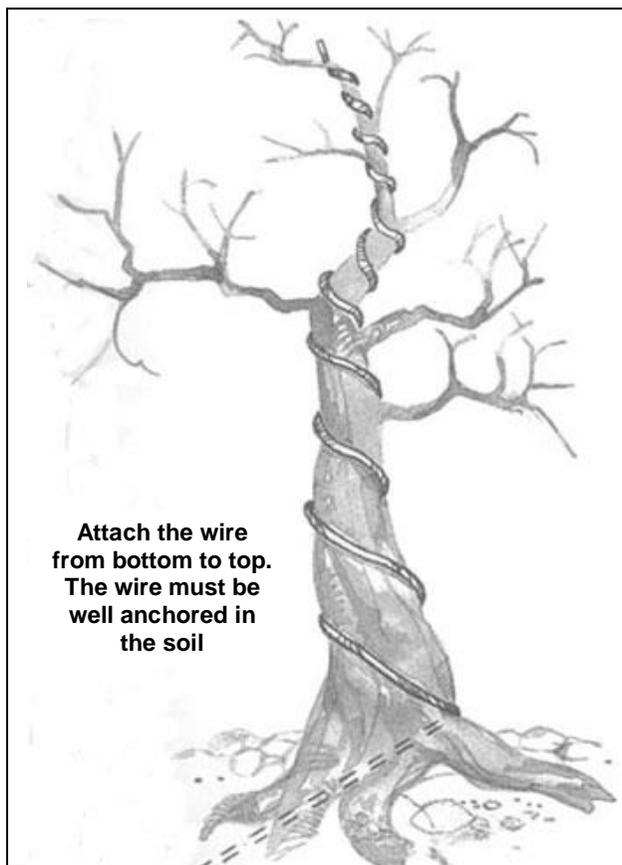
The group style or forest planting has an uneven number of trees, usually of the same style and species, with variation in size.

# **WIRING TECHNIQUES**

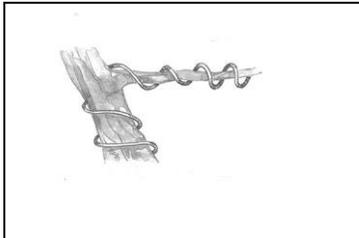
By  
Shanti Fernando & Erica Gunaratne

Support wires should always be anchored: either to soil, the trunk, the container, or to another tree. It should be attached in a regular spiral manner, going from bottom to top, and normally starting from the far side of the tree.

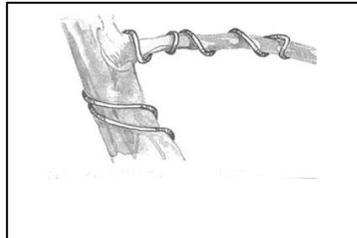
**YOUR EXPERIENCE IS YOUR BEST GUIDE IN DEVELOPING A WIRING TECHNIQUE.**



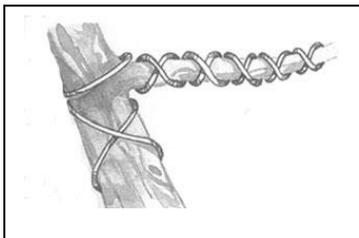
Wiring should not be too tight or too loose and should be wrapped at an angle of 45 degrees and this will give maximum holding power. If the two branches are to be wired use one piece of wire for both as this has a better anchoring effect. Wire should not be left on a branch long enough to cut with the branch as this will leave unsightly scars which are difficult to eradicate.



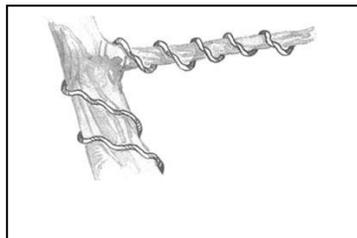
**Incorrect method: Binding too wide – No holding power**



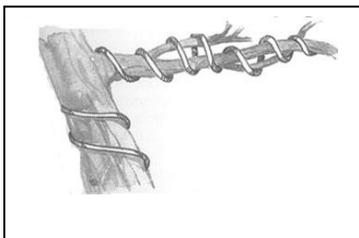
**Incorrect method: Spirals not uniform – No holding power**



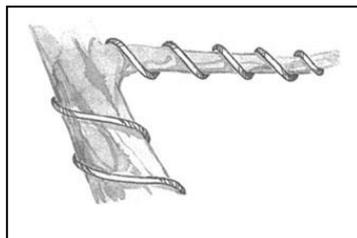
**Incorrect method: Crossed wire**



**Incorrect method: Twisted wire – No holding power**



**Do not bind branches and shoots together**



**CORRECT METHOD FOR WIRING**

# **CARE AND MAINTENANCE OF BONSAI**

*By  
Druki Martenstyn*

A bonsai requires attention, as does every living creature. Bonsai trees are like human beings in many ways. They need food, air, and water to keep them alive and lots of love to keep them happy. It is better therefore, that the same person should look after it. In this way a routine will be established with benefit to the plant and the bonsai grower's knowledge and experience in producing healthy bonsai will increase. An important aspect of the art of bonsai is creating a bond between the grower and the plant – "Perfect harmony".

When discussing the care of bonsai the first step is where to keep them. A bonsai needs to be kept outdoors where it is exposed to sun, rain, wind, dew and fresh air. If a bonsai is taken into the house it should not be for more than two or three days at a time. Of the main essentials, water is perhaps the most important, then comes light, next air and then food.

**WATER** – A bonsai is almost totally dependent on man for its supply of water. If water is neglected for any reason the tree could suffer serious damage.

- Check the bonsai everyday. If is dry, water it. Even if it is moist a light overhead sprinkling is necessary. Daily watering is essential mainly because the containers in which the bonsai are grown are so small and the smallness of the root ball makes it difficult, for the soil to act as a reservoir for water for a prolonged period of time.
- Morning or early evening is the best time to water. Never water in mid-day, as the leaves will get burnt.
- If the bonsai is badly wilted from lack of water or sudden heat, do not water heavily at once.
- Ideally watering should be done with rainwater using a watering –can or hose with a fine rose. If tap water is used it should be kept overnight in a container, as there could be chlorine in it, which is harmful to the bonsai.
- Over-watering is as harmful as under watering. Water the leaves, underneath as well and also the soil. Stop when the water begins to trickle out of the drainage holes.

**LIGHT** – Without light plants would not be able to produce the food they need to stay live. Light causes the plant to manufacture food through the process called photosynthesis.

- Bonsai should be grown in an area where there is plenty of sunshine. A tree receiving lots of sunlight is less likely to get diseases.
- Turn the tree occasionally so that all sides get an equal amount of sun, to ensure even development of the foliage. The foliage facing the sun develops better and more compactly.
- The sun is beneficial in that it causes smaller leaves to be formed and the distance between nodes decreases.

- If a bonsai is taken indoors place it near an exterior window that will provide a high level of indirect light. Avoid placing it directly under a fan or in line with air vents or air conditioners.
- Sunlight is also necessary for flower and fruit formation.

**AIR** – Air is the source of carbon dioxide, which is needed by plants to produce food and is important in the soil too as roots, like the leaves need to breathe.

- Air circulation is necessary to dry out the soil but keep away from strong wind currents.
- If air in the soil is not available, as when the soil is waterlogged, the roots suffocate and the bonsai will eventually die.

**FOOD** – A common misconception about bonsai is that they are purposely starved of food and nutrients in order to keep them dwarfed. Bonsai are kept small by constant pruning of foliage and by restriction of root development. Because of limited soil the bonsai needs to be fertilized regularly.

- The main chemical elements needed are Nitrogen (N), Phosphorous (P), Potassium (K), and other elements like calcium, magnesium, iron etc. and very small quantities of other trace elements.
  1. Nitrogen generally promotes good leaf growth.
  2. Phosphorous encourages the development of a strong root system.
  3. Potassium is an important part in the overall resistance a tree has to diseases.
  4. Both Phosphorous and Potassium help in flower and fruit formation.
- Fertilizers for bonsai should be applied carefully as trees are much more affected by over-feeding.
- The golden rule to follow is to use ½ the recommended fertilizer strength every time a bonsai is fed. It is always better to give several weak dose applications than a single full strength dose.
- Do not fertilize a sick or weak bonsai and also directly before or within a month or two after transplanting a tree.
- Soil should be moist before applying any fertilizer so that the chemicals in it will not burn the hair roots of the tree.

**INSECT AND FUNGUS CONTROL** – Some insects conceal themselves on the back of leaves and stems and are difficult to detect, so it is very important to check bonsai everyday for insect attack.

- Snails, slugs and caterpillars must be picked off or may be controlled with snail or slug bait.
- Tiny black ants on the bonsai are a sign that there are aphids or scale on the tree. A chemical contact spray insecticide should be used but care must be taken.
- Mealy bugs are sucking insects and are not easily killed. A systemic type insecticide is the most suitable.
- Red spider is a tiny mite and becomes visible if the tree is shaken while being held over a white paper. When the mites fall off they can be seen

moving on the paper. They are found on the underside of the leaves. Watering the underside of the leaves once or twice a week can reduce the risk of red spider.

- Fungus comes in many forms varying in colour from white to black spots on the leaves. Rust is also a form of fungus that causes spots of discolouring on the leaves. These leaves have to be removed, as the spots are permanent. Fungicides will kill the fungus and the spores.
- Read the labels on all insecticide and fungicide containers and follow instructions carefully.

**PRUNING OR TRIMMING** – It is very important in bonsai to shape and improve the tree by trimming and pruning.

- Trim back strong point on apex or branch, and replace with a weaker, short and small point or bud.
- Trim back the outsides of branch and not the inside. If the inside is trimmed, the branch will get long and cannot be kept compact.
- Do not keep the tree too bushy, or the branch close to the trunk will die of lack of sunlight.
- Broad leaf evergreens should be trimmed back after the new growth is established.
- Old flower buds, fruits, berries and seedpods should be cut back stem and all. Do not leave the fruits and berries on too long, as they will weaken the tree.
- Dead twigs and dried leaves must be removed. When cutting back a twig, be sure to do so at the live part. It will heal faster and stimulate new growth.
- Any shoots growing from the base of the trunk should be removed.
- A new sprout at the crotch of a branch should be taken off, unless it is needed for replacing another branch, or it will reduce the strength of the branch.

**REPOTTING** – It is essential that a bonsai be repotted periodically to encourage new hair growth and to replenish the soil.

- Evaluate the tree's placement in the container to determine if it needs to be changed. If so decide where the root ball needs to be trimmed in order to accomplish the relocation.
- Determine if the tree has grown so much that it needs to be placed into a larger container.
- Decide if the shape of the container is appropriate. If not, obtain a replacement pot before beginning the repotting.
- When repotting remove about one or two inches of soil from around the sides. Comb out the roots from the original root ball before transplanting.
- Any strong taproot or running root should be cut off. Cut off all excess roots by cutting diagonally. Do not chop off.
- Do not let the roots dry out and re-pot in a shady area.
- Soil mixture must have the correct moisture content – not too dry and never use wet soggy soil.
- Re-potting procedure is similar to potting described earlier.

**EMERGENCY TREATMENT FOR A SICK BONSAI** – The colour and conditions of the leaves act, as indicators of the health of the bonsai and experience will soon teach the grower to read the signs.

- Wilting leaves are a sign of lack of water, but the soil must not be watered immediately. First the foliage must be sprayed and the tree shifted to a shady place. The next day the soil should be wet thoroughly.
- If the bonsai shows indications of weakness or is sick looking, do not fertilize, nor put in complete shade. This is the worse treatment. Carefully take it out of the pot and slightly comb out just the outside of the firm root ball. Plant it in a larger container and keep it in a semi-shade area.
- In the case of a bonsai suffering due to soggy soil, a more sandy mixture must replace this soil. Rotting roots should be cut back to the live tissue before planting again.
- Periodically check drainage holes. Roots, mud or slugs may plug the drainage. Clean it with a wire or pointed wooden stick. If it is plugged by roots, they should be cut back to clear the drainage holes.
- If the tree condition looks very serious, wash off the soil completely and plant it in pure sand. Keep it in a semi-shade area until it begins to grow well again. Never apply any kind of fertilizer at this time.
- Yellowing leaves could be a sign that the bonsai might not be getting enough sunlight or it can be caused by lack of nitrogen. In the former case move the tree to a sunnier location. If it's a case of shortage of nitrogen a suitable fertilizer with more nitrogen can be sprayed on the plant.

