

The Ever-Evolving Art of Bonsai

Archana. V¹, R. Jenna¹ and L. Vishnu²

UG Scholar, Department of Horticulture¹

Assistant Professor, Department of Horticulture²

Roever Agricultural College, TRIARD, Perambalur, Tamil Nadu, India

Corresponding author: jennavasanthi11@gmail.com

Abstract: *The centuries old craft is thriving as both a hobby and a art form with contemporary practitioners around the world. Over two thousand years ago China has the technology for bonsai cultivation, so it is regarded as the first country where bonsai first appeared at basic scale. A bonsai is an artistic representation of mature tree that suggests a scene in nature. The bonsai ask the viewer to see beyond the physical plant to the world beyond. It takes at least three generations to make a really good bonsai says Johnny chang. The bonsai follows a core principle based on the root-shoot balance to effectively design both the root and canopy.*

Keywords: Bonsai, Old craft, Miniature mature tree and Root-shoot balance

I. INTRODUCTION

The definition of the term bonsai is a plant usually a tree or shrub, that is grown in a container and made to look like a mature tree through the use of various training techniques. Japanese and Chinese language use the same character to represent bonsai (pronounced bone-sigh). One character means “pot” or “tray”, and the other means “to plant”. Bonsai cultivation reached a high level of expertise in this period. Bonsai dating to the 17th century have survived to the present. The ultimate aim of the bonsai is to create a miniaturized but realistic and healthy representation of nature in the form of a tree. Purposes of bonsai are primarily a contemplation for the viewer and the pleasant exercise of effort and ingenuity for the grower. There are three size of bonsai ranging from under 5 inches to about 30 inches in height. Not all plants are equally effective as bonsai. The plants used for bonsai should have small leaves or leaves that become small under bonsai cultivation. The plants chosen for bonsai should have attractive bark, trunk must give the illustration of maturity. The trunk should have girth, must remain in proportion to the entire tree and should taper gradually to the top of the tree. “A bud today becomes a branch tomorrow it is like searching for the rainbow’s end; the farther it is pursued, the farther away it is”. (Ogden Tanner, 1989).

II. HISTORY

While the art of bonsai has been long associated with Japan, it actually originated first in China and then spread eastwards to Korea and then Japan. Bonsai were brought indoors for display at special times by the ‘Japanese elite’ and became an important part of Japanese life by being displayed on special designed shelves (Prasanna Kumar *et al.*, 2011). The art of bonsai was spread by Buddhist monks who wished to bring the “outdoors” inside their temples (Charles R. Long, 1971). From ancient paintings and manuscripts, we know that “artistic” container trees were being cultivated by the Chinese around 600 AD, but many scholars feel that bonsai or at least potted trees, where being grown in China as far back as 500 or 1000 BC. Bonsai first appeared in Japan during the 12th century.

Bonsai has evolved and developed along different lines in China and Japan. Chinese bonsai is still very much in the ancient tradition and often appear crude to the uninformed. On the other hand, the Japanese styles are more pleasing and naturalistic. The Japanese trees are for the most part more refined and better groomed. Both types have their own individualistic charms and admirers.

In the post world war II era most of the bonsai seen in US and Europe are Japanese in origin. The monopoly that Japan has enjoyed until recently is coming to shared with a number of other countries, although the quality of Japanese trees continues to be the highest quality.

Finally, we owe a great debt to the Japanese and Chinese artists for developing this beautiful art for keeping it alive for almost 2500 years. Without their enthusiasm, artistic tradition and patient stewardship, we would not be enjoying bonsai.

as we know it today. The aesthetic sensibilities of bonsai, which have their roots in the Zen Buddhist traditions, contribute significantly to the complete bonsai experience.

One of the oldest known living bonsai trees, considered one of the national treasures of Japan, can be seen in the Tokyo imperial palace collection. A five needle pine known as Sandai- Shogun-No Matsu is documented as having been cared for by Tokugawa Iemitsu. The tree is thought to be at least 500 years old and was trained as a bonsai by 1610.



Figure 1: Oldest Bonsai Sandai-Shogun-No Matsu.

III. SPECIES SUITABLE FOR BONSAI

Trees and shrubs are suitable for traditional bonsai. Specialty nurseries often have a wide selection of dwarf and semi-dwarf varieties of many species. Dwarf plants, however, do not always convey the same impression as their full size counterparts because their growth habits are quite different. Some trees and shrubs that work well as bonsai are azalea, beech, boxwood, ginkgo, firethorn, ivy, yew, maple, oak, pine, wisteria and zelkova.

American garden has taken a bonsai concepts and applied them to house plants. By combining traditional procedure for handling house plants with bonsai concept of design, growers have created a different bonsai styles. The following woody plants (native to tropics and subtropics of the world) have been grown as indoor bonsai. These plants can be obtained from either local or specialized nursery. The following trees were Acacia, Aralia, Camellia, Citrus, Cherry, Cyperus, Fig, Hibiscus, Holly, Plum, etc...

3.1 Steps for Beginners

Step 1: Clean up

A good characteristics of any bonsai is subject to develop a new growth on old wood. However, initially a great deal of this rampant budding along the trunk must be removed in order to see a tree shape. Start at the bottom of the tree and begin removing green buds and suckers which obstruct your view of the trunk. Also remove the dead plant material around the trunk.

Step 2: Wiring and Shaping

Once you can clearly see the trunk line and branches you may begin to make artistic decision regarding the final appearance of your bonsai. Start by inserting a main line trunk line about 2 inches root mass to secure it. Complete the wiring process for every branch on the tree. Smaller branch will need smaller wire to secure them for bending. Coil the wire around the trunk.



Figure 2: Wiring and Shaping of Bonsai.

Step 3: Detail Pruning and Shaping

To obtain the final design, trim the branches to establish overall shape of tree. In most case the longest and largest branches are located at bottom . Branches gradually get thinner and shorter as they approach the apex. Many bonsai, particularly those with needle such as juniper and pine often have dead wood incorporated into the design by the artist . A sharp knife work best for this purpose. In a month or two ,when the area has dried out ,you may apply a coating of lime sulphur which would help to preserve the dead wood .This being done, the basic shaping of bonsai is complete and it is ready to be transplanted into a container.



Figure 3: Pruning and Shaping of Bonsai.

STEP 4: Preparation for Potting

The process of transplanting a bonsai from which growing container into a finished bonsai container can be compared to selecting the right frame for a painting. Container must always provide sufficient space for the growth and health of the root system. The container you select may look fabulous with the tree, but if it fails to provide sufficient room for the health by growth of tree roots, it will very shortly not matter what it looks like. Make sure that the pot you pick out is big enough.

STEP 5: Transplanting and Root Pruning

Unlike the upper portion of the bonsai, the roots aren't pretty, but keeping them happy and in good conditions is critical to keeping the rest of the bonsai healthy and happy. Most container grown plants produced for the industry are planted into a mixture of bark chips and sand generally called "growers mix". The amount of roots which may be removed during the initial transplant process will vary greatly based on the variety of plant material being used and the time of year in which the transplant takes place.



Figure 4: Transplanting and root pruning of Bonsai.

3.2 Trunk and Nebari Rules

- Height should be six times the caliper of the trunk.
- Trunk should be lean slightly toward the viewer.
- Roots should radiate from the flare.
- No eye-poking roots (directly at viewer).
- Apex should lean toward viewer.
- Trunk should taper as it ascends. No reverse taper.
- For formal and informal upright, the apex should be over the base.
- In informal uprights, too many 'S' curves will be tiresome.
- A tree should have only one apex.
- Twin tree trunks should divide at the base, not higher up.

3.3 Branches

- No crossing branches or branches that cross the trunk.

- First branch should be placed approximately $\frac{1}{3}$ the height of the tree.
- Succeeding branches placed at $\frac{1}{3}$ the remaining distance to the top of the tree
- Branches should be visually alternate , no parallel branches
- Branches should diminish in size and caliper as they ascend .
- First and second branches (left and right) should be placed forward of the mid line to 'invite' the viewer.
- First ,Second and third branches are approximate 120 degrees apart ,with the back branch not directly behind the tree.
- Branches should create an outline of a scalene triangle with the apex representing God
- ,the middle corner man and the lower corner earth.
- Branches for cascades generally follow the rules for uprights, except that the trunk moves down.
- In twin trees, there should not be branches between the trees which would cross the trunks. The outside branches of both the trees create the triangle of foliage .

3.4 Pots

- The tree should be placed behind the mid line of the pot and to the left or right of the center line.
- The depth of the pot should be caliper of the trunk ,except for cascades.
- Colored glazed pots should be used for flowering and fruiting trees and the colors should complement the flower color.
- The width of the pot should two third the height of the trees .For very short trees ,the width should be two thirds the spread of the tree.
- Style of the pot should match the tree. Uprights without much movement should be in rectangular pots, informal uprights with a lot of trunk movement should be oval or round pots. Massive trees should be in deep rectangular pots.

3.5 Culture

- Soils should be uniform , not layered .
- Fertilize full strength .
- Water from above , not by submerging the bonsai ,this will prevent the buildup of salts.
- Increase humidity by using a tray of pebbles and water or by keeping the area under the bench wet, not by misting.
- Remove most of the 'fines' from any soil mix ,using only coarse particles.
- Water when the plants need to be watered ,not by a fixed schedule
- Keep temperate climate plants outside .Only tropical and subtropical plants are suitable for indoor bonsai. Temperate climate plants must be given an appropriate period of cold dormancy if they are to be kept indoors.

3.6 Care for bonsai tree before training

- Remove excess soil above the ground level of surface root.
- Check plant for sign of insects or disease and treat accordingly.
- Make certain your plant is never allowed to become bone dry.
- Fertilize regularly during the growing season.
- Apply a special booster application of fertilizer approximately three weeks prior to training .
- In the 24 hours immediately preceding pruning and wiring allow the soil to become somewhat dry.
- Same as (6) immediately preceding root pruning and potting .
- Prepare a place for your new bonsai.

3.7 Care for bonsai after potting

- Use soil which is only slightly ,but evenly moist; Since fibrous roots become dehydrated during the cleaning and pruning process, resist the temptation to saturate the soil immediately after potting. Instead mist the foliage and place in shade
- The following morning water thoroughly with a super thrive solution(10 drops to a gallon of water) place the tree in temporary location where it will receive good light and air circulation, but be protect from direct sun, strong winds or freezing weather. Avoid moving it unless absolutely necessary.
- Mist the foliage several times daily, water as need and observe carefully.
- Hardening off: Begin exposing the tree to some direct sun in the early morning gradually increasing these periods of direct exposure until the plant is receiving its full quota.
- If you have successfully nursed your tree through its first 3months in bonsai ,there may be chance that it will live to a ripe old age.
- If you failed; examine the exact circumstance, seek help in analyzing the reason for its demise, learn from the experience and try again!

IV. CONCLUSION

Though it is an art of making a miniature tree grown in pot it requires a huge care for success output. When you love and care for a bonsai tree though all of its cycle, you develop the mindset of benevolent . Bonsai trees are a result of interplay between biological development and man intervention. With time and intension ,you begin to shine this light into your broader world .(Frédéric Bourdon et al ., 2003).

REFERENCES

- [1]. Charles R.Long. An informal history of Bonsai. Arnold arboretum of harvard . 1971 ;31(5):261- 273.
- [2]. Frédéric Boudon, Premyslaw Prusinkiewicz, Pavol Federl, Christophe Godin, Radoslaw Karwowski. Interactive design of bonsai tree models. Computer Graphics Forum, Wiley, 2003; 22 (3):591-599.
- [3]. Ogden Tanner.Bonsai: a way of looking at trees with different eyes.Smithsonian.1989;20(7):138- 152.
- [4]. Prasann Kumar,Padmanabh Dwivedi.Bonsai:symbol of culture,ideals,money and Beauty. International journal of agriculture, environment and biotechnology.2011;4(2):115-118.