

Discover

Bonsai

with Jeff Carren,

PC Bonsai Hobbyist

Introduction

Training bonsai trees is a fascinating art form that combines horticultural techniques and Japanese aesthetics in a unique way.



The word “Bonsai” means a **tree (bon)** in a **tray (sai)**. Today pronounced “bone-sigh”.

Bonsai is a miniaturized but realistic representation of nature in the form of a tree using specialized techniques that have been used for well over a thousand years.

Training bonsai in a desert climate adds additional challenges.

Overview

Today, you will learn all aspects of the art of bonsai that includes its history, techniques, how to choose a plant and pot, as well as all the keys to basic maintenance in our PebbleCreek low-desert climate.



Bonsai is
Beginner
Friendly

At the end of the presentation, we will hold a Q&A session, so you will have a chance to ask any questions you might have.

No experience is required—everyone is welcome to enter into this fascinating world of designing miniature trees.

--Please hold your Questions until the end--

How I Got Started

- My first connection was at a store in Boston in 2004 where I saw a small fountain with a bonsai tree. I kept it for about 10 years
- I took some classes with a Bonsai expert and attended workshops at bonsai shows twice each year in the Chicago Botanical Gardens
- During travels, I've toured the Museum of Bonsai in Marbella, Spain
- We saw over 300 trees with examples native to the Marbella region, China, Italy, Japan, and Taiwan
- I have found *Portulacaria Afra*: Elephant Bush or Food, to be an easy plant to work with in Arizona



Marbella Museum of Bonsai



JUN 20 2007



There are so many varieties of outdoor trees that can be trained as Bonsai



Bougainvillea is considered a good beginner option since the shrub grows quickly and tolerates pruning well...



...and when in flower, it is a beautiful display that comes in many different colors



Pine Tree from Japan



Ficus Tree from Taiwan

My Bonsai in Northbrook, IL



Jeff's Bonsai trees

in Illinois

My Bonsai in Northbrook, IL



Free form pot

My Bonsai in Northbrook, IL





Slanting

Overwintering in Illinois



Jeff's bonsai work place
in Illinois





APRIL 2017



Brief History of Bonsai

- The art of bonsai was first introduced over 1,300 years ago in China where dwarfed trees were kept in pots—called *Penjing* or *Pentsai*
 - Penjing = tree in container with rocks
 - Pentsai = arrangement of trees with rocks
- The art form was practiced to simulate the natural world making miniaturized landscapes



--*Bonsai are works of art*--

Penjing or Pentsai



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Objective of Bonsai

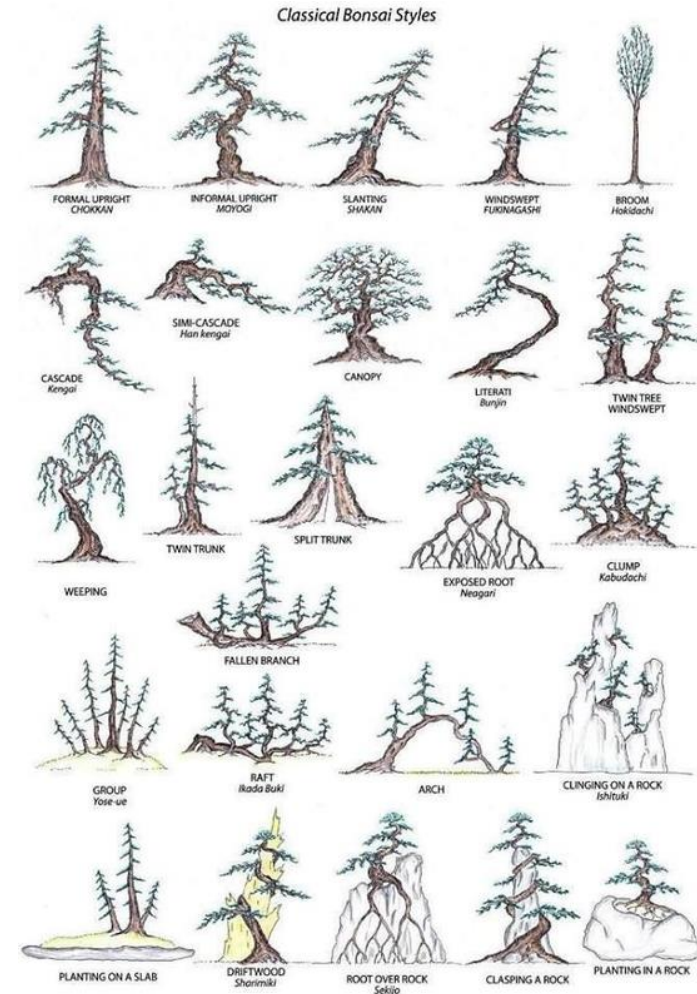
- Classical Guidelines: There are guidelines to follow when creating a bonsai that are broken down into three sub-categories:
 - Trunk
 - Shape
 - Pots
- Bonsai is a combination of horticultural techniques and artistry
- To reflect aesthetic qualities found in nature:
 - Balance
 - Simplicity
 - Harmony
- Create the appearance of aging
- Minimize overall size of the tree



Bonsai Guidelines

Trunk and Shape

- There are more than 20 types of **Bonsai Styles**... each representing how a tree is found in nature
- Sub-divided into three categories:
 - Single trunk
 - Multi trunk
 - Multi tree
- Bonsai trees are given a certain shape or style by cutting, pruning, and wiring
- It takes a degree of skill, adaptable materials, and most importantly, patience to create these characteristic shapes



--*Styles closely resembling circumstances in nature*--



Formal upright Bonsai style (Chokkan)

The formal upright style is a very common form of Bonsai. This style often occurs in nature, especially when the tree is exposed to lots of light and does not face the problem of competing trees. For this style, tapering of the upright-growing trunk must be clearly visible. The trunk must therefore be thicker at the bottom and must grow increasingly thinner with the height. At about 1/4 of the total length of the trunk, branching should begin. The top of the tree should be formed by a single branch; the trunk should not span the entire height of the tree.



Informal upright Bonsai style (Moyogi)

The informal upright style is common in both nature and in the art of Bonsai. The trunk grows upright roughly in the shape of a letter 'S' and at every turn branching occurs. Tapering of the trunk must be clearly visible, with the base of the trunk thicker than the higher portion



Slanting Bonsai style (Shakan)

As a result of the wind blowing in one dominant direction or when a tree grows in the shadow and must bend toward the sun, the tree will lean in one direction. With Bonsai, the leaning style should grow at an angle of about 60 - 80 degrees relative to the ground. The roots are well developed on one side to keep the tree standing. On the side toward which the tree is leaning, the roots are clearly not as well developed. The first branch grows opposite the direction of the tree, in order to create a sense of visual balance. The trunk can be slightly bent or completely straight, but still be thicker at the bottom than at the top.



Double trunk style Bonsai (Sokan)

The double trunk style is common in nature, but is not actually that common in the art of Bonsai. Usually both trunks will grow out of one root system, but it is also possible that the smaller trunk grows out of the larger trunk just above the ground. The two trunks will vary in both thickness and length, the thicker and more developed trunk grows nearly upright, while the smaller trunk will grow out a bit slanted. Both trunks will contribute to a single crown of leaves/canopy.



Semi cascade Bonsai style (Han-kengai)

The semi-cascade style, just like the cascade style, is found in nature on cliffs and on the banks of rivers and lakes. The trunk grows upright for a small distance and then bends downwards/sideways. Unlike the cascade style, the semi-cascade trunk will never grow below the bottom of the pot. The crown is usually above the rim of the pot while subsequent branching occurs below the rim.



Forest Bonsai style (Yose-ue)

The forest style looks a lot like the multi-trunk style, but the difference is that it is comprised of several trees rather than one tree with several trunks. The most developed trees are planted in the middle of a large and shallow pot. On the sides a few smaller trees are planted to contribute to one single crown. The trees are planted not in a straight line but in a staggered pattern, because this way the forest will appear more realistic and natural.



Growing on a rock Bonsai style (Seki-joju)

On rocky terrain, trees are forced to search for nutrient rich soil with their roots, which can often be found in cracks and holes. The roots are unprotected before they reach the ground so they must protect themselves from the sun: a special bark grows around them. With Bonsai the roots grow over a rock into the pot, so caring for this tree isn't really different from caring for any other style. You will find Juniper Bonsai are suitable for this style, sometimes even tropicals like the Ficus Bonsai as well.



Shari Bonsai style (Sharimiki)

As time passes, some trees develop bald or barkless places on their trunks as a result of harsh weather conditions. The bald part usually begins at the place where the roots emerge from the ground, and grows increasingly thinner as it continues up the trunk. Intense sunlight will bleach these parts, forming a very characteristic part of the tree. With Bonsai the bark is removed with a sharp knife and the barkless spot is treated with lime sulfur in order to speed up the bleaching process. Click [here](#) for an image of all Bonsai styles.

Raft



Bonsai Principles

Some Overall Principles of Bonsai include:

- The trunk should lean slightly in the direction of the viewer when displayed
 - You need to determine the front of your Bonsai
- The trunk of the bonsai be slightly flared at the base to anchor its visual look
- The height of the bonsai should be six times the height of the trunk's caliper
- Roots should radiate from the flare of the trunk
- In addition, the apex should also lean towards the viewer
- The trunk should begin to taper as it ascends
- As a tree ascends, the curves should become more closely spaced



--Principles are really intended only as a guide--

Bonsai Guidelines

Pots

- Bonsai tree pots are thought to compliment the masculine or feminine features of the tree they hold...so decide which sex is dominant
- Masculine Pot features: deep, angular, no embellishment or glaze, have clean straight lines, and stout feet
- Feminine Pot features: low and sleek with soft lines, ornamental, decorative designs, glazed, soft colors, and delicate feet
- Characteristics of masculine trees represent strength, old bark, deadwood, thick trunk, and dense branches
- Feminine characteristics include grace, smooth, and sparse branches
- Round pots, drum pots are generally considered to be androgynous

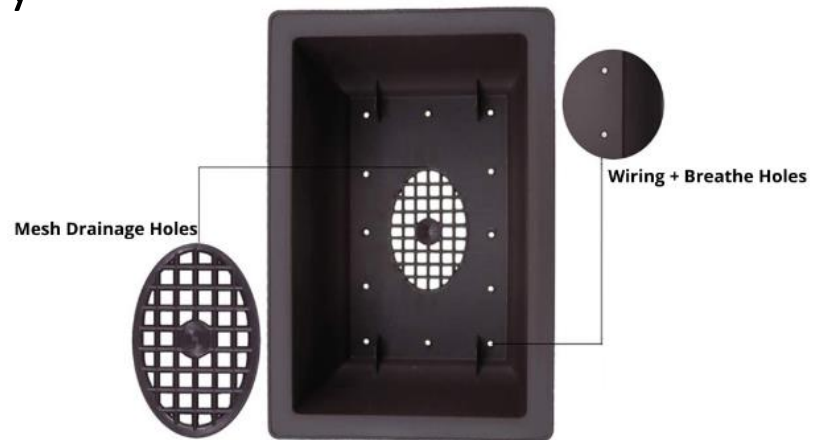
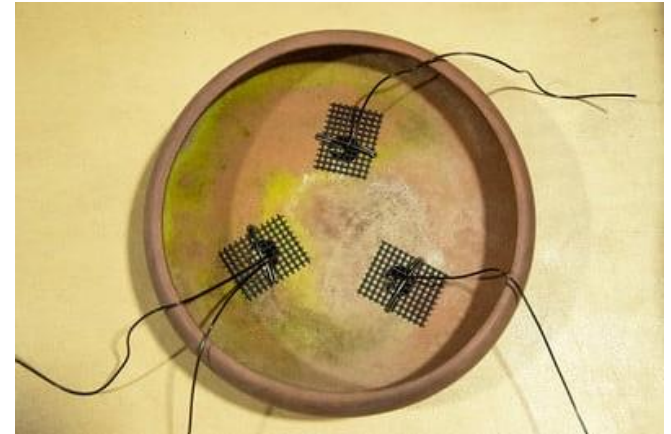


--*To make a complete bonsai, the tree and pot should be in harmony*--

Bonsai Guidelines

Pots

- Select a slightly bigger pot in locations with extreme heat and low humidity
- Must have good drainage holes and wiring holes so that your bonsai tree can be fitted into the pot. *No holes, No good*
- Two to four holes is recommended for soil aeration; drill more holes if necessary
- Use agile screening for large holes



--Choose the right pot for your bonsai--





Unglazed Pots

Unglazed pots are great for conifers, junipers, and pines. The natural tones of the pot compliment solid evergreen foliage.



Glazed Pots

Glazed pots are traditionally used for tropicals, deciduous, and flowering trees. However, glazed pot can also pair nicely with smaller conifers as well.



5" Unglazed Square Cascade Pot



5.5" Handmade Unglazed Floral Style Pot



6" Banded Rectangle Pot - Beige



6" Banded Rectangle Pot - Deep Green

--Invest in a high quality bonsai pot once you are ready to repot--

Guide for Beginner Bonsai

1. Select the Right Tree Species

- Choose the appropriate tree species for your local climate determined by your hardiness zone: Goodyear is USDA 9b or Sunset Magazine Zone 13

2. Decide on the Location of your Bonsai

- Outdoor – garden or pots
- Indoor – sun and air vents
- Seasonal rotation
- Indoor bonsai trees typically receive less light and require drier conditions, while outdoor bonsai trees benefit from natural sunlight and rainfall
- Trees from tropical and subtropical climates should be considered for indoor Bonsai, while trees from temperate climates do best outside
- In order to keep temperate climate trees indoors, you will need to ensure that they are provided with a period of cold dormancy during the winter months

3. Choose a Healthy Plant

- Plant sources: collected from mountains and forests, garden shops or nurseries, Bonsai suppliers, starting from seed, propagation or cuttings

Types of Trees

Deciduous or “Hardy” Trees

- Elm, Chinese Elm, Trident Maple, Ginkgo, Apricot, Yew
- Cypress, Juniper, White/Black Pine, Spruce, Cedar
- Cotoneaster, Oak, Hawthorn, Myrtle, Honeysuckle

Tropical

- Ficus, Fukien Tea, Dwarf Jade, Azalea, Olive
- Bougainvillea, Boxwood, Holly, Jasmine
- Fig, Hibiscus, Eucalyptus, Banyan, Pomegranate

Desert

- Portulacaria Afra: Elephant Bush, Elephant Food

Desirable Features

- Existence and location of branches
- Bendable branches
- Existing motion
- Thick or woody trunks



Bonsai Soil

- Each hobbyist has their own method and ratio of mixing bonsai soil
- The only point to be kept in mind is that the soil should
 - Be able to retain some moisture
 - Have good drainage and aeration
- Jeff's approximate mix for Portulacaria Afra:
 - 40% Organic Palm, Cactus, and Citrus mix
 - 45% Coco Bliss Coconut Coir
 - 5% Organic Horticultural Vermiculite
 - 5% Perlite
 - 5% Sand
- Large pebbles or small rocks at base

Note: Cactus soil and bonsai soils are very similar in characteristics, i.e., they are both light, firm, porous, and well draining. Additionally, both the soils have a good balance of water retention and drainage.

--Bonsai soil should be porous with and airy texture--

Tools and Supplies

Turntable

Shears

Pliers

Concave cutters/ “knob” cutters

Leaf trimmers

Rake / tweezers

Saws

Wire cutters

Branch benders

Soil scoops

Root picks and cutters

Clamps

Wire

Cut paste



Potting Your Bonsai

- Gently remove the tree from its original container, taking care not to damage or break the main stem
- Clean the roots to eliminate any caked dirt using tools like chopsticks, tweezers, or root rakes.
- Prune the roots to control excessive growth by cutting any large, thick roots, as well as any that face upwards off of the root system, leaving a network of slim roots near the soil's surface to promote better water absorption
- As mentioned before, you'll want to ensure mesh screens are installed over the pot's drainage holes to prevent soil erosion caused by water runoff.



--Potting your Bonsai Tree involves several crucial steps--

Potting Your Bonsai

- Place a layer of coarse-grain soil at the pot's base, adding fresh soil to match your desired tree height. Leave space at the top to cover the tree's roots
- Place the tree in the pot as desired; cover the roots with the remaining well-draining soil to secure the tree
- Optionally, add a final layer of moss or rocks at the top for visual appeal
- If your tree struggles to stand upright, insert a heavy gauge wire through the pot's bottom drainage holes and secure it around the root system for stability
- In general, younger trees will need transplanted or repotted every 2 years while older trees need repotting every 3 to 5 years



--Repot your tree early in the spring, right before the growing season starts--

Basic Pruning & Shaping

- Select the front view of your Bonsai tree

PRUNING FOR AESTHETICS Once per Year

- Only perform aesthetic pruning during the dormant period, typically from November to February
- Remove excess branches protruding from the tree, as well as those with unnatural twists or unsightly appearances
- Cut each branch above a node in a place that keeps the tree looking balanced
- Trim twigs and branches on the tree's canopy to enable light to filter through
- A healthy tree can cope with pruning up to 1/3 of its foliage



--Always use the right Bonsai tools to prune and shape--

Basic Pruning & Shaping

PRUNING FOR MAINTENANCE Year Around

- Clear the area around the bonsai pot and the tree itself from dead wood, weeds, and leaves. Take care not to damage the roots while removing weeds
- Remove crossed or broken branches to encourage new growth
- Trim twigs to have only 3-4 nodes, the joints from which leaves grow.
- *Elephant Bush/Food*: Prune any new unwanted growth as it appears
- After pruning, apply wound paste or tape to cover cuts, promoting healing and preventing excessive sap leakage
- Deep water immediately after pruning to encourage new growth



--*Always use the right Bonsai tools to prune and shape*--

Bending and Wiring

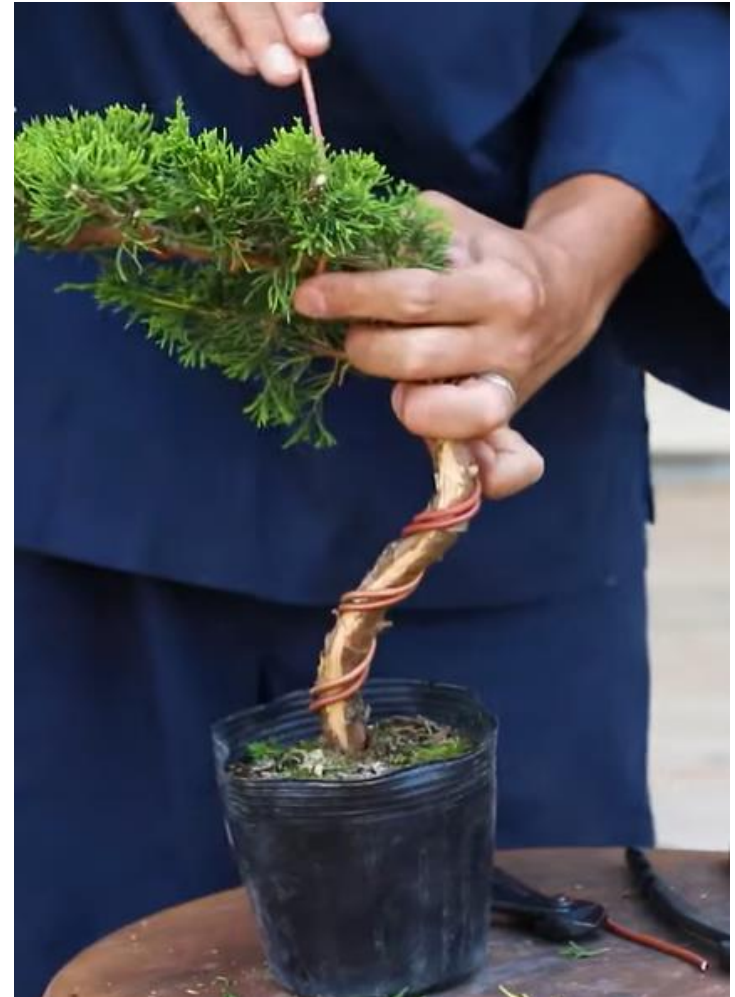
- **When to apply wire?** Most tree species can be wired at any time of the year. Deciduous trees, however, are much easier to wire in late winter due to the absence of leaves
- Be attentive when applying wire during the growing season as branches grow thick quite fast, which can result in ugly scars from the wire cutting into bark
- Check on your tree regularly and make sure to remove the wire on time



--Beginners should use aluminum wire--

Bending and Wiring

- There are 2 kinds of wire that can be used for Bonsai: Anodized **aluminum** and annealed **copper**. Aluminum wire is better when used for deciduous species, while the harder copper wire is best for conifers and pines
- Wire Gauge: Use wires 1/3 the thickness of the branch you are wiring so that it is thick enough to hold the branch in its new position
- Once the entire tree is wired, you can begin bending and repositioning the branches gently
- **Mistakes to avoid:** Crossing wires; wire that is too tight or too loose; or on too long
- Guy-wiring is a method of bending branches downwards when they are too thick, old, or brittle to be bent with coiled wire



--*Double-wiring and single-wiring techniques*--



Wire sized to hold thick branches



Watering

- The most important part of taking care of your Bonsai tree is watering
- Frequency: How often a tree needs to be watered depends on several factors, such as species of the tree, size of the tree, size of the pot, time of year, soil-mixture, and climate
- Water your tree when the soil gets slightly dry, but don't let the tree dry out completely. As a beginner, use your fingers at about one centimeter deep, (0.4") to check the soil moisture. If it's slightly dry, go ahead and water your tree. This will become more obvious as you gain experience. You'll soon be able to see, rather than feel when your tree needs watering
- Keep a close eye on your trees individually to determine when each one needs watering. Avoid watering your trees on a daily routine, until you know exactly what you are doing
- The soil-mixture greatly influences how often trees need to be watered. If you are not able to water regularly, you can use a mixture that retains more water



--Never water your Bonsai on a routine schedule--



If the roots are too compacted, the soil-mass won't be able to absorb much water and will just drain right out the bottom of the pot. *This Bonsai needs to be repotted.*

Feeding and Insect Treatment

- The fertilizer you choose depends on the developmental stage of your trees. For early development Bonsai you want strong growth, hence a relatively strong fertilizer. For late development, use a balanced fertilizer, and slowly decrease the amount applied towards the end of the growing season
- The gold standard that is widely used in Japan and around the world is Biogold.
- **Mealybugs, Aphids, Spider mites:** After you have identified the insect buy an insecticide or pesticide (chemically or organically) to treat the trees with; be careful to follow the instructions and you might want to start using a half dose at first—if necessary you can increase the doses later on
- Suggest using all-natural **Neem oil or insecticidal soap** if sprayed at night while bees are not active as it should be dry by the next day
- Spray once a month as a preventative measure
- Keep your bonsai somewhere bright but out of direct sunlight
- As it is often hard to identify some problem correctly, you might want to take pictures and ask for help from a *Bonsai forum* online

--*Avoid fertilizer in the first 2-3 months after repotting a bonsai*--

Artistic Elements

- **Deadwood** bonsai techniques create, shape, and preserve deadwood on a living bonsai tree. They enhance the illusion of age and the portrayal of austerity that mark a successful bonsai
- Creating deadwood on Bonsai can enhance the tree's character significantly
- **Jin** is the term used when the bark from an entire branch is removed to create the impression of a snag of deadwood, a **Shari** is a barkless part of trunk, and an **Uro** is a hollow, irregularly-shaped wound in the trunk
- **Sharimiki** is basically a driftwood tree where the trunk is primarily deadwood with one or two live veins running up to the remaining branches (commonly seen on junipers and yews)
- **Nebari** in Japanese describes the roots that can be seen on the surface
- Stone and landscape rock often used in Bonsai...*again, recreating what can be found in nature*

--Aging techniques are highly desirable in Bonsai--

Jin



Shari



Sharimiki



Nebari



JUL 30 2007

FICUS RETUSA
500 años CHINA



**Exposed
Roots**

JUN 30 2007



Root
Over
Rock

Sign-up Sheet

If you are interested in learning more about Bonsai, I'll be doing some demonstrations in smaller groups this February or March; and/or later this Fall. Let me know your interest:

- Initial shaping and potting from raw plant
- Bring your own existing bonsai or other plant for ideas and first steps
- Trimming, shaping, and wiring
- Transplanting
- Propagating from cuttings



The image shows a sign-up sheet titled "Sign Up" in cursive. The sheet is tilted and has a light pink border. It contains a table with three columns: NAME, EMAIL, and PHONE. The table has several rows for entries, but they are currently blank.

NAME	EMAIL	PHONE

--Sign-up Sheet is up-front with Ruthette--

Questions?

