

BONSAI GARDENING SECRETS



By Erik A. Olsen

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UNDERSTANDING BONSAI HISTORY



More than 1,000 years ago, Bonsai (pronounced bone-sigh) first appeared as “Punsai”, which is a practice of growing single specimen trees in pots. In the beginning, Bonsai had little foliage, was rugged in appearance, and the trunks were badly gnarled. Because these trunks often looked like dragons, birds, and other animals, many legends and myths were born, making the grotesque trunk formations highly prized, which is even the case today.

Bonsai is actually two words, “Bon”, and “Sai”. The word “Bon” means “tray” and “Sai”, “growing” or “planting”. Therefore, the two words put together give you the translation of “tray growing” or “tray planting”. When you say the word, “Bonsai” to people, they usually think of a type of tree. However, Bonsai is actually a way of growing many different species of trees.

As you will learn later in this book, many different types of trees would make an excellent Bonsai such as Pine and Juniper. The key is learning which trees work best with what styles, as you will also learn. With Bonsai, the goal is to make the tree appear old, which is done through training.

CHINA

In China, Bonsai is called “Penjing” and is believed that it got its beginning sometime during the Han Dynasty. Legend tells us that a very eccentric Emperor had a magnificent courtyard created, designed with hills, rivers, lakes, valleys, and trees, all represented of the empire he reigned over.

The goal of his landscaping scheme was to create for himself a way to look out over his empire from the privacy and comfort of his home. This Emperor considered his courtyard a prized possession and sent out a decree that if anyone else were found to be in possession of a miniature landscape such as his, these individuals would be put to death.

A second Chinese legend is that Bonsai is traceable back to the 4th Century, being grown at that time by a civil servant and Chinese poet by the name of Guen-ming. Most believe that once Guen-ming retired, as a way to pass time, he started growing Chrysanthemums in clay pots, which a number of historians now believe to be the beginning of the Bonsai. Some 200 years later during the Tang Dynasty, this same practice could be seen.

Regardless of which legend might be true, an amazing discovery was made in 1972 when the tomb of Prince Zhang Huai who ruled the Tang Dynasty from 618 to 901 AD was dug up. Within the tomb, there was actual proof of the Bonsai in which two ancient wall paintings depicted servants carrying several plants that

strongly resembled Bonsai. In fact, one of the two paintings showed a man carrying a miniature landscape with the other painting of a servant with a small pot containing a tree, also being carried.

JAPAN

Along with China, Japan also plays an important role in the history of Bonsai, having been introduced during the Heian period from 794 to 1191 through Zen Buddhist monks. The Japanese adopted most of China's cultural trademarks, quickly influencing the fine art for which Japan is so famous, something the Chinese had not yet achieved.

Eventually, the Bonsai trees expanded beyond the Buddhists monks and monasteries, reaching to the representative of the aristocracy where they became a symbol of honor and prestige. As this transition occurred, the philosophies and ideologies of the Bonsai changed dramatically. For example, with the Japanese, the Bonsai is associated with strong ancient beliefs whereas Eastern philosophies believe Bonsai to be a harmonious connection between man, the soul, and nature.

For many, it is believed that growing Bonsai in Japan during the Kamakura period was something done by the influential class. This belief is based on a translation taken from an ancient Japanese scroll that reads, *"To appreciate and find pleasure in curiously curved potted trees is to love deformity."*

Then by the 14th Century with the Chinese invasion of Japan, the Bonsai was established as a sophisticated form of art. For the elite people of Japan, Bonsai would be potted and then displayed indoors, often adorning a home while sitting on a specially designed shelf. However, at this time, the Bonsai was still a wild tree, one not yet trimmed and pruned.

The popularity of the Bonsai continued until the 17th and 18th Centuries, at which time they were at the peak of popularity. To refine the appearance of this tree, the majority of the tree was removed, leaving only the essential elements, which was in alignment of the Japanese philosophy of simple beauty. Interestingly, we know there was Chinese influence on the early Bonsai masters because the characters used to represent Bonsai are the same in Japanese form as in Chinese.

KOREA

Most people are aware of the historical connection between China and Japan, and the Bonsai tree, but few know about the long and rich tradition associated with Korea. Called "Punjae" in Korea, the Bonsai was actually introduced from China during the Silla and Koguryo kingdoms, during the 1st century C.E.

During the “Three Kingdoms of Korea”, the Korean peninsula was divided into three very distinct empires, which occurred between the 1st and the 7th Centuries C.E. Then during the Lee Dynasty, which began in 1392 C.E., the Bonsai became very popular.

During this same time, the Suseoks tradition was also developed, which was an art form that captured natural phenomena to include landscaping in which miniature stones were used. Today, Korea still values the Bonsai, which remains popular. In fact, Korea boasts a number of Bonsai organizations, to include the famous [Korea National Bonsai Association](#).

WORLD EXPOSURE

Japan had remained an isolated country for more than 230 years but then in the mid-19th Century, they opened up to the world. Travelers began visiting this magnificent part of the globe, where they learned about the miniature trees grown in ceramic pots.

Over time, the Bonsai started being exhibited in Vienna, Paris, and London, making its way to the Paris World Exhibition in 1900. It was at this time that people were given full exposure to the Bonsai, falling in love with it just as the Chinese and Japanese had done for so many years.

As you can imagine, the phenomenon and demand of owning a Bonsai exploded. However, the naturally stunted plants were difficult to find, which led to various types of trees being produced commercially. Horticulturists began training these young plants to replicate the appearance of the Bonsai. This experimentation led to a number of different styles to include using bamboo skewers, wire, and so on.

Then, by the end of World War II, the soldiers returning home from Japan brought information about the Bonsai with them, further sparking interest among the western population. In fact, some soldiers brought actual trees home with them but most died shortly thereafter.

Regardless, these Bonsai lived just long enough to intrigue and interest people, building a strong interest in this special tree. For most Americans, this was the first time they had even heard Bonsai and now, they had a newfound respect for Japan and this incredible art form.

With the world not highly interested in Bonsai, the Japanese realized the importance of capitalizing on this interest. The result was new nurseries being founded for the sole purpose of growing, training, and exporting Bonsai trees. What was discovered is that because different parts of the world have different climates, not all trees do well in the same region.

Therefore, various plants were used so that people all around the world could enjoy the art of Bonsai and be successful at it. With the variation in trees, the techniques for raising them, whether from seeds or cuttings, styling, and grafting, must coordinate with the specific tree being grown.

Even with all the different trees now being used, the Japanese still prefer to focus on using only native species for the Bonsai. Typically, here you would see Azaleas, Maples, and Pines. Today, the Bonsai has continued to evolve so that now there are many new varieties and practices.

Regardless, the Bonsai is still a powerful symbol in Japan, as being a direct connection to their culture and ideology. For instance, every New Year, every Japanese home will create a *Tokonoma*, which is a special place where beautiful ornaments and prized possessions are displayed. As a part of this display is of course, the Bonsai!

Today, you can purchase Bonsai trees at your local gardening center, department store, nursery, and many common places. The problem with most is that they are only young cuttings or starters, and not actually a true Bonsai like those produced by the masters. For this reason, many of these Bonsai are called "Pre-Bonsai" and are often used only to start the process of growing an authentic Bonsai.

INTERESTING FACTS

For instance, consider the following facts about Bonsai, which will be expanded on further in the book:

- A true Bonsai has a very small root system, meaning it needs to be watered frequently
- Bonsai are vulnerable to sun, wind, and excessive heat
- The reason Bonsai are traditionally grown in sheltered courtyards is so they are protected and to be appreciated up close
- The gnarled Bonsai specimen was inspired by wind-burned Pines that were scattered along the rough and rocky coastline of Japan
- Adding moss to the soil above the roots creates a more attractive presentation
- Junipers, Wisteria, and Weeping Willow all make great choices for Bonsai
- The Dwarf Japanese Garden Juniper is the best plant for a beginner

- Because Bonsai are small, they make the perfect plant for apartment dwellers or other homes where planting outdoors is not an option. The Bonsais is also a great option for people that love to grow plants but have limitations to standard gardening methods.
- Bonsai can live to be hundreds of years old, which is why it is common in China and Japan for a Bonsai to be passed down from one family generation to the next
- The word “Bonsai” is a combination of three tenets, “Shin-Zen-Bi”, which translates to truth, goodness, and beauty respectively
- Bonsai grown outdoors will often experience seasonal changes to include a change in the color of leaves, drooping leaves, and new growth during the springtime

To grow your own Bonsai, the best thing you can do is educate yourself on all the aspects involved. Valuable information is what will guide you to a wonderful hobby and the creation of your Bonsai. You will quickly discover that growing these trees is an incredible pastime, providing you with the same peace and tranquility that has been enjoyed for thousands of years!

BONSAI RULES



To create a Bonsai, you must follow certain rules. While you can add a little of your own creativity, the fact remains that the guidelines are set in place for a reason. When learning how to grow and train Bonsai, these “rules” will be invaluable. The great thing is that with so much historical information passed down from China and Japan, you already have much of the guesswork done for you.

TRUNK RULES

To help you understand these rules, you can use the Nebari and trunk rules as outlined below. Just remember that by following these simple rules, you can create a stunning Bonsai of your own.

- The trunk should lean slightly and when displayed, be leaning in the direction of the viewer
- The Trunk should have a slight flare at the base, which helps visually to anchor the look of the Bonsai
- The overall height of the Bonsai should be six times the height of the trunk’s caliper
- The roots should radiate from the trunk’s flare
- The apex should also lean, again toward the viewer
- As the trunk ascends, it should begin to taper
- No roots should be poking out at the viewer’s level
- Any grafts should match the scion and under stock, which will keep them from being from being obtrusive
- Any curves in the trunk should not be rounded at the viewer’s level
- The apex should always finish in the same direction as the base and that particular flow should then be maintained
- The trunk line should never move back onto itself – although a little hard to understand, it has to do with the flow and balance of the tree. If the trunk should move back onto itself, you would see a “C” shape.

- For the Informal Upright style, keep the “S” to a limit or the tree will be too overwhelming
- For the Information and Formal Upright styles, the apex should be grown over the base
- The Bonsai tree should have just one apex
- Any twin trunks should be divided at the base and no higher
- As the tree ascends, curves should grow closer together

BRANCH RULES

In addition to the trunk, the branches play a very important role in the overall appearance of the Bonsai, as you will see from the rules listed below:



- Branches should not cross the trunk
- Branches should not be crossed
- Any branches poking out should not be pointed toward the viewer’s angle
- All branches should be on the outside of the curves
- The first branch should be located about one-third up the height of the tree with any succeeding branches at one-third the rest of the distance to the top of the tree
- Any branches should be on the outside of the curves
- The first branch should be to the left or right and then the next branch, on the opposite side. In other words, the branches would be left, right, left, right, etc.
- The branch caliper must be in proportion to the tree trunk
- Any branches that are thicker than one-third the caliper of the trunk would be considered too thick
- There should be no parallel branches, only visually alternate
- Branches should reduce in size and caliper, as they ascend
- The branches should have space between them to give the visual that birds could fly through

- The first and second branches should be forward of the midline
- There should be just one branch per trunk position. In other words, no whorled, bar, or wheel and spoke branches
- The first, second, and third branches should be 120 degrees apart, making sure the branch at the back is not directly behind the tree
- Any secondary branches should alternate left and right, following the rules of the main branch placement. This will help create foliage pad.
- The branches should create a scalene triangle with the apex, which is a representative of God, the middle corner is man, and the lower corner is the earth
- The branches for the Cascade style will typically follow the same rules as that of the Upright style, with the exception that the trunk will move down
- The goal with Bonsai is to make the tree look old. To do this, you will need to wire the branches, training them in the style you want.
- With twin trees, you do not want branches between the trees to cross the trunks
- Make sure no Jin is hidden in the foliage

POT RULES

Even the pot in which the Bonsai is planted needs to follow certain rules.

- The pot's depth should be the same as the trunk's caliper, with the exception of the Cascade style
- The tree should be planted in the midline section of the pot, then to the left or right of the center line
- If you are using a fruit or flowering tree, then you want to choose glazed pots that have colors to enhance the Bonsai
- The pot's width should be two-thirds that of the tree's height. If the tree is short, then the pot should be about two-thirds of the tree's spread
- The style of the pot should always match the tree. For example, if you choose to train your Bonsai in the Upright style, then you might want to

consider a rectangular pot. If the style were an Informal Upright, then the pot should be round or oval.

CULTURE RULES

The culture of the Bonsai is extremely important for both appearance and growing.

- When fertilizing, you want it to be at full strength (although there is some controversy among Bonsai growers on this)
- The soil should be uniform and never layered (another controversial subject)
- To help increase the level of humidity, place a tray of small pebbles covered with water by the base of the tree
- While an occasional misting is not necessarily a bad thing, you do need to be careful in that it can cause a salt buildup on the leaves
- Rather than water your Bonsai on a fixed schedule, pay attention to its moisture level, watering when needed
- The fine particles from soil should be removed, using just the coarse particles
- Tropical and subtropical plants should be considered for indoor Bonsai while temperate climate plants do best outside. To keep temperate climate plants inside, you will need to provide them with a certain time of cold dormancy.

ALL ABOUT STYLE



With Bonsai, remember that it is all about the elements of design – Symmetry, Balance, and Proportion. To train and style your Bonsai, you will need to work with each of these elements.

- Symmetry – This means the repetition of the same shape, with the basic option for Bonsai being triangular. This particular shape is very important in oriental philosophy, being Heaven, Man, and Earth. When looking at the Bonsai, the triangular shape can be seen in its overall silhouette and branches regardless of the viewpoint.
- Balance – This element is sometimes perceived as symmetrical but by using an asymmetrical approach, a more aesthetically pleasing appearance of the mass and void can be achieved.
- Proportion – This is the ratio of the individual parts of the Bonsai, which also includes the pot in which it is planted and its overall design

FORM OF WORK

When we refer to the word “style” or “styling”, it means to form the shape of the Bonsai. As you will see from the information provided in this chapter, you can style your Bonsai in a number of ways, depending on the type of tree you are working with and the style you prefer.

The style you choose will coordinate directly with the method of training, as well as the materials you use for the training. Interestingly, just as clothing trends go in and out, so do the styles of the Bonsai. Over the past several hundred years, many different styles have been popular, each fading in and out. Currently, the style that is preferred in the west is the Pine Tree look.

Although Bonsai should be representative of where you live, for instance, Japanese would choose Japanese styles and Americans would choose American styles, and so on, since Bonsai is a subjective form of art, feel free to experiment with various options. The key is to make choices that will capture the essence of the beauty seen in the native tree used.

When choosing your style, keep in mind that Bonsai is not a mystery, but more of a challenge. After all, you are taking a tree and putting it into a pot while training it to be a miniature tree, which requires seasonal trimming along with new growth and occasional root pruning. Therefore, when working with your preferred style, you need to be patient and consistent with your training, knowing that the result will be an amazing Bonsai that you trained!

PRINCIPLES OF STYLE

As you will see in this chapter, you have many wonderful styles from which to choose but first, you need to understand that there are two basic styles. The first is a classic style called “Koten” and the other is an informal or comic style called “Bunjin.”

With the first style, you will find that the tree trunk is wider at the base, tapering toward the top while the second style consists of a tapered tree trunk that then becomes wider at the top. Of the two styles, the Bunjin style is the most difficult one to master.

For years, many Bonsai enthusiasts have tried a number of ways to have these styles reclassified, as well as create subdivisions for the plants being trained. However, the basics stand, offering you a reference point with which to assess the potential of the tree so you can then choose the best style.

One of the most important things you need to do when choosing the style is to study the way in which the tree grows naturally. Just like the old saying, “You can’t teach an old dog new tricks”, trying to train a tree against its nature is extremely difficult and will only cause you to become frustrated while you end up with a poor looking Bonsai.

Another important thing to remember is that the Bonsai is a living thing. Therefore, you should study its characteristics so you understand your tree. As an example, Conifers do not do well with the Broom style but are exceptional with all other styles. As you learn these principles of Bonsai, you will soon be able to take any Bonsai tree and train it into a magnificent miniature work of art.

BONSAI STYLES

Within the two basic style categories, there are many specific styles, as you will see below. You will also see some examples for the most popular styles, giving important growing information.

Broom Style (*Hokidachi*)



With the Broom style, the tree trunk is straight and upright, not continuing up to the top of the tree. The branches of this style will go out in all directions, going one-third the way up the height of the tree. With this, the branches and leaves begin to form a crown in the shape of a ball, which is a nice look during the winter. This style is best suited for deciduous trees that have heavy branching.

Formal Upright Style (*Chokkan*)



This style is quite common, occurring most often in nature when the Bonsai is exposed to significant light and when not competing with other trees. The tree trunk must be tapered and visible. Typically, the trunk would be much thicker at the bottom while growing increasingly thinner with the height.

The branching for this style should begin about one-quarter up the length of the trunk and then the top of the tree there should be a single branch formed. Finally, the trunk should never span the entire height of the tree.

- First branch up from the bottom will need to be the longest. Additionally, it needs to be in proportion and trained to grow one-third of the tree's total height. This branch is the heaviest of the branches, making a slight right angle.
- Second branch will grow opposite the first branch and slightly higher on the trunk. As this branch ascends, it will taper off, creating a cone-like form.
- The top portion of the Bonsai consists of thick foliage. In fact, it is often so thick that it is tightly ramified and hard to see the internal structure because of the needles and/or leaves.
- For this style, the tip has a slight curve, leaning forward. Depending on the tree that you have chosen for your Bonsai, it does not have to be symmetrical. Instead, the branches could ascend, simply by alternating them on either side.
- The taper is very distinctive with this style, usually achieved by cruelly cutting off the growing tip of either branch or trunk. Then, the new branch is wired into the correct position to help form the apex. Although hard to do, the results are stunning.

Informal Upright Style (*Moyogi*)



With this style, you will find them most common in both nature and in the art of Bonsai. The Moyogi style has a trunk that grows upright, creating an "S" shape. Additionally, wherever there is a turn, there is branching. For this style, the trunk must be visible, and the trunk's base should be thicker at the base than at the top.

portions.

To accomplish the Upright style, you will need to make sure one-third of the trunk can be seen from the front, from the base to the first branch of cumulatively through tracery of branches. In most cases, the branches would be in a specific pattern, such as this below:

- This process is very similar to the upright except it is more informal
- The trunk is tapered but the branch positioning and trunk direction are closer and more informal to the way in which the tree would be when first exposed to the elements
- Typically, the trunk will have an unexpected curve or several twists. The branches are then positioned as a way of balancing this effect.
- The tree's crown is extremely full, covered with dense foliage
- Although the trunk is informal, the crown is always located directly above the tree's base
- Jin, which is the carved remains of unwanted or dead branches so they look dead or rotten, they are effective and appropriate for this style

Slanting / Leaning Style (*Shakkan*)



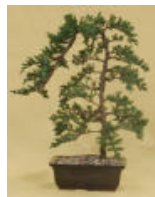
If you have other plants, you have probably noticed that the side that faces the sun will cause the branches to lean in that direction. With this style, you would train the Bonsai to slant/lean but for it to be in the true training practice, the angle must be between 60 to 80 degrees, relative to the ground.

With this style, the roots would be well developed on one side, as a means of keeping the tree standing. On the side that leans, you would notice that the roots are not nearly as developed. The first branch of the Bonsai would be growing opposite of the direction in which the tree is leaning, as a way of creating balance. Then, the tree trunk should be just slightly bent, or you could choose to keep it straight but remember, it must be thicker at the bottom.

- Although similar to the Informal Upright, this style has a trunk that can be straight or curved. Regardless, it has to be on an angle going to the right or left, and never to the front.
- The apex should never be directly over the base of the Bonsai

- This simple style can be achieved by wiring the trunk into position or .trained to an angle
- The tree for this style can be forced to grow slanted, simply by putting the pot on a slant
- The number three is relative to this style. For example, the low branches should be grouped in threes, starting one-third up the trunk. Then, the bottom three branches would encircle the trunk, with two of the branches going upward with one just a little higher. The third branch, which emanates between the first two branches, is placed at an angle, which helps the foliage appear lower than the other two. With this pattern, you can tell front from back and set the composition's tone.

Cascade (Kengai)



If you were to look at Bonsai growing wild in Japan or China, you would see that those growing on steep cliffs bend downwards because of falling rocks, the weight of snow, and other factors. However, to maintain this downward growing pattern with Bonsai is very challenging since this goes against the tree's natural tendencies.

This style of Bonsai should be planted in a tall container. It will grow upright for a little distance but then start to bend downwards. The tree's crown will typically grow over the rim of the pot although subsequent branches, alternating from the left side of the pot will come out of the trunk that is shaped like an "S". Just remember that to maintain the balance of the tree, the alternating branches need to grow out horizontally.

- The trunk is tapered, growing below the container. This creates the impression of the tree being held down by gravity.
- The trunk generally twists, emulating a winding pathway or stream. From this, branches protrude, creating an elegant look.
- You will need a narrow pot to help with the Cascade style, along with the right species of plant
- The trunk's main portion will need to be wired so it spills down over the edge of the pot. This will then create a focal point on the primary bend, making an upside "U" shape.

- You will need to keep the branches uniform and horizontal, keeping them to the vertical trunk
- The tree should be positioned to the center of the pot, which is actually different from most other styles

Semi-Cascade (*Han-Kengai*)



Although similar to the Cascade Style, you would generally find this style in nature, growing on a cliff or on the bank of lakes and rivers. The tree trunk will grow upright for a little ways and then bend down.

The one difference between this style and the Cascade Style is that the trunk will never grow lower than the bottom of the pot. Additionally, the crown is generally above the pot's rim with subsequent branching occurring below the rim.

- Very similar to the Cascade style, with these principles, you would not allow the growing tip of the tree to drop lower than the base of the pot. In fact, many Semi-Cascade trees will not drop below the edge of the top of the pot.

Windswept Style (*Fukinagashi*)



This style is much as it sounds in that the branches and the trunk will grow to one side, appearing as though the wind was constantly blowing in one direction. As the branches go to one side, the tree trunk will soon begin to bend in that same direction.

Double Trunk Style (*Sokan*)



This particular style is one that you would commonly see in nature, but not considered a common choice in the art form of Bonsai. Typically, both tree trunks grow from one root system although sometimes, a smaller trunk might grow from a larger trunk just above ground level.

These two trunks will generally vary in size, thickness, and length, with the thicker and more developed of the two growing almost upright and the smaller, less developed trunk slanting a bit. Regardless, both of the trunks work together to form a single crown of leaves.

[Multi-Trunk Style \(Kabudachi\)](#)



Very similar to a double trunk Bonsai style, the Multi-Trunk Style has three or more trunks. In addition, like the two-trunk style, all three or more trunks grow from one root system. The trunks all contribute to a single crown of leaves, with the thickest and most developed of the trunks forming the top.

[Forest Style \(Yose-Ue\)](#)



With the Forest Style, you would find it very similar to the Multi-Trunk Style. However, there is a difference in that this style is actually comprised of several trees. In this case, the tree that is the most developed is planted in the middle of a very large, but shallow pot.

Then on either side, two or more smaller trees are planted. The key here is that you do not want to plant the trees in a straight line but stagger them. This way, the Bonsai looks more as it would in its natural environment.

[Roots over a Rock Style \(Joju\)](#)



When trees grow in rocky terrain, they have to search for soil by using the roots, digging down into the holes and cracks where the best soil is usually found. Since the roots are unprotected and exposed, prior to reaching the ground they have to find a way of finding protection from the sun, which is done as bark grows around them.

When growing Bonsai with this style, the roots would grow over a rock that has been added to the pot. Although it might seem like it, training and maintaining this style is actually no harder or different from any other.

[Growing in a Bed Style \(Ishisuki\)](#)



With this style, the tree grows up in between the holes and cracks of a rock, meaning the roots have little room to develop and absorb needed nutrients. In nature, typically trees that grow amongst rocks do not do well, meaning they have to struggle to survive.

Therefore, if you choose this style of Bonsai, you will need to be sure to fertilize and water often. Additionally, you would need to place a rock in a shallow dish within the pot, and fill it with water or fine stones.

Raft Style (Ikadabuki)



When a tree cracks, it can sometimes survive by pointing its healthy branches upward. This allows the old root system to provide those branches with enough nutrients to survive and grow. Eventually, new roots will begin to grow out of the side of the broken tree, and then soon consume the function of the old root system.

Then, the old branches that are pointing upward will develop because of the higher level of nutrients. The result is what is known as the Raft System. This style is similar to the Yose-Ue and Ikadabuki Styles in that the new trunks emerging are visible from the old, broken trunk.

Driftwood Style (Sharimiki)



Over time, certain trees will become bald or no longer have places of bark on the trunks, generally because of harsh weather. This portion of the trunk will start where the roots emerge from the ground and then become increasingly thinner, as it travels upward on the trunk.

The exposed areas then become bleached by the sun, which now forms a new characteristic on the tree. With Bonsai, a sharp knife is used to remove the bark and as a way of speeding up the bleaching process, calcium sulfate is used.

STYLE SPECIES

Within each of these styles, certain trees do better than other trees. To give you an idea of which species work best with the various styles, we have provided a guideline below:

Upright Style

- Juniper
- Larch
- Maple (not as easy to train)
- Pine
- Spruce

Upright Style

- Beech
- Conifer
- Cotoneaster
- Crab Apple

- Japanese Maple
- Pomegranate
- Trident Maple

Slanting Style

- Conifers
- Most species are suitable for the Slanting Style

Cascade Style

- Most species are suitable for the Cascade Style

Semi-Cascade Style

- Cherry
- Cedar
- Juniper

TRAINING TECHNIQUES

Now that you have a good idea of the various styles, you will need to learn how to accomplish them. Some of the styles listed in this chapter are basic while others are more advanced. Remember, working with Bonsai is a learning experience and in time, you will be a master! Therefore, if you do not get things exactly right the first time, do not become discouraged. Instead, accept that you need a little more skill and practice.

The information in this chapter will go through some of the more advanced techniques, taking you from the stage of beginner to Bonsai master.

ROOT OVER ROCK STYLE



The “Root over Rock” has been used for many years in Bonsai. This style consists of the plant’s roots being trained to cling to a rock and then spilling over it, eventually disappearing into the soil. The goal of this style is to mimic a tree that grows into a rock crevice, where the roots have to move about to find needed nutrients when the primary source is depleted. Once the roots reach the soil, they will become hard, thus growing back around the rock. The result is that the roots now become as effective as the actual tree trunk.

In nature, it is common to see a tree start growing onto another tree. In time, that tree will overpower the second tree, strangling it with the roots. To create this style, you will need to choose a suitable rock, one that is attractive, natural, and a good size, but not so large that it overpowers the tree. Then, you need to choose a healthy tree, one with an extensive root system.

Cut off any unsightly foliage and then wash the soil away from the root ball, as best you can, taking care that the roots are not damaged. Then with your rock and plant, you will place the plant over the rock. You might need to arrange it several times before you find a look that you prefer. It is important that you not place all of the roots to one side since you want your Bonsai to be viewed and enjoyed from any angle. If needed, the underdeveloped roots can be overlapped, helping them merge.

Now, the roots will need to be set into place. The easiest and most effective method are to take grafting tape and while holding the roots in place, you will wrap the tape around the rock, making sure it is somewhat tight. The rock will need to be covered completely with the exception of the bottom so that the roots can protrude into the soil. Additionally, make sure the roots have no gaps where they could escape into the tape.

When done, ensure the roots all protrude from the bottom of the rock. Then, you will bury the rock along with the plant in a pot of clean sand. The goal is to plant it so the rock is not visible but the bottom portion of the trunk is. The Bonsai will need to be watered and then left in this pot for up to two years.

Over time, the roots will thicken and become strong. When the time comes to remove the pot, you will scrape the soil away, and wash it so the rock and root ball are exposed. You will need to be very careful with these new roots, as they will not tolerate too much stress.

Next, using a pair of sharp scissors, remove the grafting tape, making sure you do not cut into the roots. Once that is complete, you will pot the tree in a plastic pot so that the rock is positioned above the surface, leaving it for about three months to help it rejuvenate. Finally, plant your Bonsai in a ceramic pot so it can be displayed and enjoyed.

Now keep in mind that when you pot your Bonsai in the ceramic pot, it will not look much like a Bonsai. Instead, you will see a bushy tree that seems out of proportion. To encourage a tapered trunk and to refine the branches, you will need to prune the tree. Then in about six months, the tree will again be cut back to re-establish its shape. In all, you will be pruning and reshaping for about two years before you have the perfect Bonsai.

With the “Root over Rock” style, you will have an appealing and aesthetically pleasing Bonsai. This style is advanced so just be patient and with a little time and practice you will achieve your goal.

ROOT TRUNK



This process helps the Bonsai appear natural. Here, the roots are visible, being just above the ground's surface. To create this look, you would need to use root pruning along with several other methods.

In this case, the roots would have to be pruned on a regular basis. Before you begin forming this Bonsai, you will need to determine first the side of the tree that will be viewed. Then, the branch structure, trunk, and root trunk will all need to be decided. Additionally, every time you repot the tree, the vertical roots will need to be removed to help the tree start growing additionally horizontal growing roots.

The other method consists of using a tourniquet, which is safe and produces wonderful results. In this case, a wire would be wrapped around the trunk at the location where the new roots are to grow. Then, allow the tree to grow for one full year without any pruning. At the six-month point, slowly wire to cut off

nutrients, which will help make the trunk thicker. At that point, the old root system can be removed, making room for the new roots.

TRUNK CHOPPING POTENSAI



The process of trunk chopping actually serves two purposes. The first is to help reduce the tree's height and second, to induce trunk taper. For this process, rather than bend the branches up, you want to make an exaggerated concave cut into the trunk just below the branch, and behind the trunk.

The reason for this is that it will help position the new leader above the center of the trunk where it should be. Additionally, this will help maintain the integrity of the formal upright style. Once the trunk has healed from the cut, it will be straight and have a wonderful taper shape.

FLAT-BOTTOMED FIGS



With figs, they will grow from seeds in about 8 to 12 months. Typically, the base will have the shape of an onion with the roots protruding from the bottom. If you want to achieve quick results with figs, you will need to cut off the base at its widest point. Within a few months, you will notice the roots are much wider and healthier.

Then in about six months, you will need to prune the tree, making sure the roots are not growing downward. At that point, you will plant the tree in a four-inch pot, leaving it for six months. The result will be a flat-bottomed tree.

NATURAL DEADWOOD EFFECT



This effect is called "Jin" or "Shari", which adds an effective feature to the design, making trees look, very realistic. For instance, in nature, Jin on trees is created when the branches break from strong winds, lightening, or heavy snow. When you style a Bonsai, the branches do not have to be a part of the foliage mass. Instead, they can be used to create Jin, which on Bonsai shows the age of the tree and the struggles that tree had to endure to survive.

This style is definitely advanced in that you need to make the Jin look natural for this to be considered a success. To create Jin, you would carve the tree using hand tools. The wood is torn away, as a means of mimicking a broken branch as it is pulled away from some type of natural occurrence. Many times, if the tree has two trunks, one would be cut away, again, to create an old, dead stump look. After a couple of months, the second trunk will begin to dry out.

To accomplish Jin, you need to remove any bark and soft tissue on the portion of the wood that you will Jin. You will then work only on the portion of the stump that is above the soil level. Any other work will be done in the future after you have repotted the tree.

The slithers are pulled away from the first stump and then the top of the wood is notched or crushed with pliers. Then, you would pull each of the segments away from the stump, using Jin pliers. Remember as you pull the strips of wood away that you are careful not to damage the live wood located at the sides and base.

For the second stump, you would pull the wood and tissue away, revealing the tree's natural shape. Once the second stump is complete, the Jin will begin to take shape. At this time, smaller and smaller strips of grain are pulled down the length of the stump, which gives the wood a wonderful texture.

Since the wood of the tree is fibrous, you will begin to see pulls and small burrs. To manage these, you can gently burn the surface of the wood. Now, the stump is carefully scorched using a naked flame. Keep in mind that the rest of the tree must be protected during this process, especially the foliage. By placing a piece of hardboard in between the stump that will be scorched and the rest of the tree, you will keep the flames from causing damage

If any part of the wood becomes black, you would remove this by smoothing and using a process called lime sulphuring. Additionally, if any tool marks are seen, you can take a piece of fine sandpaper to sand them down. Then, any sharp edges of the stump are rounded off, again to replicate the appearance of nature.

Finally, you would again use the lime sulphuring process to whiten the Jin, and to keep it from rotting. To give an illusion of depth, you can add black ink to the lime sulphur in the future to paint recesses.

BROOM STYLE FROM MATURE ELM



Elms are excellent choices for the Broom Style Bonsai. They have many of the same characteristics as the trees you would see in nature, which is why they look so realistic in miniature form.

The best option is to start your Broom Style Bonsai from seed, cultivating it with a central leader that is enveloped by many branches coming from the spine. The result of this would be a wonderful dome of shoots. However, if you prefer to create the Broom Style with mature stock, you can.

You will need to choose a stock that has a round, flawless trunk. One of the problems with coniferous species is that pruning can cause scars when working with the Broom Style. What you want to accomplish with this style are surface

roots that are near perfect, being uniform in spacing and size. If the roots are imperfect, you can remake them by ground layering the trunks after the canopy has formed.

For the cut, you want to go across or in a “V” shape. The most important thing is to make sure the cut is clean since new branches will eventually come out of the edges of this wound. Your best option is to slightly hollow out the wound and make sure your cut is three times the trunk’s diameter from the soil.

Now, the upper portion of the trunk will be wrapped with grafting tape, which will help prevent swelling caused by the new shoots. Once these shoots have reached five inches long, you want to choose two to seven for your new branches. Keep in mind that the more shoots you leave, the faster the wound will heal. However, that also means the swelling at the site of the wound will be more pronounced.

Next, you will need to decide on the shoot that you want to be the central leader. Each new season, the branches will need to be cut back at the place where you want new splits to form. For the first few years, the form and shape will occur. Then after that, new shoots will be ramifying. You want to keep the wrapping on the tree for about two years and remember that getting anxious and taking it off sooner will result in the base of the branching to swell.

In the wintertime, you should gather the branches with string to help straighten them, and to keep the thrust in a vertical line, not horizontal. You just want to make sure that your primary branches are not allowed to grow too large or to grow too quickly. You can control this by pinching the shoots around the second year. Patience is needed when working with a mature tree in that it will take several years before you begin to see a beautifully trained Bonsai.

STRETCHING

To bend the branches of your tree, some will need to be stretched. This involves vertically stretching, not wiring. For tree trunks that are thick and old, this is a much safer method of training.

- Start with a small towel or cloth that will be placed between the branch and wire, as a means of protecting the branch
- Then, cut a piece of copper wire, wrapping it around the end of the branch several times, keeping a piece of the towel or cloth between them
- Stretch the branch down, attaching it to the pot, or the tree’s trunk
- Just make sure you never stretch the branch too far at once. Then if you want to stretch the branch even further, you should wait one month.

PRUNING

Pruning is also used for training, which can be done to create and maintain the tree's shape.

Form Pruning



This type of pruning is performed on the larger branches. It helps define the form. Remember, the goal is to make your Bonsai appear old and natural. Therefore, branches that do not work toward this goal would need to be removed. In the spring, which is the best time to prune so your Bonsai will have more buds, perform the pruning. Just be sure you never remove any large branches if the temperatures still have a chance of dipping below zero.

Unfortunately, pruning does put the branch at risk for big, unattractive wounds. For this reason, you should use a concave cutter, which creates a hollow around the wound, which heals much quicker and cleaner. Instead of becoming over eager at pruning, you will typically prune lightly, just enough to help give definition to the main branch structure.

Additionally, any branches that have green leaves or needles should never have more than half removed. The reason is that the wounds on this type of branch require much more of the tree's energy. To help your Bonsai heal quicker, you can buy a type of paste for the wound that actually works to seal it.

Maintenance Pruning



With this type of pruning, the tree's primary structure has already been defined. Therefore, you will no longer remove any of the larger branches. However, you will need to keep the smaller branches cut back regularly, which helps maintain the shape of the tree. Unlike form pruning that should only be done in the springtime, maintenance pruning can be done throughout the year.

Plucking

This is a different type of method for pruning your Bonsai. In this case, only pine trees can be plucked while deciduous trees would still need to be pruned. Additionally, with plucking, you can do this anytime throughout the year.

Defoliation

In the summertime, there are some trees used for Bonsai that need to be defoliated, which means removing a large portion or all of the leaves to help the tree produce new ones. This is typically done for a number of reasons. First, it will help stop certain branches from growing and second, it will help the tree produce more branches as well as leaves.

This particular method should only be done if your Bonsai is healthy. Otherwise, part or all of it will die. While there is no set schedule for defoliating your Bonsai, you want to remove the leaves as soon as you see new buds appear. You can usually tell when the tree needs to be defoliated in that one branch will develop faster or slower than the rest on the tree.

Jin and Shari

These two methods help make the Bonsai appear older and is generally used to enhance the tree's natural appearance and character. The word Jin means, "baring and bleaching a branch" and Shari means, "baring and bleaching a part of the trunk."

The process is where the tree's bark is completely removed to help give the tree a more rugged appearance and best done in the summertime, which is the same for both Jin and Shari. Start by choosing your branch, making sure it is as thick as a pencil or larger. Then remove the bark with a flat knife, often referred to as a "Jin knife." Next, use a Jin Fluid, which will fasten the bleach to the tree.

For the Shari portion of the method, you will remove the trunk's bark, which helps create a little drama. Starting at the ground surface, you want the bare part of the trunk to become smaller, as it moves higher up. Make sure too much bark is not removed at once in that this could cause all or a part of the tree to die.

If you need to mark the area on the trunk where you want to remove the bark, you can use a piece of white chalk. Then with a sharp, flat knife, carefully begin pulling the bark off. Once this is complete, you can take the concave cutter to hollow the trunk slightly to give it the aged and natural look. Then, again use the Jin Fluid to apply the bleach.

ROCK PLANTING



In nature, it is quite common to see rocks growing in and amongst rocks, particularly, Pine trees. Bonsai trees can also be planted with rocks but keep in mind that with little space for the

development of a root system, you need to make sure the plant or tree receives adequate water and fertilization.

To grow your Bonsai in rocks, you will need to find rocks that have cracks and/or holes. This will allow the roots to grow into the rock. The best method is to grow the plant/tree in a large container before you plant it in the rocks. This way, the roots will be developed and healthy. For the tree, you can choose just about any tree for this type of planning but typically, the Pine tree is favored.

GROUP PLANTING



When growing Bonsai, group planting is very common. With this option, you would have groups of plants/trees, which helps to provide asymmetry. Keep in mind that instead of planting things neatly in a row they should be planted randomly, representing nature. You can place group plantings on a slate or in a shallow pot, whichever you prefer. Just be sure your choice provides the Bonsai with proper drainage. For instance, the slate will generally not have any drainage holes so you would need to first drill them.

Both Pine and Deciduous trees can be used for group planning. However, if you prefer, you can plant both types together. The important thing is that the trees are healthy since a good root system will be needed. Be sure you keep the group planting to odd numbers, starting usually with five and no more than 15! The spring is the optimum time for group planting, using two parts of akadama, one part of very fine gravel, and one part of garden compost.

RAMIFICATION

This chapter will cover the specifics about ramification for your Bonsai. Knowing how to go through these processes will make the entire process of growing Bonsai exciting, as you begin to see the changes that take place because of your labor of love.

BLACK PINE RAMIFICATION



The maintenance of this type of Bonsai has three primary elements, which include the selection of the bud, the pinching of the candle, and the plucking of the needles. For the overall development of this tree, each of these elements is crucial. The goal in this case is to guide the tree to expend its energy in the appropriate areas so that the formation of branches will be proper. We have provided a breakdown of these three elements to help you with this process:

Selection of the Bud



Typically, buds are formed in clusters located at the end of shoots. What you want to do is choose two of them in early spring or late summer to use and then remove any remaining buds. The two buds you chose will be used to form a forked shoot, which is an excellent branch formation.

If ramification work has already been done, where shoots from the spring were removed in early summer, and now the tree has produced new buds, these will need to be removed in late summer or early fall. However, if the shoots were not removed until late fall, then the tree will wait to produce new buds in the following spring, at which time you would remove them.

Removing the buds comes with a number of considerations such as the level of the branch on the tree, the relative position of the bud to the tree's trunk, the size of the branch, compared to the size it needs to be, and the position of the bud on the shoot.

Because pines are apically dominant, that means the upper branches will need to be restrained, which can be done by eliminating any strong buds, keeping only the weak ones. A tremendous amount of energy is sent to the apex so it is quite common for upper shoots to have as many as five or more buds while lower branches might have two or three. Because these lower branches require additional strength, you would do best to keep three buds instead of two. This third shoot can always be removed after producing new shoots.

The relative position to the trunk is also an important consideration. Many times, the interior branches and buds are weak. Therefore, select the stronger buds for the interior and then the weaker buds for the end of the branches. This will help balance the amount of energy the tree will expend. Sometimes, it would be wise to leave more buds than actually necessary, which will help the interior branches become stronger.

If you were working on weak, lower branches, then allow the bud on the end to grow out without being restrained. At this same time, you can develop the shoots on the interior. By using this method, the branch will become larger and stronger, and of course, it can be pruned later if needed. This branch is called the “sacrifice branch”.

Now, you want to select the buds growing on the sides of the shoots instead of those on top or bottom. The reason is that foliage pads can form properly and the branch structure will be better. Although getting a good bud on the side may not always be possible, do the best you can. In other words, if you can only get buds from the top or bottom, that that is fine.

Pinching of the Candle



This process helps regulate growth on pine trees. In early to mid-spring, buds on pines lengthen into what are called “candles.” Even if you made a careful selection the previous fall, chances are that, the candles will be different lengths in the spring.

In this case, you will pinch the longest of the candles so the length now matches the shortest candle. The one important thing is that you want to make sure the candles are less than one inch. When pinching the candles, if you pinch them prior to the needles breaking, then new buds will form at the base of that candle.

However, if the candle is pinched after the needles break, then the new buds will form at the end. Keep in mind that the location of the candle is something to consider, as far as what the tree and branch needs. As an example, consider pinching the strong candle a little more at the apex if it is on the middle branch.

Since candles on the lower branch will require more energy, you might want to leave it along until you prune the shoots later in the year. Additionally, remember that when you leave a candle alone for a long time, and when the candle is long, it draws tremendous energy to that

branch and shoot. Finally, the candles should never be pinched at an angle. Instead, simply pinch them flat.

Plucking of the Needle



When it comes to maintaining a pine tree, this is a necessary process. In this case, needles are pulled off in November, allowing more sun and air to get through the foliage and into the interior shoots. Additionally, plucking needles also helps restrain energy of the shoots. Depending on the specific needs of the tree, you would pluck old and new needles.

On the upper shoots, you want to leave less needle pairs, on the lower shoots, leave more, and then on the middle shoots, an average amount. In addition, leave more needles on the interior shoots while plucking a greater number from the end of the branches.

Many times, needles are plucked from the interior shoots but remember that you must consider the strength of the shoots and overall health of the tree when doing this. For the upper shoots, you might leave four pairs, 12 pairs on the lower shoots, and then six pair on the middle shoots. These numbers are just a general guideline so you would need to make an exact decision based on the tree's strength and needs.

Back-Budding



If you have a young pine tree, to help improve the budding process, simply leave the tree alone during the season. Then in September, all of that year's growth would be cut off so all you leave are the prior year's needles. What this does is cause, a burst of new buds further back on the branches. You will be amazed at the increased density of the branches.

Leaf Size



Sometimes, the size of the leaves on a Bonsai becomes a problem. In this situation, this along with the thickness of the twigs and lengths of the internodes are all related to the balance of the canopy to the root mass, the root age and density, fertility level, absence or presence of hormones, and the amount of light and the intensity.

Canopy Balance to Root Mass

To keep balance, the roots and top growth are always in cyclical motion. During the spring, most of the roots stored energy is used

to produce a new canopy of leaves, followed by new shoots. Then in the summertime, this reverses so that the leaves supply the roots with food and energy is increased for the top growth.

During the fall months, the leaves will completely stop the production of food, although food does continue to move from the stems to the tree's tissue. For the roots, they will continue growing until temperatures dip to 60 degrees by using stored food for the mass, while retaining enough to start the springtime growth process.

When trying to manipulate your Bonsai's growth, you need to learn this cycle. For instance, if you were to prune a dormant tree, then any buds would be stopped from receiving food the following spring. Therefore, the existing buds would be over stimulated. The result would be huge leaves and massive whips.

Now, if you were to prune the roots on a dormant plant or tree but not prune the top, then an important part of the food supply would be removed that would have been intended for the growth of new leaves and fruit. In this case, the released buds would have very small leaves and the internodes would be significantly shorter.

Another scenario would be pruning the top of the tree that has just blossomed with leaves. Again, the food supply that was just created for the roots is affected. This means the roots would have to come up with energy from whatever reserve they could to grow a new set of leaves. This is extremely hard on the roots and any new growth would be small and short.

Age and Density

When you have new roots growing in fresh soil, they will absorb nutrients and water well. This is perfect for the production of balanced leaves and internodes in that excess food was stored. Now, if you have roots confined to a tight space, they would soon lose their ability to store food.

The first symptom of this is called Chlorosis, which means the aged root system is not capable of using essential nutrients. Then, as the plant or tree begins to store less food in connection with what the top growth stores, the leaves will become very small and the internodes very short. For this reason, growing Bonsai in small pots creates a nice appearance that is favored.

Fertility Level

If your Bonsai is getting proper nutrition, then it will have healthy leaves and internodes. However, when training your Bonsai, particularly when in the first year as seedlings, you might find that you get a number of internodes located close together and on the lower portion of the trunk.

For seedlings, by not feeding them as often and allowing a little root bound will help shorten the first internodes. Later in the training process of your Bonsai, this will be helpful. Keep in mind that where you have internodes, you will also have dense and vibrant buds, especially on deciduous plants. Since nitrogen is what affects the leaf and internode growth the most, you want to keep this value balanced carefully.

Hormones

Some hormones do affect on the size of leaves and internode length. In most cases, gibberellic acid is the one that has the greatest impact on the internodes.

BONSAI SOIL



Just as you will select the type of tree to use for your Bonsai, you also need to choose the right type of soil if you want the plant to thrive. First, if you were a beginner, you can use a good quality potting soil until you become more experienced and familiarized with all the options. The key is making sure the potting soil can drain well and will not have a negative impact on the plant.

On the other hand, you can purchase specific soil mixes for Bonsai, which are generally freer draining and contain a less amount of fertilizer. You will find Bonsai soil at most nurseries or gardening centers that specialize in Bonsai growing. The other option is to make your own soil, which is an excellent option but it does require time and can cost a little more.

The best mix that would work well with all species would be to mix the following:

- One part Loam
- Two parts Sphagnum Peat Moss
- Two parts Granite Grit

KEEPING SOIL IN THE POT

You will notice that Bonsai pots have numerous, large holes in the bottom to help with drainage. While this ensures the Bonsai is not over watered, it also presents a problem of the soiling falling out of the holes.






To resolve this problem, you can take a piece of stiff plastic mesh and place it in the bottom of the pot. To help it stay in place, you would weave wire through the mesh and holes in the shape of a butterfly.

SOIL TYPES

To give you an idea of the type of soils best for Bonsai, we have listed the top choices below:

- Akadama – This Japanese word is broken down to “aka”, meaning red and “dama” being ball, or the full translation of “Red Ball”. This volcanic material is granular and a great soil option for Bonsai.
- Compost – These microorganisms have been broken down, which then releases nitrogen and other important things needed by your Bonsai. In the final state, compost is known as humus.



- Mulch – Made from organic materials such as grass clippings, bark, leaves, hay, etc. that have been shredded, it is a nice medium for Bonsai. Typically, the favorite for Bonsai is the Pine mulch. Just be sure you run it through a screen prior to use to get consistent size. 
- Peat Moss – Created from the remains of decomposed moss, this is an important consideration for Bonsai in that it can hold up to 25 times its weight in water. Additionally, with a pH level of 3.0 to 4.0, it is ideal for many Bonsai plants to include Azaleas. 
- Perlite – This type of soil is actually volcanic ash that has been heated. At this point, it expands, forming into Perlite. This soil is very lightweight, provides excellent drainage, and does not compact. Being porous, the moisture is maintained, which is important for Bonsai. 
- Pumice – This volcanic rock has bubbles, which are actually trapped gas that occurs while being formed. These bubbles make a great choice for Bonsai soil in that it helps trap water and important minerals, and protects the soil from becoming compacted. 
- Vermiculite – Somewhat like Perlite, this medium is created from mica thais exposed to heat and then expanded. Because it is granular, porous, inert, and can hold both moisture and nutrients well, it is great for Bonsai. 

REPOTTING

Depending on the type of Bonsai you are growing, the soil will need to be repotted at certain times. Typically, experts will recommend that you report your Bonsai during the fall months. However, keep in mind that some plants and environmental factors do play into this decision.

Advantages

One of the greatest advantages to repotting during the fall is that any transpiration stress is reduced or eliminated. This time of the year offers temperatures that are cool while the soil remains warm.

Take the deciduous plants for example, most are finished with their leaves at this time of year, which means any transpiration losses are minimal and although Evergreens are still producing leaves, they too benefit from the cooler air temperatures. Additionally, with shorter days, there is less light intensity, another advantage.

By repotting in the fall, the roots can be pruned and manipulated without having to deal with the tree going into shock. Roots are also very active during the fall with just the top portion of the tree becoming dormant. That means that any stored food, nutrients, and minerals are being directed to the roots. If the daytime temperatures remain at 50 degrees or more, they will continue to grow. Since the roots need good soil for growth, fall repotting is exceptionally advantageous to the roots.

If you have a deciduous plant that is repotted a few weeks prior to the leaf dropping, it will be established and settled into the soil before the cold winter months arrive. Typically, you would need about eight hours of warm temperatures during the day for this to work.

One thing to remember when repotting during the fall, your plant will need to be fed a 20/20/20 mixture. What happens is that while the nitrogen does not encourage bud break, the roots will take the food, which will help increase their activity while building a good reserve for the coming springtime.

Disadvantages

When you have roots that are not bothered during the spring and mid-summer months, they will build up a good hardiness toward cold for the fall and winter, but again, only if undisturbed. However, if you prune and repot the Bonsai in the fall, the roots will be stimulated for growth later in the season.

What then happens is the new roots are very soft and fragile, not being able to withstand the freezing temperatures very well. Several things contribute to this level of hardiness, as follows:

- Genetic Trait – To determine your plant's genetic makeup, you will need to know what the species can tolerate. Unfortunately, very little research has been done on root hardiness.
- Freeze Damage – Two species definitely have low tolerance to freeze damage. The first is the Cotoneaster and the second is the Japanese Maple.
- Typically, woody species will tolerate freeze damage to any new roots with a soil temperature of 20 degrees or less. However, most plants and trees used for Bonsai will have damage up to 28 degrees, although the level of damage is dependant on the specific species.

Just remember that fall repotting should really be done from zone 8 and higher. Additionally, this will generally work well in locations where temperatures do not dip below 28 degrees. Just remember that while it may not seem like a big deal, even a change in a few degrees can help your Bonsai survive or kill it.

CONTAINER SOIL



Did you know that soil could age? One important thing to remember is that it is important that the soil's life expectancy be coordinated with the schedule of repotting. What this does is ensure your Bonsai will not be fighting and struggling in soil that is old and collapsing.

Most people are unaware that soil does in fact age and when this happens, it will break down. This consists of the particle size changing, thus retaining too much water. When that happens, too much water can be retained, which can cause root damage to your Bonsai.

You see, pots that are newly potted do not require as much water as Bonsai that are already established. With the roots, they are compromised when the repotting occurs, coupled with combing out old soil and pruning, and things could be a mess.

When you are in the process of establishing a new root system, fertility and aeration are crucial to success. Typically, people think the amount of water held by the soil is what helps but this is not the case.

As your Bonsai's roots grow and new foliage and shoots develop, the transpiration will increase. To handle this, you can prune, which will help cut back the transpiration. Additionally, you will want to increase the water while cutting back on the amount of sunlight. When your Bonsai has its roots established where they are strong and not in a position to collapse, you will need to keep the soil aerated.

Shelf Life

Again, soil actually has a shelf life that is important for you to know. Many of the soil mixes that you can buy at nurseries or growing centers are designed to help with quick growth. While this is fine, these mixes also have a very short life cycle.

In a perfect world, your Bonsai should never stay in the same soil longer than two years. When they are in the soil longer, the soil will collapse, or you will be dealing with root bound problems.

Instead, you need a soil for your Bonsai that will last longer while also being more stable and flexible to give the support needed during training and pruning. Now keep in mind that when your Bonsai is in a training pot, you might consider using lava, perlite, and fresh bark to help the soil last longer.

One way to help the soil last longer is again, using inorganic components such as lava rock or pumice. Even using an unstable inorganic material such as clay or akadama will help the soil to last two to three years. If you notice the soil breaking down prior to this time, then you would need to repot earlier.

Drainage and Water Retention

The key with soil for Bonsai is that while you want it to stay moist, you also want it to drain quickly. Typically, keeping the level of moisture at 25% is perfect. Additionally, you want the space of air after the first drainage, which is called the saturation point, also to remain at around 25%.

As mentioned, peat moss is the best medium when it comes to retaining water without causing problems for drainage. In addition, peat moss has excellent nutrition retention. Another good choice when it comes to drainage is vermiculite. Once it begins to break down to clay, it will retain both moisture and nutrients.

Pathogens

Keep in mind that whenever you use compost that has not been thoroughly composted or pasteurized, or if you use native soil, then there will always be risk of pathogens. Other problems in this case include insects and other types of pests.

If you have concerns about pathogens affecting your Bonsai, you can put the soil in an oven bag, the type you would use for roasting chicken or beef, add just enough water to moisten it, and then bake at 160 degrees for about 30 minutes. Once the soil is cool, it can then be used as pasteurized.

Soil Collapse/Root Colonization

Just remember that the soil you would use in a regular garden versus the soil for your Bonsai is very different. First, the size of the particles has a direct correlation to the amount of air that is retained as well as water retention. If the particle size is small, then the air and water retention will also be small, with the opposite being true for large particles.

Therefore, as long as the organic material has particle sizes not too small, then you could use clay soil to help with the aggregation. This works in that the organic soil particles and the clay will clump, forming larger particles that will then trap air and water. The result is better aeration and air in the soil.

In fact, clay is wonderful for Bonsai in that it holds nutrients. If you do choose to have a Bonsai container with little to no clay, then you will need to fertilize on a regular basis. You will also find soil-less mixes on the market, which mean they do not contain any earth. These are generally deficient in trace elements, meaning that they too would need to have some type of other matter added.

The soil you will find at nurseries that are “soil-less” may or may not contain compost. Regardless, they are typically comprised of three things:

1. Organic structural elements, which hold water and nutrients such as pine bark, fir bark, redwood chips, and so on
2. Inorganic structural elements such as perlite, lava rock, baked clay, sand, pumice, decomposed granite, and so on
3. Water holding element, which would include vermiculite, peat moss, or compost

If the elements in the organic soil should decompose or compost prior to the roots being completely colonized within the pot, then the soil collapses, losing air spaces and drainage. When this happens, the roots will no longer grow.

By allowing the roots of the plant to fill the pot first, the soil will not collapse. As the roots form their colony, it serves to support both the plant and the soil. This is beneficial when it comes to watering in that it helps the maintenance of water drainage.

While this process when associated with organic soil elements can happen quite fast, with inorganic elements, the process tends to be slower. However, if the soil has volcanic additives, then it could be faster. Because of this, you need ensure the soil life matches the root growth rate, as mentioned.

When it comes to root colonization, this will vary depending on the plant or tree species you choose, as well as the degree of watering, sunlight, fertilizing, and pruning. Since each of these factors are independent, that means the plants will grow the best when each of these are at their optimum.

For instance, Bonsai that are grown in shade or less than optimal conditions will not have as much time needed for the roots to colonize in their new pot. That means that the Bonsai will suffer because the growth is slower and the soil will generally stay too wet, which then increases the organic decomposition rate.

QUALITY

Keep in mind that when growing Bonsai, you use very little soil. Therefore, you can afford to buy the best. Most Bonsai experts will recommend you use pumice, perlite, and lava rock in that they are great at holding water, lightweight, and can be found at just about any gardening center or nursery. The one drawback is that while these are quality components, they also break down. That means in one to two years, you will be repotting your Bonsai.

Another option to consider in addition to these mediums is decomposed granite. This can be run through a screen to ensure you get the particle size needed and it is great for drainage. The only downfall to this type of soil is that it is heavy and does not retain water well.

Just be sure you go with the best you can buy. Since Bonsai take years to train, you certainly do not want to skimp on the soil only to set yourself up for problems. By providing the best medium possible, you have a much better chance of growing a healthy and happy Bonsai that will respond to the training much better.

FERTILIZER



Regardless of the type of fertilizer you buy, it will be comprised of a NPK value, which is nitrogen, phosphorous, and potassium. With Bonsai, using the right type of fertilizer is crucial. Each of the fertilizer, each of the three elements plays a very important role.

- Nitrogenous –Helps with the overall growth of the plant/tree
- Phosphorous – Promotes bud and fruit development
- Potassium – Produces a hardy tree for the winter months

In the early spring months, you will need fertilizer that has a strong nitrogen value. Then in the summer and fall, the potassium will need to be high. You will find fertilizers sold specifically for Bonsai but remember that most fertilizers will do just fine, as long as the nutrient value is correct.

Typically, you would fertilize your Bonsai starting during the early spring months and into fall. You then want to add a firm fertilizer no more than twice a month and liquid fertilizer weekly, which will help the leaves.

The best way to fertilize is to use half the amount recommended for very young plants and trees. You also do not want to fertilize your Bonsai until it has been repotted for two months. The following guide will help:

- Early spring and summer – Use fertilizer high in nitrogen, which will stimulate growth. The values should be 15-10-5 (nitrogen/phosphorous/potassium). If the plant or tree is already formed, then use a 5-10-5 value.
- Late summer and fall – This will stop the growth stimulation of buds, allowing the Bonsai to survive these seasons. In this case, you would want a 5-5-25 value, meaning the potassium is quite high.

SEASONAL CARE

For Bonsai, every season brings a new type of care, as you will see from the following information:

WINTER



If you live in a region that experiences hard freezes during the winter, then some species of Bonsai will require extra protection from the elements. This would include Bougainvillea, Elephant's Food, Ficus, Lantana, and Natal Plum and so on. The best option would be to move the Bonsai close to the house or under a deck or porch prior to the sun setting.

Place each of them on a table, bench, blocks, or something else, as a way of elevating it. Next, take a piece of newspaper and cover the pots. To make sure the newspaper does not blow off, use clothespins or some other type of anchor. This way, you will eliminate damaging, vertical drafts. Keep in mind that you do not want to use plastic for the insulation.

If you have a garage, crawl space, or some other place that is not heated, that too would work. In this case, you would still place the newspaper on top of each pot. If your Bonsai does experience damage from frost, wait to trim it until you begin to see new frost.

Additionally, you want to reduce the amount of watering you give the Bonsai during the colder months. Typically, you would coordinate your watering with the current dew point so if you generally water your Bonsai once every two weeks in the winter but the dew point is exceptionally low for several days, then you might want to water more often, just during that time.

It is important that your Bonsai not be fertilized in the winter. Instead, you want to wait until you see the beginning of buds.

Freeze Damage

When roots and stems freeze, there is both chemical and physical change. First, it is important to understand the three phases of freezing:

1. Water freezing in the Bonsai's soil
2. Inter-cellular water freezing in the Bonsai's tissue
3. Intra-cellular water freezing in the Bonsai's tissue

Frozen Water in the Soil

Typically, this occurs when the water in the soil when the temperature of the three phases is the highest. In nature, water rarely freezes at a temperature of 32 degrees. However, in soil when ice forms, small particles are left that solute. In other words, the soil is not actually frozen, but the ice crystals in the soil.

While some people will tell you that freezing does tremendous damage to Bonsai, the truth is that the cells of the plant or tree are quite rigid and used to this type of pressure. Considering that the plants and trees generally used for Bonsai have been around for more than 1,000 years, it should provide you with some reassurance that your Bonsai will not die.

Now, if the roots are frozen for long periods and at extremely low temperatures, it is possible that some damage could occur. If you were worried about this, remember that plants to have built in mechanisms that keep them from freezing completely.

Freezing Inter-Cellular

Plants have another natural mechanism in which they expulse water from the cell protoplasm, which is located in the inter-cellular spaces. What happens is that changes in the cell membranes allow water to leave the cell, and instead, go into the spaces. Therefore, the water that does freeze is within the space and not the actual cell.

Freezing Intra-Cellular

Finally, when freezing occurs in the intra-cellular portion of the plant, the cells will die since they freeze. You would typically see few branches the following spring from this happening. The plants and trees however do have a built in mechanism referred to as, "Supercooling." With this, the sap will stay at liquid temperature so it does not freeze.

Temperature Ranges

Each of the three stages has its own freezing point, as shown below:

1. 32 to 23 degrees F
2. 23 to 14 degrees F

3. -4 to -40 degrees F

Keep in mind that the root systems of plants do not necessarily go through the same level of hardening. For this reason, you will see that some trees have their roots underground where they are not subjected to rigid temperatures and other trees have their roots above ground.

When a tree is taken from the ground and then placed in a pot to be trained as a Bonsai, you need to remember that depending on the type of plant or tree, you could be subjecting the root system to temperatures and an environment that it has never experienced. When this happens, the tree could die.

For this reason, it is crucial that Bonsai be protected during the in wintertime, especially in the first few years of change. The best way to provide protection is to place the Bonsai in the ground outdoors during the winter so that it is in its natural protected state, or if you do put it in a pot, add mulch. As long as the roots are not exposed to killing temperatures, it should thrive. However, if the plant or tree does die, do not be overly surprised.

Tissue Dehydration

Another problem relating to frozen soil is that while typically this is not a problem for the Bonsai, there are exceptions. First, if the temperature of the above ground tissues should rise dramatically where the soil water stays frozen, then transpiration of the water might occur from the shoots.

As the Bonsai grower, you can help avoid the problem by creating some type of windbreak for the tree. Excellent options include using a greenhouse or coldframe. Even if you have an area in the garage or on a porch or deck, that too would work. If the Bonsai is outdoors, again, make sure it has plenty of mulch built up around the base.

Guideline

To keep this all straight, you can refer to this guide any time you need.

- If the Bonsai will be created from a temperate plant, it will go dormant in the fall. At that time, shorter days and falling temperatures will be a consideration. When exposed to shorter days and lower temperatures, any frost will encourage the plant

to begin cold hardening, as a way of sustaining itself through the cold months.

- Bonsai from temperate plants will need to have a time of “chilling”. This will help break the dormant time, thus starting re-growth. Typically, this time is considered anywhere from 250 to 1,000 hours with temperatures ranging from 34 to 50 degrees F.
- Any buds, leaves, or shoots above ground from temperate plants that have gone through the cold hardening phase can generally handle very low temperatures.
- The Bonsai roots from most temperate plants will not cold harden, which you would find in above ground plants. Therefore, they are very susceptible to low temperatures, becoming damaged quite easily.
- Freezing soil is not always a threat to your Bonsai. However, if the Bonsai has frozen soil and then exposed to long periods of shoots being in the cold or drying winds, you could have damage or dying shoots.
- Always allow your Bonsai to go into its dormant state and cold harden properly. For instance, exposure to the first fall frosts is important.
- Keep your Bonsai in an enclosure or pot that is well watered and where temperatures can be controlled all winter long.
- Any plants that are removed from the protected area during cold temperatures could cause the plant/tree to die

SPRING



Spring is a busy time for Bonsai in that you will be working with re-growth, new growth, potting, and styling. In addition to this, you may have some potted Bonsai that have been in their pot for two years, meaning these too need to be pruned, shaped, and repotted.

However, to change the appearance of your Bonsai, this is the time to consider something different, which could be done by repositioning the tree in its current pot. If you prefer, you can completely change the style, whichever you prefer. When you begin to see new leaf buds, you want to pot or repot the Bonsai to ensure they have adequate internal reserves to keep growing

while the feeder roots are absorbing nutrients. However, if you do not provide the Bonsai with root pruning, then these feeder roots will become active quicker.

When working on your Bonsai during the spring, you should find a shady place out of the wind, and preferably with a 30-degree dew point. To ensure the root balls stays moist, you also want to keep a spray bottle on hand. During the spring, you will be cutting various parts of the tree so you want to make sure you produce clean cuts by having sharp tools.

If the plant is young, then it will require more pruning of the roots. To accomplish this, the tap should be removed along with the larger roots, using concave cutters. Take care not to cut anything except the roots. Spring is the time of the year when you will fertilize the Bonsai, using components of Nitrogen/Phosphorus/Potassium. The Nitrogen will benefit the leaves and stems, the Phosphorus the roots, and the potassium, the flowers.

While you could use non-organic fertilizer, your Bonsai will actually do much better with organic matter. For your repotting soil, the tree would do well with a little application of slow-release, solid fertilizer that contains micronutrients. Now is the time to examine the growth of the roots. If they have not grown as much as you would like, then change the soil to one that is coarser and that drains better.

Additionally, reduce the amount of nitrogen, while increasing the level of phosphate. Finally, the roots should be left alone for a minimum of two years. Make sure the tree is out of direct sun and wind, for at least one week. Then very slowly, you will introduce it to these elements so it can adjust naturally.

Although you will still water on a regular basis, initially reduce the amount you give the tree. This transitional time will help your Bonsai look better. Then after two to three weeks, you will add organic fertilizer. If you have a Pine or Juniper, you would also want to add fish emulsion once a week. Then any flowers should be cut off at the end of their blooming period so the Bonsai will look stunning the next year.

In most cases, you would not want the trunk or branches to become too bulky. To make sure this does not happen, any new side buds and branches should be maintained at a shorter length. The best guideline is that active buds should be limited to pairs, keeping no more than two buds per branch. Going back to Pines and Junipers, these may require weekly trims to help ramifying growth.

SUMMER



Summertime always presents unique challenges for Bonsai but with the proper information and tools, you can maintain your plant's health.

As an example, the following tips will help your Bonsai not just survive but thrive during the summer months:

- Make sure you are using fresh, healthy soil
- Every week, rotate your Bonsai about one-quarter turn so that the entire plant receives an equal amount of sun and fresh air
- Keep the Bonsai well trimmed, specifically species that tend to get out of control such as elms and junipers
- Pay attention to the water levels along with the retention for the type of soil you are using
- After noon, make sure your Bonsai has an overhead shade cloth
- Place your Bonsai on slatted workbenches on the lawn or gravel and then in the morning, soak the ground. Then, occasionally, provide the Bonsai a good misting.
- While setting your Bonsai near a pond or swimming pool is fine, be very careful about placing them in pans of water in that the sun can reflect and cause problems
- Set your Bonsai in groupings but make sure none of them are touching
- Protect your Bonsai from the western or hot afternoon sun
- Grow your Bonsai in a growing bed as opposed to pots
- For maples and other thin-edged leaf bearing Bonsai, water them with reverse osmosis or distilled water
- Fertilize the Bonsai regularly using half the normal strength
- If you notice any wilted leaves, reduce the amount of water and place the Bonsai in the sun

- Remember that only your larger Bonsai should be placed in full sun. For instance, plants such as elephant food, bougainvillea, Texas ebony, junipers, and dwarf myrtle would do fine in full sun but any Bonsai that are root-pruned or ones you have recently repotted.
- During the late summer and early fall months, be sure you use fertilizer that is high in phosphate. A great blend would be 10-60-10, which helps the buds build a reserve for the following spring.

AUTUMN



For the fall, you need to be careful with your Bonsai, not allowing them to get out of control. Many times, species such as elms, junipers, and pomegranates grow very fast in the fall so you will need to keep new growth pinched back.

One of the most important things to remember during the fall is that you need to monitor your water retention for the soil mix very carefully. If you are not cautious with this, you will easily over water, killing or severely damaging the plant.

Giving your Bonsai a fertilizer high in phosphate, using a blend of 10-60-10 is beneficial. What happens is that this type of blend will help the buds maintain a reserve so that in the spring, they can flourish. Additionally, for your juniper and pine Bonsai, you probably want to wire them during the fall, constantly checking them for fast growth that could cause scarring.

SEED GERMINATION



When it comes to germination, you will find that with Bonsai, you have two primary options. The first involves pre-treating the seeds, and then sowing them so germination is forced during the springtime. The second option is easier and more natural. This method consists of sowing the seeds into a mulched bed during the fall and then again, in mid-summer, without using pre-treatment, which helps the germination the following spring.

PRE-TREATING

With pre-treatment, also known as cold stratification, the seed's state of dormancy is broken. When this occurs, the seed is more apt to germinate. By pre-treating the seeds, you are more or less helping the seeds reach a point of germination, which would be done naturally. The benefit however, is that you are helping the seeds germinate quicker.

When you apply pre-treatment in a controlled environment, which could be your own kitchen refrigerator, then the natural process is sped up but also, you are creating a more controlled process. The result is that more seeds survive and, you can control the time in which the seeds will germinate. If you choose not to pre-treat, then you leave everything up to nature.

If you choose to pre-treat your seeds, you will find that the longer the pre-treatment period, typically the more the germination rates after sowing are uniform. That means that of the seeds you germinate, the majority will sprout closer together, instead of spreading out over time.

COLD STRATIFICATION VS MOTHER NATURE

As you will see from the information below, the practice of seed germination is not difficult and is very beneficial, especially when it comes to Bonsai.

Method One- Cold Stratification

Start by mixing your Bonsai tree seeds in a plastic, zippered bag with vermiculite that is moistened, making sure the soil is not soaked in that this can cause the seeds to become moldy and mildewed. Therefore, you would do better to be more on the dry side than the moist side.

If you discover your seeds are becoming moldy, then remove them and spray them with an organic fungicide mix. After being sprayed, place them in a new plastic, zippered bag with new vermiculite that is again

slightly moistened. The seeds will then be returned to the crisper to complete the process.

Next, place this in your vegetable crisper in the refrigerator. Just make sure you use 20 times more vermiculite than you do the seeds. You will keep the seeds in this cold stratification, as recommended per species and then remove them. Now, plant the seeds in flats with quality soil where they will continue growing.

You should probably re-spray with the organic fungicide, and then allow the plants to grow outdoors where they will receive sunlight and good, fresh air. Keep in mind that when the plants are young, they will not do well in full sun so make sure they have partial shade. Some Bonsai plant growers feel strongly that giving the plants a couple hours of sunlight in the morning is best, then moving them to a strong shade thereafter to grow a strong, healthy plant.

To germinate, most tree seeds only need about one-half inch depth. The only difference is that if you want to plant the seeds in a nursery bed, because they will be exposed to natural elements such as rain and wind, you should plant them a little deeper, averaging from three-quarter to one-inch deep.

During the fall and winter, you should add mulch around the base so the plant has additional protection but in the springtime, dramatically reduce or completely remove the mulch so the new seedlings can break through the ground without much effort. Finally, keep the nursery bed moist but never soaked. Additionally, you do not want the bed to dry out.

Method Two – Mother Nature

The second way to germinate your Bonsai seeds is to plant the seeds in a nursery bed. Some growers believe that pre-treatment is the best way to go while others feel the results from using nature to germinate are better. The one downfall to simply allowing Mother Nature to do her thing is that you do risk some consistency in that you are at the mercy of nature and have no control.

For this option, you will have the best results by planting the seeds in the spring so they can grow all summer long. For individuals living in regions that tend to have chilly springs, you can always place twigs or leaves around the base for protection. However, as mentioned you want to avoid using mulch in that it blocks new seedlings from pushing up through the ground.

Another option is to grow your seeds during mid- to late fall, just prior to the first frost. If you prefer, you can start your seedlings indoors but for this to work, the seeds will need to have good light source and air circulation. If not, then you will find that plants are slow growing and when transplanted in the garden, do not do well.

For the fertilizer, you want to be careful not to go overboard. Your best option is to choose a good, organic fertilizer that has a mix of 10-10-10 or 20-20-20. Just remember that you only need to fertilize your Bonsai seeds once the weather turns warm or when they begin to show significant growth.

HELPFUL TIDBITS

To ensure you have success with your Bonsai seed germination, regardless of the method you prefer we have put some tips together to help you with the process:

- Remember that germination is not rocket science but an art that just requires common sense
- If you plan to pre-treat your seeds, they love warm, environments and will do poorly in situations that are cold and wet
- Do not become concerned if you notice some batches of Bonsai seeds sprouting before others – this is quite normal
- When germinating your seeds, especially using the cold stratification method, you need to keep everything sanitized. This means using sterile tools, soil, vermiculite, and so on.
- When using the cold stratification method, you need to be patient
- Never over water
- If you want free Bonsai tree seeds, all you need to do is walk through your local park or neighborhood, collecting seeds right off the tree
- Keep in mind that all trees have special genetics. Therefore, if you choose to grow three elm Bonsai, you will have three different versions of the same species.
- If you plan to store seeds to be planted later on, place them in a plastic container with a good, solid seal, and then put them in the refrigerator

JAPANESE BLACK PINE SEEDLINGS

To give you an idea of the process for planting specific seedlings, we have chosen the Japanese Black Pine as an example. This tree is magnificent and strong. Because the Japanese Black Pine is so powerful and has a great spreading surface, this stable tree presents strong characteristics.

To start your Japanese Black Pine from seeds, you need to develop the spreading surface right after the juvenile needles have opened. The entire root structure needs to be removed, and then the shoots without roots will need to be treated. You will find that the new roots grow horizontally, making them easy to train.

You want to plant your Japanese Black Pine seeds anytime from late winter to early spring. Once you have growth, the roots will need to be cut off, using a very sharp blade. Make sure the cut is on the ends at the green portion of the shoot. Take this end and dip it in a good, rooting hormone. Now, you want to place the shoots in four-inch pots, using a light to medium granular soil.

It is important that the seedlings be protected from the sun, but just until the root is matured. Then to reduce problems with fungus, apply an organic fungicide. Additionally, keep the soil moist – not wet and not dry. Once your roots are fully formed, which usually takes about two months, fertilizer will need to be applied.

MAINTAINING A HEALTHY BONSAI



After you have trained your Bonsai in the style of your choice, you cannot leave it to fend for itself. To keep their beautiful shape, Bonsai must be maintained. Although this is not difficult, it does require some general knowledge.

For instance, you will need to know where to place your Bonsai, how much to water and feed it, when, where, and how to prune, when and how to repot, techniques for wiring without damaging the Bonsai, and so on.

This chapter is dedicated to overall maintenance of your Bonsai, providing you with answers to these and many other important questions so that you have a beautiful tree and enjoy the process of keeping it that way.

BONSAI POSITIONING

Where you place, your Bonsai tree has a direct correlation in how well it will grow. For starters, the tree needs to be kept out of direct sunlight. Now, as discussed earlier, you can provide directly sunlight if it is in the early morning but not in the afternoon.

Additionally, if your tree is young, then you should keep it out of the sun altogether. Other things important in positioning your Bonsai include its location to air. Good circulation and relative humidity are crucial. Although strong, direct wind is not necessarily a good idea, positioning your tree where it has ample fresh air and can receive a nice breeze is perfect.

Another consideration that is often overlooked is the position in how it relates to accessibility. Keep in mind that you will need to water, feed, prune, and fertilize your Bonsai so you need it to be positioned where you can get to it with ease.

The last thing you want is to be reaching over or around your tree to do the simple things. One thing interesting about Bonsai is they will tell you if they like or dislike the place where you have put them. For example, if you notice burnt foliage, discoloration, or wilting, then you know the plant is stressed and unhappy with its position.

The best way to make your choice is consider the species natural growing habitat and then try to immitate it. For instance, some tree species naturally grow in partial shade with just moments throughout the day of indirect sunlight. By positioning your Bonsai in a similar environment, it will do much better than if you were trying to go against its natural preference.

GROWING AND DISPLAYING INDOORS



When it comes to Bonsai, there are two groups of plants. The first are those species designed to be grown and displayed indoors while the other group is strictly for outdoors.

For the outdoor Bonsai, many growers bring their trees indoors where they are put on display for special occasions but then afterward, they need to go back outside. A good rule to follow is that three days a month indoors is all your Bonsai, regardless of species, will handle.

For the outdoor Bonsai, they simply cannot and should not be grown inside. Bringing them in during the flowering season or to celebrate a party, is fine but if they are kept indoors too long, they will actually become stressed. If you do bring the Bonsai inside, remember that you will need to take extra care when it comes to watering, sunlight, humidity, and so on.

Providing the Bonsai with a daily misting will help, as will positioning the tree so it is not somewhere too warm. For example, if you bring your Bonsai inside during the wintertime, make sure it is not placed too close to a heater. Keep in mind that if the Bonsai need to be kept warm, you can purchase a special heater that will not dry the tree out but you would also need to use a humidifier.

Additionally, once you put the Bonsai in its position, try to leave it alone as much as possible. The more you start to touch and mess with the Bonsai, the more stressed it will be.

APPROPRIATE WATERING

For growing Bonsai, watering is a very important aspect. You need to find the perfect balance between moist, but not wet or dry. Unfortunately, trees are often subjected to harsh winds and/or excessive heat, which can dry the Bonsai out. Another problem is too much water, which can make the tree mold or mildew, or rot.

If your Bonsai is one of the outdoor species, then the only time you need to be cautious is when the weather turns hot and dry, or when there is an abundance of rain. During normal summer months, you should water your Bonsai about twice a week, and if the days are extra hot, move the trees to shade.

Some people will use a drip or mist sprinkler system that waters the Bonsai without getting them too wet. If you live in a region that is prone to long, dry spells, then using something as simple as a water sprayer will help increase the humidity level.

Tips for Watering

If you are unsure if you are providing your Bonsai enough water, you can always lift the pot and feel the weight. Amazingly, once you become accustomed to the pots you use, you can generally tell how much moisture is in the soil simply by feel. Considering that the water accounts for about 25% of the overall weight, this is not difficult to do.

Another method is to keep a set of wooden chopsticks on hand. If you think the soil is dry, you can poke the chopsticks down into the soil. If they come out dry, then you need to water your Bonsai. However, if you notice moisture on the chopsticks, then you are still good.

One of the most important things you can do is learn the water patterns of your specific plant or tree. Since each has different drying times, this will help you determine the right amount of watering and the best schedule. While quick drying and frequent watering is exceptionally good for Bonsai, you do want to make sure you do not over water, which could cause root rot.

Other factors play into the drying time, such as:

- Soil Mixture – Fine mediums such as clay, peat moss, and vermiculite all hold a lot of water whereas other types of soil do not. If you find that your soil is drying out too soon, you can add some of these elements to help.
- Plant Size – This too will affect the soil. For example, if you have a Bonsai that is a leafy type of plant or tree, then it will consume more water than a smaller leafed species. Additionally, root colonized or root bound plants and trees will require more water.
- Pruning – Since pruning helps the plant or tree grow, more water will be required during the pruning times.
- Fertilizer – Since fertilizers will encourage some plants and trees to grow very fast, they could also speed up the drying time. Additionally, if you have organic matter or decomposition in the soil, then you might experience premature soil collapse, which would increase the overall drying time.
- Disease – One of the most common problems with watering is again, too much, which then causes root rot. Additionally, you will find several diseases that can actually cause blockage to the vascular system. When this happens, water cannot be absorbed

properly. Therefore, you need to watch for problems, which might present as wilting leaves. At this point, allow the Bonsai to dry out completely before watering again. If the soil is dry but the leaves are still wilted, your Bonsai could have a fungal infection.

- Wind and Temperature – These too can cause your Bonsai to dry out too quickly. If your plant or tree is exposed to one or both, you will need to keep a close eye on the water content of the soil.
- Sunlight – What happens here is that sunlight will heat up the plant and/or the pot in which it is planted, causing moisture to evaporate.
- Humidity – When it becomes humid, the water will typically last longer. In this case, if you live in a region with high humidity, make sure you do not over water. A daily misting might be best, especially if the temperatures climb.
- Size of the Pot – Obviously, a larger pot would hold more water while a smaller pot would hold less.

BONSAI FEEDING

A strong and healthy Bonsai needs to be fed on a regular basis. The key here is feeding the tree at the right time, and using the right fertilizer. The goal of the fertilizer is to replenish minerals and nutrients that can be washed away naturally during rain or when the Bonsai is watered.

Although fertilizer is available in a multitude of forms, one that many people like is the pellets. The benefit is that this type of fertilizer is slow releasing, so the Bonsai is fed over a period of weeks, safely. Another option, although not as popular with Bonsai growers is the soluble powder and liquid.

These food types work very well and fast but work over a shorter amount of time. To use the powder or liquid, you would mix them with water according to the directions and then sprinkler over the Bonsai.

BONSAI PRUNING



As mentioned in other sections, to maintain the shape of your Bonsai and refine new growth, pruning is crucial. In fact, with proper pruning, you will actually encourage new growth. Some plants used for Bonsai respond very well to pruning naturally, while others simply do not recover no matter what you do. The most important thing to remember when pruning is that you need to know the type of tree you are dealing with. Otherwise, you could actually damage the tree.

The best time to prune depends if growth is new or old. For instance, new growth should be pruned during the growing season, which will help maintain the shape. On the other hand, old growth should be pruned during mid-fall. As you will see below, there are several different ways to prune Bonsai.

Finger Pruning

This method of pruning is very popular, working exceptionally well for cedars and junipers. To finger prune your Bonsai, you would pinch back any new growth, making sure it does not interfere with the overall shape of the Bonsai, or at the top where bush foliage would be encouraged.

To accomplish the pruning, you want to hold then new growth between your forefinger and thumb and then with the branch being held in the other hand, twist. The reason this method is better than using scissors is that the leaves and foliage do not turn brown and they look more natural.

Keep in mind that if you have a cotoneaster, Chinese elm, or maple, then you would want to use scissors. If you have aggressive growth, then you want to trim back the shoots, just after the next series of leaves. In this case, the foliage would not be cut back as much.

Leaf Pruning

This method is also known as defoliation when used for Bonsai, and is the best option when growing maples or Ficus. The goal with leaf pruning is to remove leaves that are unsightly, as well as to speed the growth up. With leaf pruning, it would be done in mid-summer. Approximately 70% to 90% of the leaves are removed, keeping just enough so the tree maintains its energy.

The key is to use fine scissors for removing the leaves, cutting them just behind the leaf. The important thing with leaf pruning is that in about two weeks, you need to make sure the plants are comfortable in their environment, are in a friendly position, have good fertilizer, and are properly watered. The important thing to remember with leaf pruning is that only certain Bonsai plants would use this method.

WIRING



To achieve the desired Bonsai shape, not all plants need to be wired. Take the Fukien Tea plant, which can be trained easily and without the use of wire. However, many other plant species need this added support and encouragement to grow the right way.

One misconception about wiring Bonsai is that it is done to keep the plant small. In truth, wiring is simply a means of holding the branches in the position you want so the tree will train to a specific shape. If you do use wire, make sure you check it carefully so that the tree does not sustain any damage.

The goal when wiring the Bonsai is to copy the natural curves. The branches you want to wire are those that will likely break under pressure. In this case, the wire would be twisted around the branch for training purpose. As you shop for wiring, you will discover two types – aluminum and copper. Both are inexpensive, easy to find, and look fine. However, the copper option is a little more difficult to work with, especially if you have never done this before.

It is crucial that you take your time and do the wiring properly because if done wrong, the Bonsai can be damaged beyond repair. You will also find both aluminum and copper wiring in various densities, depending on the size of branch you need to train and how stubborn the tree species.

Your best bet is to purchase the wire in a number of lengths so you can determine which is best for your Bonsai. Remember, if you mess up, you can always remove the wire and start again. To give you an idea of what you would buy, if you are training very thin branches, 3.5-gauge wire would be perfect.

The best and safest way to wire your Bonsai is to clench the branches with both hands, and then slowly and carefully, apply the wire, wrapping it around the branches. Be very careful during this process to make sure the trunk does not experience any damage. The easiest way is to wire the branch first, bending it in the desired shape.

To ensure the branch does not become re-trained, anchor the wire for security. All you need to do is dig down into the soil, placing the wire going up the trunk so it reaches the branch that you want to train. On occasion, using the larger gauge wire is difficult. To get past this, you can use a thinner gauge wire and double it.

The day before wiring your Bonsai, you want to avoid watering the plant. Additionally, the Bonsai will do much better if you keep it in shade for approximately two to three weeks after you have finished wiring it. Then to ensure the bark is not being cut into, you want to check the Bonsai every day for several weeks.

In fact, during the spring and summer, the risk of damage is increased. Sadly, when damage does occur, it is often irreversible. Depending on the degree of damage, it can take years to grow out. If you plan to use any type of deciduous tree for your Bonsai, remember that they are highly susceptible to wire damage. The reason is that this type of tree has many fast growth spurts. Therefore, while the wire might be fine the first week, chances are it could be dangerous the second week.

PESTS AND DISEASE

Like any other plant or tree, Bonsai will be susceptible to pests. If caught early and taken care of properly, you can save your treasured tree.

SPIDER MITES



The number one pest enemy of Bonsai is spider mites. The best way to get a handle on this problem immediately is to monitor your Bonsai on a regular basis. In fact, you should get into the habit of preventing these pests in the first place, although that is often not as easy as it sounds. First, you need to use a low toxic level of pesticide, whether chemical or organic, as soon as you see signs of spider mites.

Identification

The most visible of the spider mites are the red variety. You will actually see them crawling around on the leaves as very tiny red specks. Although small, they can be seen. If you were unsure, take a white piece of paper and while holding it under one of the suspect leaves, gently tap the leaf so a few drop to the paper. This will make them much easier to identify.

You might also notice a small web like material that resembles some type of debris on the underside of the leaves or tiny pearls that are actually eggs. Other mites could be translucent with two dark spots on the back. No matter which type of spider mite you have, always check on the underneath portion of the leaves. If the plants are really badly infected, the leaves will be yellow with red mottling.

If you still cannot see the mites make sure your Bonsai has them, you can use a magnifying glass. Although spider mites are not considered an aggressive mover, meaning they will generally stay on one leaf or nearby leaves, they can be moved by birds, animal hair, and even clothing. Typically, spider mites are much worse when the weather is dry and dusty although they can attack in any condition.

You need to learn if your particular Bonsai is a type of plant enjoyed by spider mites and then if you find your Bonsai has them, isolate the plant so they are away from uninfected plants. Many species are susceptible, particularly Junipers, Boxwood, Apples, and Blackberries.

In most cases, spider mites will be the worst in the springtime, peaking in the latter summer months. Then when the weather begins to cool down, they will multiple but at a much slower pace. The lifecycle of spider mites

is anywhere from seven to 10 days, laying eggs throughout. Any treatment should be repeated over the course of one week to ensure the adults and any hatchlings have been killed. When you do spray, make sure the bottom of the leaves is focused on most. However, you do need to treat the entire Bonsai. If you have the time, you can grow or buy predator mites, which although very expensive, they do help.

FUNGUS



As touched on earlier, fungal infections are something else you need to watch for when growing Bonsai. Try to use a fungicide that is organic first, turning only to chemical as a last resort. Additionally, you want to read any labels carefully.

Some products are not meant to work on the specific disease that you are trying to control. That means using it anyway and hoping it will help can sometimes cause damage to your prized Bonsai. You should also find a very small place on your Bonsai to test the product before treating the entire tree, just in case.

The best type of fungicide is one that is protecting. That means it is comprised of a shield that will protect your plants healthy tissue. If your Bonsai already is infected with a fungus, then you want to eradicate, which will help kill it. Then to protect uninfected portions of the Bonsai, you would use a systemic fungicide.

If the Bonsai's root system has a fungus, it can usually be protected very effectively with Thiophanate methyl. Roots are obviously more difficult to treat. Therefore, you will need to apply the fungicide to the soil as a drench so it can then travel through the plant systematically. Another problem with roots is that because the soil stays moist, it is loaded with diverse microbes. Because of this, the fungicide will probably degrade quickly, meaning you will need to give more than one application.

The following are recommendations specifically for fungus and Bonsai:

- Leaf spots – Benomyl, Chlorothalonil, Mancozeb, Propiconazole, Triadimefon
- Powdery Mildew-Triadimefon
- Rust- Chlorothalonil, Mancozeb, Propiconazole
- Root Rot (water mold) – Fosetyl-A1, Metalaxyl
- Root Rot (fungi) – Methyl, Thiophanate
- Seed Treatment - Captan

TOP BONSAI CHOICES

When you first get started in the world of Bonsai, you will probably feel a bit overwhelmed with the choices you have. Literally, hundreds of different trees are available that make excellent choices for Bonsai, all of them good options.

CHOOSING YOUR TREE

To help you through the process of choosing the right tree for your Bonsai, we have gathered information on the top choices. Now keep in mind that you can obviously choose whatever you like but the following trees have been proven time after time to be perfect for Bonsai. They have the characteristics needed, are trainable, beautiful, and hardy. Therefore, if you are just getting started, you might at least consider one or more of these recommendations.

Dwarf Pomegranate



The Dwarf Pomegranate is an extremely popular choice for Bonsai. In addition to fulfilling all the requirements for being a great Bonsai, this particular tree also produces wonderful flowers and fruit.

The Dwarf Pomegranate is very much like your traditional Pomegranate with the exception of size. The leaves tend to be thinner and the flowers and fruits smaller. The flowers have a trumpet shape that is stunning yellow/orange. Additionally, the trunk of the Dwarf Pomegranate twists, which is what makes this such a favorite choice for Bonsai.

If you think about it, growing Bonsai involves significant effort in training the trunk and limbs to twist and turn. With the Dwarf Pomegranate, the gnarling comes naturally, which means training is a breeze. This ancient look is something most Bonsai growers look for and with this tree; you get it without any effort.

The leaves are dark green with subtle shades of bronze. This further enhances the rich look of the Bonsai. Once the Dwarf Pomegranate has bloomed, the fruit is produced, which looks like small red balls the size of golf balls.

If you want an informal style of Bonsai, one that would fit well into the Cascade, Root over Rock, Forest, Literati, or Informal Upright categories, then the Dwarf Pomegranate would be perfect. This particular tree handles hot very well and loves the sun.

Care

- Dwarf Pomegranate can be propagated easily. Therefore, if you want group plantings, you can get them by taking thick branches from the parent tree.
- Pomegranates need to be kept damp at all times
- To encourage flowering shoots, you can keep this tree in shade and a little on the dry side prior to mid-season
- You do want to keep the Dwarf Pomegranate where it can receive good light
- Always place the Bonsai so it has adequate shelter from warm, drying winds or frost

Caution

- Do not plant the Dwarf Pomegranate in a pot that is then placed in a shallow container or dish
- To encourage flowering, keep this Bonsai well watered and choose a deeper pot when developing its root system
- The Dwarf Pomegranate does not handle cold weather well and will not tolerate frost
- If you live in a region where extreme heat or cold are common, then you might considering growing this Bonsai in a greenhouse
- The branches tend to break easily so extra care needs to be taken when wiring

Serissa



The Serissa species comes from a massive family consisting of up to 5,000 species. The plant has a shrub like appearance with thick leaves that are oval in shape, dark green, and about 18 inches tall. When the leaves become bruised, they produce an unpleasant odor.

Most people will choose the Serissa because it has a neat, polished look with dense branch coverage and flowers that bloom for long amount of time. The trunk of the Serissa is gray in color and very rouge. As the Bonsai ages, the trunk will begin to change shades of gray, becoming lighter and lighter.

With blooms all year long, primarily from spring to fall, this makes an excellent choice if you were looking for color. The flowers are shaped like a funnel and almost completely white. You can find species that develop double flowers and if you want color other than white, you will find a number of options in this family such as the Pink Snow Rose, which produces leaves that are off-white with soft, pink flowers.

Care

- This particular plant should only be used for indoor Bonsai. Additionally, the Serissa requires a lot of light and needs to be placed where it can get plenty of air and temperatures ranging from 55 to 65 degrees. However, you want to make sure the Bonsai does not sit in front of any drafts and if you want to give it some outdoor time in the summer, just make sure you set it under shade.
- The best time to prune the Serissa is after the flowers have gone through the final blooming and new shoots have several nodes developed. To ensure you have healthy re-growth for the next season, you do want to leave about five leaves.
- Then about every other year during the springtime, you will need to repot the Bonsai and prune the roots.
- This Bonsai will require plenty of water and often
- Choose only organic fertilizers that are slow yielding
- This plant is easy to propagate simply by taking small branches in the spring and replanting them in a heated box kept under glass

Caution

- The only drawback of the Serissa is that when you prune and repot, you will probably get a whiff of an unpleasant odor

Ficus



The Ficus is also known as the Rainforest Fig, which makes a great choice for Bonsai. Although figs are primarily tropical plants growing in the jungles of Asia, hundreds of species exist that can be grown outside of this type of environment.

The leaves of the Ficus are unusual in that very small flowers are encased in the fruit that develops, which then is born in the axils of the leaf. While the development of fruit is not common, the Ficus still makes a good option for Bonsai.

For the best results, you need to provide this plant with lots of sunlight although it also does well in partial shade. The soil should be rich in humus, moist, and well drained. Since the Ficus does not do well in harsh conditions, you need to bring it indoors when the weather turns too hot and shield it from cold wind and frost.

Typically, the Ficus will produce aerial roots that come out of the branches and trunk. You can leave these roots if you like the look or remove them. Some Bonsai enthusiasts believe it takes away from the appearance but others feel it enhances the plant's natural beauty. Therefore, the decision is personal and completely your choice. When the roots first develop, they will be quite brittle. However, with the right nutrients and care, the roots will grow strong and hardy.

The size of the leaves on this Bonsai will vary in size from one-half to three-quarter of an inch, varying from one species to another. The nice thing about the Ficus is that it is very forgiving. In other words, if you forget to water it for days, it will do fine. If you aerial layer, you can propagate from the cuttings or seeds.

Care

- Make sure you do not over water or the roots will rot
- This particular plant will need to be pruned throughout the year, cutting back to three leaves
- Since the leaves tend to be large, you can help reduce their size by defoliating at the end of the summer. Just be sure the growing tip or sheath is removed. Then, the larger leaves can be thinned in the spring.
- If you live outside of a tropical climate, keep the Ficus under fluorescent lights inside in the winter
- While this plant will tolerate low levels of light, it does need some
- The Ficus needs to be protected from draught and frost and should never be exposed to temperatures lower than 59 degrees
- Do not subject this plant to sudden changes in temperature
- Between watering, allow the soil to dry
- To maintain humidity levels, mist the plant several times per week

Satsuki Azalea



midwinter.

This particular plant is very commonly used for Bonsai. With many varieties, this plant is very hardy and has gorgeous flowers up to seven inches in diameter. Considered a shrub, the bright flowers are produced in the spring. You will also enjoy beautiful blooms during the

The Azalea is perfect for Bonsai in that they can be trained in any style. With a defined trunk, they can be trained to look like a tree without much

effort. Again, while you could choose any style, the most common choices by Bonsai enthusiasts include Multiple Trunk, Raft, Root over Rock, Tree on Rock, Semi-Cascade, Slanting, Informal Upright, and Windswept.

Care

- With Azaleas, you will need to deadhead the flowers as well as the leaves quickly
- Any new growth will also need to be removed once the blooming season is over
- Secondary shoots need to be pruned light in midsummer and heavier in the fall
- The best soil option is one without lime. Since the Azaleas fall within the Rhododendron family, they all need acid soil.
- The Azalea will do best when placed in partial shade
- Always protect this type of Bonsai from hard rains and frost, especially when in bloom

Japanese Maple



Of all the maples used for Bonsai, the Japanese Maple is the most popular. For one, this tree is small, making it great for training. Additionally, the appearance is beautiful. You will find the foliage to be delicate, fern like, and in the fall, the colors are brilliant, ranging from deep red to a rich, elegant gold.

Care

- The Japanese Maple needs partial shade during the summer months and then full sun the remainder of the year
- You will also need to ensure this tree is not placed in the path of direct wind
- During the springtime, any unwanted shoots will need to be removed
- Any shoots with five nodes or more should be removed, leaving approximately one-half inch for die back.
- Every winter to early spring, you will need to repot and fertilize
- The Japanese Maple requires plenty of water without allowing the plant to dry out in between watering, which can cause the leaves to burn or become over watered causing the roots to rot

Caution

- While the Japanese Maple can tolerate changes during the wintertime better than other maples can, they will still need proper shelter and shade to ensure the leaves do not shrivel up and die
- Drying winds can cause significant damage to this type of Bonsai, causing the leaves to become burned and die

Trident Maple



While the Trident Maple is similar to the Japanese Maple, this tree is deciduous. The foliage produces rich and vibrant colors, making it a favorite of many Bonsai growers. The Trident Maple will often form a bush top that has a strong, thick trunk. The bark of the trunk is a light brown that is spotted with small leaves, typically three short lobes

together.

The nice thing about the Trident Maple is that it will mature quickly and the branches are nice and refined. Best of all, you can train this tree in just about any style with the exception of the Broom style.

Care

- The Trident Maple needs to have partial shade during the summer and then full shade the rest of the year
- Make sure this Bonsai is out of direct wind
- Never allow this tree to dry out completely
- You will need repot this Bonsai each spring as the time when the buds begin to swell
- Be sure to feed this Bonsai on a weekly basis during the spring and then nightly until late summer

Caution

- The Trident Maple is intolerant to poor soil and exposed positions
- Never use free draining soil mix

Zelkova



Two species of the Zelkova, the Japanese Zelkova and Elm Zelkova originate in western Asia where the climates are cool. This outdoor Bonsai is deciduous and has leaves that look much like those grown on the American Elm or English Elm, although the Zelkova is smaller. Additionally, even though the Zelkova is related to Elms, they are not subject

to the same diseases.

Many Bonsai enthusiasts swear that this is by far the best deciduous tree available. You will find that in the wintertime, green colored flowers bloom that has a subtle sweet fragrance. Then in the fall, the leaves change to beautiful shades of gold and bronze. The trunk of the Zelkova is straight, covered with smooth bark that will turn from green to gray as the tree matures.

Care

- Zelkova do require soil that is fertile and well drained
- In early spring, early Zelkova will need to be repotted while the mature Bonsai about every two years
- While this Bonsai is very hardy, the branches tend to be fragile and thin. Therefore, you need to use extreme care when wiring.
- This plant does quite well with the broom style training
- Zelkova does fairly well with frost but you should provide some type of protection
- In the summer, the Zelkova requires plenty of water and full sun
- Take care not to over water but also do not allow the plant to dry out completely

Camellia



Considered an evergreen shrub, the Camellia has unusual leaves that are glossy and large. Many Bonsai growers love this particular plant and with more than 250 species from which to choose, you know you will find one that appeals to you.

The most common species used for Bonsai include the Camellia japonica, Camellia sasanqua, and Camellia reticulata. The sasanqua is the most popular in that it is compact and easy to train.

Care

- Camellia are sensitive to frost and will require some type of shelter
- While they can tolerate a small amount of direct sun, this plant prefers partial shade
- Throughout the growing season, you will need to feed an ericaceous feed
- During the spring, this plant will need to be repotted about every two years
- Make sure you use a lime-free soil

- In the wintertime, you can hard prune the Camellia and then once the flowering season has ended, trim in the shape you prefer
- Ground or air layering can be done in the spring
- Then from late summer to late winter, the roots should be cut

Caution

- This particular Bonsai is susceptible to scale and aphids
- The Camellia is also susceptible to sooty mold and other virus type diseases that can damage the flowers

Cedar Elm



Typically found in the United States, particularly from New Mexico to Tennessee, this plant makes a great choice for Bonsai. Because it is an elm, the tree can tolerate neglect, although it is not a good idea. While the Cedar Elm will do quite well in a number of zones, for the most success, you should live between zones 7 and 9.

The rough, fissured bark is one of the features making this a desired species for Bonsai. They can be found at nurseries, gardening centers, or on the internet but also found in the wild. The trunk and branches have an aged look that is perfect for Bonsai.

You can ramify the branches simply by pinching the shoots and leaves on a regular basis. If you were just getting started in growing Bonsai, the Cedar Elm would be an ideal choice. This tree does quite well in most soils but the best type is organic soil that is 50% organic and 50% Haydite. Another good choice is soil 60% akadama and 40% grit. The key is to ensure the soil has a balanced pH level.

With Cedar Elms you need to be careful with the water in that they do not do well if too wet. Since they grow naturally in regions that are hot and arid, they will do best if kept more on the dry side. Additionally, with Elms and other trees, they do require more water during the springtime than any other time of the year.

You can keep this Bonsai in full or partial sun but if they are exposed to too much sun, the leaves will rotate so the edges are up. If you notice this happening, then you know you need to cut back on the direct sun. Typically, a few days in the shade and the problem will be corrected. Too much sun also causes the leaves to turn yellow.

Care

- During the winter, the Cedar Elm will require protection from the elements, especially if temperatures dip to 20 degrees or less
- You might find in the winter that the branches and twig die and drop off
- Fertilize during the spring once leaves have grown, then in the late summer and early fall
- With the Cedar Elm, they naturally stop growing during the summer. Therefore, you will not want to fertilize at this time.
- You can use chemical fertilizers but organic is best
- To ramify, new growth should be pinched back to two leaves

Caution

- Since the Cedar Elm heals very slow in the spring and early summer, do not prune at this time
- Although wiring is easy on this tree, you do want to be careful around branches and shoots, as they swell easily
- Unfortunately, the Cedar Elm is very picky about repotting so only repot in the spring and use the highest quality soil
- Although Cedar Elm has very few problems with pests in their natural habitat, they do tend to have issues with the caterpillar, which will destroy the foliage.

Chinese Elm



The Chinese Elm is native to the eastern portion of Asia, growing in its natural habitat up to 60 feet tall. The bark of this tree is a dark gray, mottled with cream and reddish brown. Grown both indoors and outdoors, the Chinese Elm will stay as a semi-evergreen when grown inside but then deciduous when outdoors.

The leaves are a deep green that feel thick and leathery. However, on the top, they are shiny and smooth, with very small, blunt teeth. During the fall, the Chinese Elm produces fruit.

If you want a good plant to grow for Bonsai, this would be ideal, especially for beginners. Since this particular tree has a nice, predictable growth pattern, and heals well when pruned, it is easy to grow and care for.

Care

- During the cold winter months, the Chinese Elm needs good protection from the elements but is still very hardy

- In the early spring, you will need to prune this Elm after the growth season has ended. Just be sure you leave two nodes on closest to the main branch or trunk.
- This particular Bonsai will need to be watered on a regular basis, making sure the soil is always moist but never over watered or dry
- About every two years, you will want to repot this tree during the early spring months. The key however, is the report one month before or after you have done the pruning, which will provide the least amount of shock to the Bonsai.
- The Chinese Elm is strong and relatively resistant to the dreaded Dutch Elm disease.
- This versatile tree has a cork-like bark, giving it beautiful character for Bonsai. Just be sure the tree is given good shade during the summer months.

Cotoneaster



If you want a plant that is hardy and easy to grow for Bonsai, the Cotoneaster would be the perfect choice. The leaves and flowers are both quite small and dainty. The nice thing about the Cotoneaster is that you will find a multitude of varieties, including evergreen and deciduous. Additionally, the species grow in a number of forms to include spreading, prostrate, and upright.

During the spring months, you will see shiny green foliage that has very dainty white flowers. Depending on the variety of Cotoneaster you choose, they may also produce small, red berries. The nice thing about growing the Cotoneaster for Bonsai is that they are easy to train and work well with all types of styles such as Root over Rock, Root on Rock, Clump, Cascade, and Informal Upright.

There are many reasons why the Cotoneaster is a favorite for Bonsai enthusiasts. For one thing, because of the beautiful leaves, flowers, berries, rather than choose a simply pot, you can go all out when it comes to color when potting this plant. Again, you will discover a huge array of varieties but to grow Bonsai, the following are the best options:

- Cotoneaster Compacta Nana
- Cotoneaster Congestus
- Cotoneaster Horizontalis
- Cotoneaster Microphyllus

Care

- Make sure the Cotoneaster is placed where it will get good sunlight, although it will need occasional shade
- Provide shelter from frost
- During the summer, you will need to water often and less in the fall and winter
- When in the growing season, use a good fertilizer, but avoid fertilizing when flowers and fruit are growing
- Since the Cotoneaster handles being pruned quite well, you want to keep the new shoots trimmed back when in the growing season and then in the spring, cut back old growth
- Any wiring should be done during the growing season and in the spring

English Buxus



Being a member of the evergreen shrub family, the English Buxus is just one of about 70 different species. In their normal habitat of Asian, Africa, Central America, and Europe, this plant will grow in woodlands to hilly, rocky mountainsides.

The leaves are extremely small, making this a great plant choice for Bonsai. Then, during the spring, the English Buxus produces male flowers, which have beautiful, yellow anthers, surrounded by clusters of female flowers.

While you could consider a number of the 70 species for Bonsai, the two most commonly used include the *Buxus sempervirens*, also called Common Box, and *Buxus microphylla*, known as the Japanese Box. On the exterior, these two species seem very much alike.

For example, they both have small, dark leaves. However, they are different in that the *sempervirens* can grow quite tall and they spread well whereas the *microphylla* grows very slowly and is much shorter. You can grow this Bonsai in shade or sun but if the plant receives too much sun, the leaves will scorch.

When it comes to the cold, winter months and frost, they are both very hardy. You do however want to provide good protection from the frost, once the temperatures dip below freezing. If you notice the leaves turning a bronze color in the winter, do not panic since this is normal.

Many Bonsai growers love the English Buxus since they can be cultivated indoors very easily. If you decide to grow your Bonsai inside, just make sure it is kept in a room without heat, or even a screened in porch.

To train this plant for Bonsai, you will need to keep up on the trimming, especially when growing. Typically, this plant is stiff, with a very angular appearance. As you prune and trim, you will notice, the English Buxus softens and becomes easier to work with.

Care

- The English Buxus will need to be fed about every two weeks when in the growing period
- In the springtime, you want to repot about every two to three years, using good, basic soil organic preferably
- Provide this Bonsai plenty of sunlight and air circulation, which helps fight off fungal disease

Concern

- During months when temperatures are hot, you will find that the English Buxus often has a problem with red, spider mites
- Box plans in general are often infected with fungal diseases. Take the Box Blight fungus for example. This new disease is still being research but spreads very quickly, killing the leaves, stems, and small branches. You will begin to notice black streaks that will show up on the bark and then turn to a gray colored fungus. Within just a few months, if not treated, this fungus will spread throughout the plant, killing it. Therefore, you will need to use a quality fungicide if you notice any problem with fungus whatsoever.

Flowering Quince



If you want a gorgeous plant to grow for Bonsai, the Flowering Quince is it. During the late winter months, the plant will produce magnificent white, pink, or red flowers, all intertwined on bare branches.

This plant originates in China, Korea, and Japan, and is a very adapting type plant. The branches are tough but with a springy quality. In most cases, the branches will be covered with thorns on quick-growing shoots.

While the leaves are actually quite simplistic, they do have very fine teeth. In addition to the beautiful clusters of flowers, the yellow/green, waxy fruit that grows in the summer has a wonderful, perfumed fragrance.

Care

- This particular Bonsai loves sunlight but should not become overheated
- Make sure the soil is well drained and rich with nutrients
- You want to keep the Flowering Quinces well watered
- The great thing about using this plant as a Bonsai is that it can be trained without much difficulty and looks great in a variety of styles
- Bushy growth can be encouraged by cutting back the older branches
- Pruning should be done in the late spring
- Propagates fairly well by layering or cutting

Fuchsia



With more than 8,000 hybrids of this one plant, you will find that many of them make great choices for Bonsai. Typically, Fuchsia has larger leaves, which with pruning, can be reduced in size. However, the flowers are also large but cannot be made smaller.

When considering Fuchsia for Bonsai, we would recommend Lady Thumb, Microphylla, or Tom Thumb. However, the most reliable and hardy of the species is the Fuchsia Magellanica. When choosing this plant, you want to avoid any variegated forms since they tend to revert in bad lighting and are among the weaker species.

Typically, you would grow Fuchsia outdoors for most of the year. Most species will handle low temperatures relatively well but once the weather turns too cold, generally lower than 27 degrees, then the leaves will fall off and the branches might die. For this reason, you would do best to keep the Fuchsia indoors during the colder months.

Care

- Fuchsia needs good levels of humidity along with regular misting. However, you want to make sure they are not over watered
- About every two years, you will need to repot this plant, at least for the first 10 years of its life. After that time, you would repot about every four years, using a basic soil mix.

- This plant needs to be pinched weekly in the summertime, which will help slow down the growth of over anxious shoots. Additionally, this will help with ramification and improve the size of the leaves
- Fuchsia produce flowers throughout the year and while you will need to provide some minor pruning, it will not affect the production much
- Any suckers growing from the roots should be removed.
- Because this type of plant buds vigorously, you might consider wiring and doing a little bit of pruning to help train the shape.
- If you want to propagate Fuchsia, you will find it is easy to do. Simply take cuttings during the spring and then again during the late summer months.

Concern

- When wiring young shoots, use care in that they are tender and can be bruised or damaged easily
- Susceptible to aphids, you will need to carefully examine these plants on a regular basis and then use a good, preferably organic insecticide
- If the soil becomes too wet or the plant is not in a place with proper air circulation, they can have problems with mildew. In this case, you would need to spray a fungicide.

Fukien Tea



This particular plant grows much like a shrub and is actually a member of the Southern Chinese evergreen family. Considered an indoor plant and makes a beautiful Bonsai.

The leaves are shiny, oval, and dark green while the trunk is a white or gray color. This contrast makes this a striking appearance. Then, the Fukien Tea grows small, white flowers that have a subtle perfumed fragrance.

If you care for this Bonsai carefully, it will bloom throughout the year. Once the flowers are finished blooming, they will be replaced with small green berries that eventually change to a bright red. The nice thing about this plant is that they are easy to train for Bonsai and seldom need to be wired.

Care

- When growing indoors, you need to place the Fukien Tea in a location where the temperature maintains around 60 degrees.

If you do place this plant outdoors, make sure it is placed in a sunny location where it gets a good water supply and good levels of humidity.

- The branches will need to be pruned throughout the year
- New shoots that take away from the shape you are trying to achieve for the Bonsai will need to be pinched
- When trimming new shoots, keep it back to about three leaves on a regular basis during the normal growing season and then about every two to three months during the colder months
- From spring to fall, the Fukien Tea will need to be fed fortnightly and in the winter, make sure the food is low in nitrogen

Concern

- The Fukien Tea is not fond of shady locations. Therefore, it needs to always have as much sun as possible without getting too hot, which could cause the leaves to burn
- This plant does not tolerate cold draughts or frost well

Jade Tree



Native to South Africa, this is a beautiful plant for Bonsai. Considered an indoor plant, they do not do well below 45 degrees. The trunk is nice and thick, with a thick, elliptical leaves that are a beautiful green color. When growing the Jade Tree, you need to make sure it has sufficient light, which causes the leaves to form red edges while white, star-shaped flowers blossom, typically in the fall.

The leaves usually grow to about two inches, although they can be cut back to about one-half inch with regular pruning. For the Bonsai style, you will find the best options to be clump or informal upright.

Care

- Provide as much natural light as possible since poor lighting will cause small leaves and a poor growth rate
- Only light watering is required without the soil drying out in between watering. Typically, you can tell when this plant needs more water in that the leaves will start to have a wrinkled texture.
- Report the Jade Tree about every two to three years, using quality, organic matter. Most Bonsai enthusiasts recommend a mix comprised of 75% inorganic matter, or grit, and 25% organic, or peat compost. This particular mix offers excellent drainage, while holding just enough.

- Feed this tree about once a month from spring to fall
- To help encourage growth on the lower portion of this tree, you will need to pinch new growth consistently
- When wounded, the Jade Tree faithfully creates new growth
- To produce new branches, individual leaves should be removed immediately
- For trunk reduction, the Jade Tree does quite well
- When training with wiring, you will need to set the new position about every three weeks
- Before wiring, make sure you do not water. The reason is that turgid branches snap and mark much easier.
- Propagation is a breeze and can be done at any time during the year

Concern

- When over watered, the Jade Tree develops unhealthy root systems. When this happens, they are no longer capable of supporting the heavy foliage, causing them to become top heavy.
- Be careful when wiring in that the bark is prone to marks. Additionally, if forced to bend too far, the branches will snap off.

Japanese Black Pine



When it comes to the perfect plant for Bonsai, this is it. Elegant, powerful, and distinguished, the Japanese Black Pine is a beautiful specimen. Just remember that for this tree to reach maturity, making the perfect Bonsai, it takes several years. Therefore, you need to be prepared to dedicated time and effort when growing this tree, although the results will be worth it.

Keep in mind that when using the Japanese Black Pine for Bonsai is not necessarily an easy thing. Because of this tree's growth characteristics, they tend to develop leggy branches, which can show up in whorls from the trunk, which is also leggy.

Each of the branches will produce foliage at the tips, making it appear as a dense lollipop. Since this particular tree is apical dominant, this means the branches at the upper portion will generally receive most of the energy. Because of this, the branches located at the lower portion are generally weak.

You need to make sure the soil is well drained and a 50/50 mixture of pumice and akadama. If the Bonsai is young, then add a little more grit

whereas a mature tree typically likes more akadama. This soil mixture is important to help eliminate problems with root rot. Additionally, this specific mixture helps oxygen to reach the roots.

The soil should be kept moist but not overly damp. In fact, the Japanese Black Pine prefers to be a little on the dry side and is known for tolerating slight draughts. Always water evenly and thoroughly. The pH level also needs to range between 5.5 and 6.5. While they can survive outside of this range, they will thrive when in the correct range.

This tree loves sun all day. However, for regions where temperatures reach 100 or more, then the tree will need to be provided with shade during the hottest part of the day. If you notice the leaves turning a yellow/green, then you know it is receiving too much sun.

When compared to other trees used for Bonsai, the Japanese Black Pine is quite limber. The branches can be wired and trained in a number of different shapes, again making this a wonderful option for Bonsai. Typically, this tree should be repotted from December to March, and about every four years.

The Japanese Black Pine needs good surface root structure. With bent wire, you can hold the bowed up roots down. Then with stones or chopsticks, raise and separate the ones needing to be repositioned. Over time, the roots will correct themselves.

Once you have completed the repotting process, you should place the tree in a location with bright shade for about two weeks. Additionally, ensure the soil does not completely dry out and that the tree is protected from harsh winds and temperatures.

Care

- During the spring, you will need to do significant pruning
- In the late fall and winter months, pruning of the branches will help cut back on sap bleeding. Once the branch has been cut off, cut around the edges with a sharp knife since they will not do well with the sap. Then, you want to seal the wound with putty cut paste.
- Removing larger branches in the spring is best, as the larger wounds actually heal faster
- When reducing the Japanese Black Pine, this should be done over a period of years since drastic pruning causes stress and ultimately, damage
- Once the tree has been pruned, make sure it is kept in partial shade and extreme temperatures for four weeks

- If you plan to wire this tree, you want to do it in the winter
- When repotting, you need to take your time so the roots can be rearranged carefully

Concern

- Excessive heat can actually cause the roots of the tree to bake
- This type of tree does not tolerate fertilizer quickly but they do like organics in late spring through early fall, coupled with chelated iron and vitamin supplements
- Wiring the Japanese Black Pine anytime other than late winter will cause the sap to flow, damaging and possibly killing the branch
- Never wire a stressed pine
- Never let a wired pine freeze
- Root removal during repotting is not tolerated very well so be careful with the feeder channels of the trunk while trimming
- Roots feeding into larger, lower branches should not be trimmed much
- Prone to red spider mites, you need to keep your Bonsai healthy and strong, which is when they are attacked most. For the best protection, check your Bonsai every week, looking for any sign of weakness. If you think you see spider mites, you can take a white piece of paper and while holding it underneath one of the leaves, tap the leaf to see if mites fall onto the paper. If so, use a miticide to eliminate them.
- Mealy bugs and aphids are also common problems but they can be controlled easily with a pesticide

Juniper



This particular conifer is hardy but produces no flowers. However, they are easy to grow, prune, and train, making them a good choice for Bonsai. Because Juniper is responsive, many beginner Bonsai growers will be encouraged with this choice.

Generally, Juniper has long branches that can be trained into amazing styles, with the exception of the Broom. They do well with wiring and reshaping although some cultivars are stiff and more difficult to work with. Additionally, Juniper is very hardy and can be grown indoors or outdoors.

Care

- Pruning should be performed in the spring or fall, never in the summer months
- Maintenance pruning should however be done throughout the year with young shoots being pinched back

Concern

- Because Juniper has prickly needles, you will want to use gloves. These needles can also cause a reaction in some people that appears as a red, itchy rash.

Star Magnolia



This is an amazing choice for Bonsai. The Star Magnolia grows slowly and tends to be bushy. However, while most Magnolia flowers quickly, this particular species can take up to 30 years! When they do flower, you will have a gorgeous white star-shaped flower that can reach up to five inches in diameter.

This particular Bonsai would need full sun mixed with partial shade. They should be fed every two weeks and then balanced with a quality fertilizer. Starting in August to late fall, you want to make sure the fertilizer is low in nitrogen.

Care

- For pruning, cut back after flowering

Concern

- When repotting, make sure you use soil that is lime and alkaline free. Your best option is a neutral to acidic soil.
- Typically, this type of plant is highly resistant to pests and disease. However, if you notice the leaves turning yellow, then it could mean that the soil is too acidic.
- For repotting, this is done best in the spring. Just remember that Magnolias do not like having their roots disturbed. For this reason, you only want to repot every three years. Then, just one-third of the root ball should be removed.

Wisteria



of Bonsai styles.

This type of plant has about 10 species that produce woody, twining, deciduous climbers, great for Bonsai. The leaves, which are good size, will alternate in color from deep green to pinnate. With the leaves being made up of smaller leaves, they are great for a number

Now keep in mind when training a Wisteria that they do not conform to the “normal” Bonsai styling. In other words, they are purposely styled to show off their amazingly fragrant flowers. Therefore, you would choose the style that best suits the species you plan to grow.

The colors are beautiful and include colors of pink, purple, white, and blue. Then the flowers that bloom in the spring have green seedpods. While you can choose whatever species you prefer, the two most popular for Bonsai include the Wisteria Floribunda and the Wisteria Sinensis.

The one drawback to the Wisteria is that when they are planted in the ground, you will need to encourage flowering. First, remember that for Wisteria to bloom, they have to be mature, typically around the age of 10. Then, you can prune all the shoots down to within six inches from the trunk. If you do this after flowering and repeat it two to three times in the fall, you will find that springtime brings more buds.

Feeding the Wisteria is also important in that they need to have fertilizer low in nitrogen. Not only will this help your Bonsai stay healthy, it will also discourage excessive leaf growth while not affecting the flowering.

Care

- Full sun mix with partial shade is best
- The Wisteria will need more water than many of the plants and trees used for Bonsai growing
- You will need to repot about every third year in the spring
- Style for the flowers, not the overall plant

Concern

- Leaf spot, aphids, and brown scale are common problems

Crabapple



Flowering Crabapples actually make great Bonsai choices. Covered with beautiful foliage and flowers in the spring, they then have miniature green apples in the summer that will actually ripen to many different colors. Additionally, the foliage will turn red, orange, and yellow in the fall, giving this Bonsai brilliant color. Then in the wintertime, the Crabapple will develop amazing fruit and colorful flowers.

While Crabapples do quite well for Bonsai, they do not obtain low grafts as good as other trees. However, if you use root cuttings, you will find it not too difficult. Then try burying the under stock one inch at a time, which can be done by making vertical slices in the bark. Next, apply hormones and cover the area with good soil. Then, you want to try to move the root zone upward. Another option is layering.

Another challenge with under stock suckering is that if the top of the plant is pruned, this under stock will become over stimulated, even more than the scion. The result is a huge explosion in the growth of suckers, which makes the trunks too large and difficult to train.

After training the Crabapple, you will then need to place it in the pot. Just remember that a cutting the size of a pencil will take several years to produce a trunk that is one-inch thick. However, once they are planted, you will find they grow quickly and will need pruning within weeks. When the roots have filled the pot, the leader will need to be cut back to about three inches. Just be sure you leave a section of close internodes.

If you want unique and radical bends in the trunk, you can create multiple trunk cuts. This creates a soft and interesting look. The process is then repeated, each time adding a few inches of the trunk. You will generally get a little bit of tapering with this but very subtle. However, what you do get is crooked trunks and great growth.

Even though the Crabapple grows quickly, getting a good taper on Crabapples is difficult. Since they always want to develop as cylinders as they get older, the only thing you can try is to reduce the whips to about six inches after they have been allowed to grow wild for two years.

Then, if you throw numerous branches below the cut, going in all directions, the plant will respond quite nicely. This process can be repeated as much as you want. You will find that the multitude of lower branches form into one massive lower trunk. If you prefer, these lower branches can then be removed if they become too large for the Bonsai.

Using this method, the Bonsai should develop a six-inch trunk in about four to five years.

Care

- The Crabapple is a ravish eater, and will need to be fed high levels of calcium
- You will want this Bonsai to get as much full sunlight as possible without it becoming scorched during extremely hot days

Concern

- With Crabapples, Crown Gall can be a problem. This parasite will create wart like nodules on the surface roots, as well as the plant's crown.
- Because this is a fruit tree, you will find that several different types of pests try to enjoy a meal on your Bonsai. Therefore, it is important that you inspect the plant on a regular basis.
- Although you might see powdery mildew, this is generally not a serious problem. If you do get the mildew, it can be treated with an organic fungicide.
- This particular type of tree will suffer from root rot. When this happens, place the tree in a denser soil, which will help reduce the summertime watering requirement.

ACCENT PLANTS

One of the things that make the Bonsai so beautiful is its simplicity. The look is very formal and uncluttered. However, to enhance or accent your Bonsai while staying with tradition, you can add moss or a small amount of under-planting. If you were growing Bonsai for show, you would find that most judges only want to see a little coverage over the pot but nothing more. However, if growing Bonsai for personal pleasure, then you could use a little more accent.

CHOOSING ACCENTS

In addition to additional plants, you can also choose rocks, which give the impression of the trees, as they grow naturally in the rugged mountains. Regardless of what you choose, the important thing is to keep things in scale to the actual tree. In fact, you will find some beautiful mountain plants that grow perfectly in cracks found in rocks and best of all these plants require very little soil.

Alpine



These alpine options are perfect for Bonsai planted in dishes, as long as they have the required light and not over-watered. In most cases, alpines produce wonderful flowers during the spring, bringing soft, delicate color to the trained Bonsai.

Interestingly, some weeds make great accents in that they look amazing. However, before you go adding just any weed to your Bonsai, you need to ensure they will work well with the plant in that many weeds naturally rob precious nutrients from the soil. The following are a few alpine recommendations to consider:

- *Arenaria balearica* – This small creeping plant makes a great coverage that is bright green, mossy, and in the spring, has delicate white flowers
- *Calluna vulgaris* – This plant is a type of Heather that provides a nice, dense covering
- *Frankenia thymifolia* – Another creeping plant, the stems are wire-like with downy leaves of silver and in the summer, dainty pink or rose flowers
- *Potentilla* – Using several of these plants as accents is a wonderful option and with the yellow flowers, they create a cheery appearance
- *Pratia angulata* – This perennial forms a mat of thin stems, pale green leaves, and white flowers

- *Raoulia australis* – This is another mat that has a blue-gray color with yellow flowers that bloom in mid-summer
- *Saxifraga* – Very small rosettes are formed with this alpine and in the springs, you will enjoy spikes of white flowers

In addition to alpines, you will find a number of qualified plants to serve as accents for your Bonsai, which include some of the following recommendations:

Dwarf Grass and Rush



Using short grasses is an excellent idea for creating a visually pleasing Bonsai. The grass would be planted underneath the tree but it is important that you keep scale in mind when choosing the grasses. To keep the look clean and neat, depending on the grass type, you might be required to perform an occasional “haircut.” The following are great species to consider:

- *Equisetum hiernale* – Also known as *Equisetum*, Dwarf Horsetail, or Scouring Rush, this grass is in the horsetail fern category. The only thing you need to keep in mind when using *Equisetum hiernale* is that the roots can become invasive so be sure you use a small amount and keep an eye on the root development.
- *Festuca glauca* – Also called Dwarf Sweet Rush, this grass has a bluish color that works wonderful with larger Bonsai. Another species, the Spiral Rush, has stems that spiral like corkscrews, thus the name. With these grasses, they need to be moist constantly so they would have to be planted with Bonsai such as Alder, Swamp Cypress, and Willow.

Fern



If you have a large Bonsai then you could use a fern from a smaller variety. One example of a fern that would be beautiful is the *Athyrium filix-femina crispum*, also called the Dwarf Lady Fern. The color of this fern is what makes it so distinct in that it is lime green and the ferns have rhizomes dark in color and widely spread that eventually form a crowded mat.

Lichen



This unusual plant looks like a cross between algae and fungi. Lichen grow very slowly but offer beautiful color. The one thing to remember when choosing Lichen is that

they are meticulous about where they are planted. Typically, Lichen love to stick to bark located in damp soil. For Bonsai, most people will place the Lichen in between rocks or crevices where they can grow, adding texture and color.

Moss



Moss is a favorite accent for Bonsai because they are hardy and come in a variety of short-growing species. Just make sure the moss is shaded and misted daily until they can establish in the soil of the Bonsai.

Succulent



As long as you provide adequate draining, the Succulent will do quite well. One great option is the Sempervivums, which are also called houseleeks. This species is reddish in color and forms a hardy rosette shape. You do have to watch the roots in that they can become invasive.

Herbs



Surprisingly, some herbs work very well as accents for Bonsai. Take Thyme for instance, it has beautiful dark leaves that during the springtime are covered with small purple flowers.

ACCENT DETAILS

The one thing with all types of accent plants is that you have to learn how to grow them along with the Bonsai. In other words, you might have watering or sunlight needs that vary. To grow healthy accents along with your Bonsai, you might consider choosing pots that can be set down into trays containing peat, vermiculite, and sharp sand. This way, the plants can be moist at all times without being soggy.

You will also need to provide overhead protection during the winter months if the Bonsai are kept outdoors. The goal here is to keep the snow and harsh winds off the accents and the Bonsai. When choosing accents, keep in mind that you can try just about anything you like.

Many Bonsai enthusiasts have discovered that unusual plants can be great accents. For example, the Dandelion is a weed that we have all learned to hate. However, one or two planted in with the Bonsai creates color and interest, and the Dandelion grows well in just about any type of soil.

As mentioned, the type of pot chosen is another huge aspect. The problem is that not all gardening centers or nurseries carry the type of pot you really need. Therefore, if you cannot easily locate a pot that has a high quality glaze, then you might need to check on the internet.

Mam Bonsai

This is a practice in which small, plastic or porcelain toys are added to the Bonsai pot. Some Bonsai growers do not appreciate Mam Bonsai while others think it adds character and a touch of whimsy. For instance, you will find toys of people or animals doing everything from smoking a cigarette to sunbathing.

Pop Bonsai

This technique creates a less rigid and more youthful approach to growing Bonsai.

CONTAINERS AND DISPLAY BENCHES



If you plan to grow your Bonsai indoors, then it will need to be potted in some type of container. The key is to provide a home for the Bonsai that is not too hot, offers adequate drainage, and allows room for the root system to take hold.

HEAT

One thing to remember is that roots in containers do not get the same benefit as those planted outdoors in soil. For instance, the ones outdoors are surrounded and protected by the soil whereas indoors, they are not. Typically, in containers, the roots are barely on the inside of the pot, meaning they can be affected easily by both air and sunlight temperatures.

For this reason, the type of pot you choose for your Bonsai is extremely important, something not to be taken lightly. As an example, if you were to plant your Bonsai in a black or very dark container, it could easily reach temperatures of 115 degrees if left in 100-degree temperature for four to five hours.

This is obviously not good for the plant or tree, and would definitely have an affect on how well it would grow. Since the roots of most plants and trees used for Bonsai will grow their best at temperatures between 70 and 80 degrees, when temperatures reach such high levels, the plant will suffer.

SHADE

When it comes to shade, studies have shown that the higher the percentage of exposure the greater the root damage. This study was spread over 18 days with the greatest level of damage after six days. Of all the plants and trees researched, the Juniper received the most damage, having lost as much as 88% of the root system. Following that was the Holly at 72%, Austrian Pines at 48%, and Mugos at 40%.

POT COLOR

Even the color of the pot makes a difference. Again, black pots are not good for Bonsai in that they heat up too much. On the other hand, white or light-colored pots actually help to reduce the soil's temperature. Just keep in mind that if you choose a polyethylene type pot, the sun will harden it and cause it to become brittle.

ROOT ROT

The problem with Bonsai is that if the correct type of pot is not chosen, the plant or tree can experience excessive stress from which it does not recover. For root rot, heat was the prime culprit. What happens is that the high temperatures create an entrance for disease organisms to reach the roots and start causing damage.

Typically, this disease will occur in the summer and while it is often blamed on poor drainage, which can be the case, it can come from too much heat. Therefore, pay attention to the level of watering you are providing your Bonsai and make sure it does not become overheated.

As mentioned earlier, Japanese tradition involves placing the Bonsai indoors where it is graciously displayed for special occasions. Today, people display their Bonsai indoors simply because they are proud of the years of work and training that went into it.

To display the Bonsai properly, you can actually purchase display benches, which raise the Bonsai to the right viewing level while enhancing the plant or tree's appearance. In fact, you can even display your Bonsai outdoors on a bench as well. In addition to making the Bonsai stand out, other advantages include healthy growth, easy maintenance, better ramification from equal amounts of UV rays, and better observation.

If you want to plan a Bonsai display bench, you just want to make sure that it will be placed in an area where it will be viewed best. In other words, you want to make sure there are no trees that would obstruct it. Additionally, the placement of the display bench should be healthy to the Bonsai. For this, it would need to receive the proper level of light and shade, be protected from cold or harsh winds, and so on.

Safety is another issue in that you want your prized Bonsai to be protected should you have small children or pets that could easily brush against it and cause it to fall. Additionally, ensure the spot is easy for maintenance. If you were to place the display bench in the garden, create a pathway that could be walked for watering, pruning, and feeding.

BONSAI TOOLS

Tools used for Bonsai growing are very important. Remember, you will be cutting, pruning, and wiring during the training phase, which can cause wounds. The cleaner the wound, the better the Bonsai will heal and thrive. By using the right tools, you can help keep the wounds to a minimal.

Although you do not need to run out and buy a stock of special tools for Bonsai growing, unless you want, you do need some basic tools to do this right. The information in this chapter will guide you to the right tools. Additionally, most Bonsai tools can be purchased at your local nursery, gardening center, or from Bonsai companies on the internet.

BYPASS PRUNING SHEARS



These shears are great for heavy-duty use when training Bonsai. The blade is beveled and usually constructed from a non-stick carbon steel to ensure a clean, smooth cut. Other features commonly seen include dual layer comfort grips, sap groove, enclosed spring, and ambidextrous lock.

HORI-HORI DIGGING TOOL



Originally designed to remove old plants from high mountainous regions, this tool is now used by Bonsai growers around the world.

This concave shaped blade is very strong and thick, making it a perfect tool for digging. The blade is made from carbon steel and has a semi-sharp, beveled and serrated edge. The design ensures your safety while allowing you to work in difficult or rocky places.

WATERING WAND



This convenient tool is usually designed with an on/off control. With this wand, you can water your Bonsai quickly and efficiently. The spray mist is dense but very gentle. Made with an internal nylon diffuser, the water is always distributed evenly, much like rain.

FOLDING SAW



This folding saw is an exceptional tool for Bonsai. The blade is excellent for cutting and with the folding design, extremely convenient. The saw tooth design features three cutting surfaces, meaning the cuts are quick and clean.

ALL-PURPOSE SHEAR



These all-purpose shears are ideal for working with Bonsai. They are constructed with a carbon steel blade that can easily cut through one-half inch of branch. The tip is pointed and strong, helping you get into tight areas.

HAND SNIP



These generally come with a protective sheath and are excellent for pruning Bonsai. Because they are large and powerful, they can cut cleanly through even the thickest branch.

GRAFTING TAPE



This tape is ideal for grafting in that it will help prevent damage from wiring. This is ideal for certain types of plants and trees that do not do well with traditional wiring.

CUT PASTE



Provided in a tube or round tin, the paste is a sealant that will help with grafting and cuts. Additionally, it contains both fungicide and insecticide to help protect the Bonsai.

CAMELLIA OIL



This oil has been used for centuries as a way of protecting prized Japanese Samurai swords. However, it is excellent for tools used in Bonsai growing, keeping them in top working order.

SHARPENING STONE



You can get sharpening stones in fine or a two-in-one option. With the fine stone, you will get clean, smooth edges on your tools. Then for the two-in-one option, once the tools are sharp, they will remain that way for a long time. This stone comes with both medium and

coarse grit.

SHARPENING

The most important thing to remember when buying and using your tools for Bonsai is that they need to be as sharp as possible. You can have your tools sharpened professionally or if you want to do it yourself, use an electric wet stone, die grinder, oilstones, Japanese water stones, ceramic sticks, files, and diamond laps.

Saws



If you have saws, they will need to be sharpened a little differently from your other tools. For example, because pruning saws have very narrow and long teeth, you will need to use a feather file. Typically, this sharpening tool would need to be ordered.

Diamond Laps



These are also referred to as stones or plates and are ceramic stones that have diamond dust embedded. Since they do not have to be lubricated and can be used dry, they are convenient and affordable.

Bonsai Shears



For the inside of the blades, you would need to use the lap. Just make sure the material ground from this area is minimal. If not, the blades will no longer match and therefore, not work properly.

In most cases, the outside or the beveled edge is what receives most of the sharpening. With the lap, you would keep the angle as flat as possible. While not difficult, if you have any concerns or questions, you can have a professional do the sharpening for you.

Grafting Knife



Since these are beveled and flat at the same time, you would use a diamond lap for the rough work, switching to the Japanese water stone for the honing portion. Although you could use oilstones, you will soon discover that the water stones are much faster.

Concave Cutters



This particular tool is a little difficult to sharpen. It is important that you examine your tool first to see how it was made. If the edges do not match perfectly, then the cutters are worthless. Therefore, you need to protect the cutters from any nicks no matter what. When you do sharpen, you want to remove as little material as you can, using the diamond lap on the outside. Then, repeat this on the inside surface area. If you have a diamond or ceramic stick, it would be very helpful.

FAVORITE BOOKS

While the marketplace is flooded with all types of books in addition to this one, we have listed some that we think you would consider helpful. These books are for individuals just starting out with growing Bonsai.

- **“Bonsai for Beginners”** – Craig Coussins
- **“Bonsai Basics: A Step-by-Step Guide to Growing, Training, and General Care”** – Christian Pessey and Remy Samson
- **“Keep your Bonsai Alive and Well”** – Herb L. Gustafson
- **“Bonsai – Pocket Encyclopedia”** – Harry Tomlinson
- **“Simon and Schuster’s Guide to Bonsai”** – Victoria Jahn and Gianfranco Giorgi
- **“Bonsai”** – Sunset Book/Magazine
- **“Bonsai – A Hamlyn Care Manual”** – Colin Lewis
- **“101 Essential Tips – Bonsai”** – Harry Tomlinson
- **“Bonsai Survival Manual: Tree by Tree Guide to Buying, Maintaining, and Problem Solving”** – Colin Lewis
- **“The Bonsai Workshop”** – Herb L. Gustafson
- **“The Living Art of Bonsai: Principles & Techniques of Cultivation and Propagation”** – Amy Liang
- **“Bonsai – The Art of Living Sculpture”** – Jack Douthitt and Warren Hill
- **“Classic Bonsai of Japan”** – John Bester and Hideo Aragaki