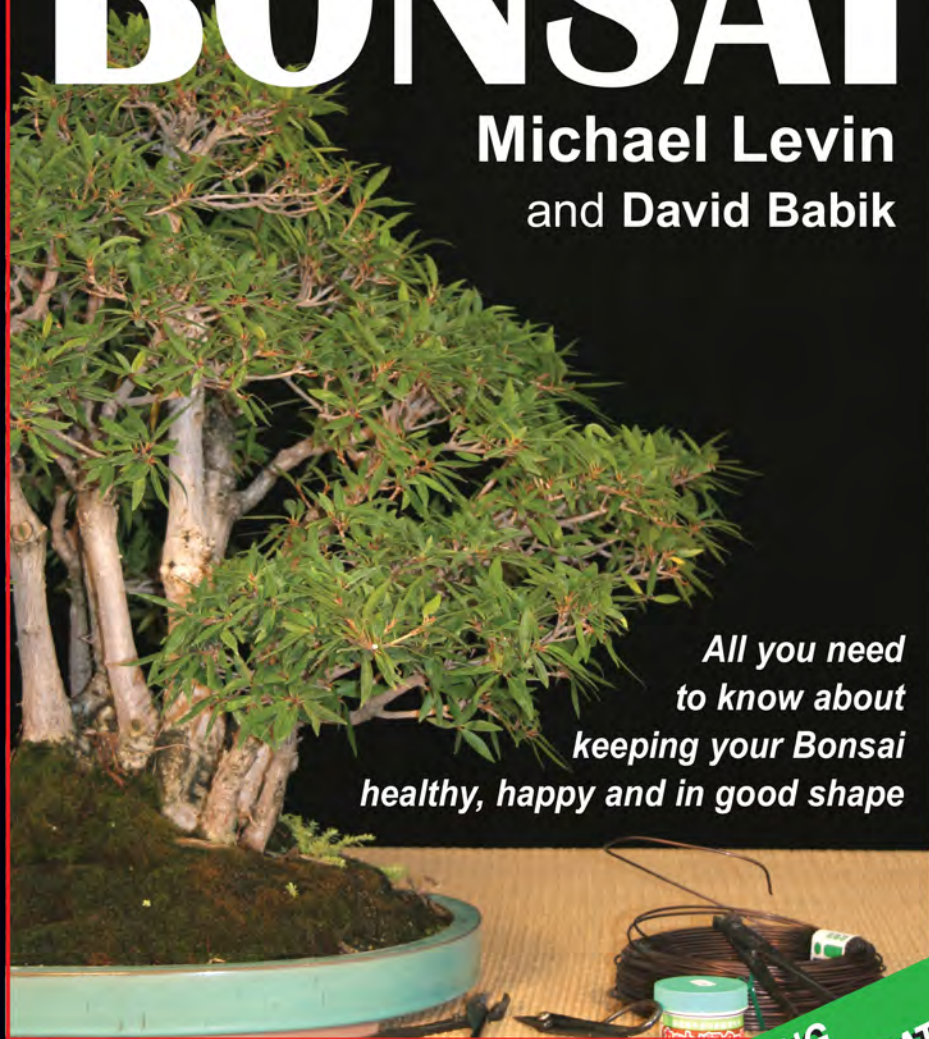


*Ask*

# DOCTOR BONSAI

Michael Levin  
and David Babik



*All you need  
to know about  
keeping your Bonsai  
healthy, happy and in good shape*

**Bonsai West**

**6TH PRINTING  
NEWLY REVISED AND UPDATED  
OVER 50,000 COPIES SOLD**

*Doctor Bonsai is always available  
at the Bonsai West nursery in Littleton.  
Bring your trees and your questions:  
no problem is too tough for the Doctor!*

Michael Levin is the founder and owner of Bonsai West. It is his vision that has made our nursery into what is arguably the most beautiful Bonsai nursery in the country today.

David Babik worked with us from 1985 to 1995. He and Michael co-authored the original *Ask Doctor Bonsai*.

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Revised edition

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Images courtesy of Colin Lewis



## COLD WEATHER VARIETIES

*Can not be grown indoors - Outside spring through late fall (25 degrees) -  
Cold location in winter (below 50 degrees)*

### Non-deciduous

- Andromeda
- Atlas Cedar
- Blue Moss Cypress
- Cryptomeria
- Eastern Hemlock,
- Hinoki Cypress
- Pines, all varieties
- Rhododendrons
- Spruce, all varieties
- Yews
- Privet
- English Holly
- Procumbens Juniper
- San Jose Juniper
- Rocky Mountain Juniper

### Deciduous:

- Beech
- Birch
- Crabapples
- Elms
- Hornbeams
- Larch
- Linden
- Japanese Maples
- Native Maples
- Pears
- Prunus species
- Hawthorn
- Wisteria
- Ginkgo

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## **Q** *What is a Bonsai?*

**A** The exact origins of Bonsai are difficult to determine, but it is generally believed that the art form began in China, and from there spread to Japan.

Trees from the wild were collected from cliff faces and rocky ledges, trees that had naturally been growing in limited amounts of soil. A tree grows differently under such adverse conditions: it grows more slowly, it develops definite bark character, smaller foliage, windswept branches, a rugged aged appearance. A small Bonsai pot imitates those adverse natural conditions.

In simplest terms, a Bonsai is a tree, shrub, tropical plant, grass, or herb, grown in a small container and shaped to recreate the look of an older tree in nature.

Over the years, the Bonsai acquires the character of age. Originally referring to just a "plant in a shallow pot", the term has now come to include the whole art form: growing trees or plants in a dish, with the aim of having it appear as if it had grown that way purely as a result of natural forces, as if the design had happened completely on its own.

Growing a tree in a container, watching it go through the seasonal changes, makes you more aware of the natural world, even if your trees are grown indoors. And there is never an end to the process: even when you feel the tree is really "finished", you might see it from a different angle, a different view might catch your eye, and you will want to restyle your tree.

## **Q** *Is there a difference in what a traditional Japanese Bonsai Gardener would want and what an American would want?*

**A** I would say it's a difference as much as an addition, a whole new aspect. And that is due to the fact that we grow house plants in this country.

Traditionally, Bonsai was an art form geared entirely to the outside, since the plants used for Bonsai were native to their countries and as such needed the climatic conditions of their natural environment. But as interest in Bonsai grew in America, people wanted trees that could be grown inside, in apartments or houses, in addition to the outdoor varieties.

As a result, there has been a lot of interest in varieties that will grow

## TEMPERATE

*Outdoors in summer and fall - Can stay out late into fall (25 degrees) - Cool location for winter*

- |  |   |
|--|---|
| <input type="checkbox"/> Adelyensis Cypress    | <input type="checkbox"/> Western Hemlock    |
| <input type="checkbox"/> Azalea                | <input type="checkbox"/> Ilex Pagoda        |
| <input type="checkbox"/> Bald Cypress          | <input type="checkbox"/> Japanese Yew       |
| <input type="checkbox"/> Boxwoods              | <input type="checkbox"/> Procumbens Juniper |
| <input type="checkbox"/> Catlin Elm            | <input type="checkbox"/> Pyracantha         |
| <input type="checkbox"/> Chinese Cork Bark Elm | <input type="checkbox"/> Sawara Cypress     |
| <input type="checkbox"/> Chinese Lace Bark Elm | <input type="checkbox"/> Redwoods           |
| <input type="checkbox"/> Cotoneaster           | <input type="checkbox"/> Shimpaku Juniper   |
| <input type="checkbox"/> Ilex Helli**          | <input type="checkbox"/> Tsukomo Cypress    |
| <input type="checkbox"/> Ilex Green Dragon     | <input type="checkbox"/> Winter Jasmine     |
|  | <input type="checkbox"/> Trident maple      |

# CATEGORIES OF BONSAI

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## INDOOR

*Avoid temperatures below 40 degrees*

- |   |  |
|---|--|
| <input type="checkbox"/> Acacia                       | <input type="checkbox"/> Musk Maple      |
| <input type="checkbox"/> Barbados Cherry              | <input type="checkbox"/> Nandina         |
| <input type="checkbox"/> Bougainvillea                | <input type="checkbox"/> Nashia          |
| <input type="checkbox"/> Brazilian Rain Tree          | <input type="checkbox"/> Natal Plum      |
| <input type="checkbox"/> Brush Cherry                 | <input type="checkbox"/> Olives          |
| <input type="checkbox"/> Buttonwood                   | <input type="checkbox"/> Podocarpus      |
| <input type="checkbox"/> Chinese Date                 | <input type="checkbox"/> Pomegranate     |
| <input type="checkbox"/> Common Myrtle                | <input type="checkbox"/> Portulacaria    |
| <input type="checkbox"/> Dwarf Honeysuckles           | <input type="checkbox"/> Powder Puff     |
| <input type="checkbox"/> Elfin Herb (Mexican Heather) | <input type="checkbox"/> Sagaretia       |
| <input type="checkbox"/> Ficus varieties              | <input type="checkbox"/> Satinwood       |
| <input type="checkbox"/> Fukien Tea                   | <input type="checkbox"/> Schefflera      |
| <input type="checkbox"/> Gardenia                     | <input type="checkbox"/> Serissa         |
| <input type="checkbox"/> Holly                        | <input type="checkbox"/> Succulents      |
| <input type="checkbox"/> Ilex Shillings               | <input type="checkbox"/> Summer Jasmines |
| <input type="checkbox"/> Jades                        | <input type="checkbox"/> Tamarind        |
| <input type="checkbox"/> Jasmines                     | <input type="checkbox"/> Texas Ebony     |
| <input type="checkbox"/> Mimosa                       | <input type="checkbox"/> Aboricola       |

**Q** *How do Bonsai get to look like real trees?*

**A** Over time, a Bonsai takes on a certain character that comes from being cultivated in a small container. The foliage gradually becomes smaller, and the branching more refined. In other words, the scale becomes more accurately that of a tree in miniature.

The Bonsai gardener should always look at the tree with an eye to how it may be improved to develop more beauty as it ages. This is very likely to involve shaping techniques such as pruning and wiring, something we will be discussing in a later chapter.

**Q** *How hard is growing Bonsai?*

**A** It's not very hard at all: there are just a few things you have to understand when you start. The most important thing, the one you can never allow yourself to forget, is that you are dealing with a living tree, that changes and grows, and requires some kind of interaction with you. You need to be in contact with it every day, even if it's just for a minute or so.

The key to success is checking your tree daily, being careful not to ignore it or to forget about it, just as you wouldn't forget to brush your teeth or feed your pet.

Most people seem to be attracted to the evergreen. After all, North America is famous for its evergreen forests of fir, spruce, hemlock, redwood, etc. Miniature versions of these forests hold a special attraction. But you may also be drawn to things that don't really look like they do in nature: maybe your tree will have a large leaf or a large flower that seems to be the essence of the plant itself.

This is one of the aspects that will give it character as a Bonsai, and you may appreciate it as such, even though the leaf is not the right scale for a miniature tree.





## Q *Do you need to use special pots?*

A Any small pot can be used for a Bonsai pot, as long as it has adequate drainage holes. The traditional container is a shallow ceramic one, usually with small "feet" that keep it elevated above the surface it rests on. Unglazed pots are usual for conifers, while glazed pots are favored for flowering, fruiting and tropical species.

The "feel" and look of your Bonsai pot should complement your tree. A heavy, solid-trunked tree would look best in a thick-walled, chunky pot, whereas a tall, slender tree would look better in a more delicate pot. The length of the container should be approximately two thirds the height of your Bonsai.

As with all rules, these are subject to your own tastes and the unique qualities of any particular tree.



## Q *How big can a Bonsai be?*

A Traditionally, Bonsai range in size from the so-called "mame" (pronounced mah-mei), that fit in the palm of your hand, to large specimen trees up to four feet in height. Growers in northern climates tend to grow smaller trees, since they will need to be moved to protected sites in the winter. The Bonsai West Collection consists of many large Bonsai specimen that can only be lifted by two people. Some of these trees are hundreds of years old and were collected in the mountains. Others have been passed down to us and were originally cultivated by Bonsai masters from around the world.

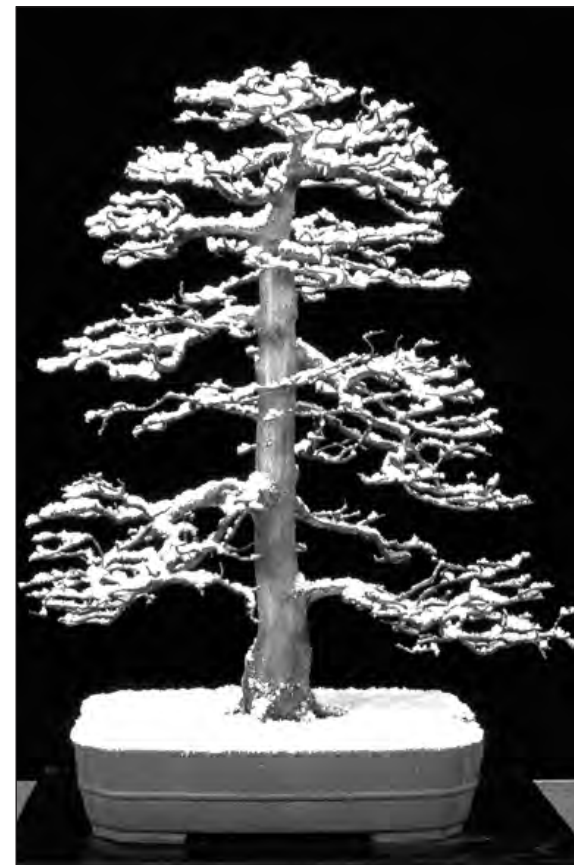
## Q *Where can I learn about rules of design?*

A Most Bonsai textbooks will cover the rules of design. John Naka's *Bonsai Techniques* and Colin Lewis' *Bonsai Survival Manual* are probably the best known of these.

- All tropicals should be in by now but I keep my cold hardy trees out through the middle of November.
- There is lot of Bonsai work to keep oneself busy.
- Pines get pruned, as do juniper. The beautiful fall foliage on maples is a special treat. I begin to sort the collection and line up winter projects.
- With the stress of the summer sun off the trees they have much better color. A good spraying with dormant (sun) oil is a great idea to keep insects off the trees. Most trees have there own natural resins to keep bugs away, but a good dose in November should keep them insect free all winter

## *December, January, February, March*

- The quiet months. This is the time to catch up on difficult projects such as wiring.
- When you put your trees away for the winter is sure to store the ones that need work in a ready to access place. The hobby has year round activity built into it. I particularly enjoy some of the mundane chores like cleaning the bark, wiring and detail pruning. There is always something to do.
- The days start to get longer almost immediately in January and by March you can see the buds swelling on all trees. If the thought crosses your mind that there is nothing to do, then you simply don't have enough trees!



Enjoy your tree! Take care of it as outlined in earlier sections of this text, remembering that most conifers like to be kept a little on the dry side without ever drying out completely - and that at the same time, heat and wind will mean more frequent watering. And remember our weekly Get Wired! workshops for added information and help! For details call us on 978 486 3556 or see our website [www.bonsaiwest.com](http://www.bonsaiwest.com).

The first trees to be transplanted are the Larch which have the shortest window before leafing out. Next come the Maples that need to be done before the leaves fully open, and then on to the Juniper and conifers that like to have their roots pruned when the buds are swelling

## June and July

- All your trees should be outside for the summer.
- The transplanting continues with Azaleas after they flower, and with tropical trees as the temperature rises into the eighties.
- Pruning the maples and tropicals is important and I even defoliate them at this time of year.
- I have stepped up my watering schedule because of the heat.
- I move my tender trees into the shade and all my sun loving trees is right out without any protection, in full sun. Everything is looking its best this time of year.
- Tropical trees should be fertilized weekly with a liquid fodder topped with a slow release food such as osmocote.
- Everything is growing and much pruning is needed to insure good back budding.
- Pine trees need their candles pinched, junipers have their needles thinned and tropicals have to be pruned hard .

## August and September

- During August most plants slow their growth. Most trees do not grow when the temperature is above 90 degrees.
- It's a good time to sit back and enjoy all the hard work and preparation.
- Towards the 20th of the month you can feel the change of season, (allergy sufferers know the exact day.!) At this time the evenings are beginning to get cool and summer is on the way out. The trees love this and I apply my last end -of- season feeding to my cold hardy trees.
- September brings another growing cycle almost as strong as spring. Psychologically you feel that summer is over but the growing season will extend for another 6 weeks. It's important not to miss this period. Check branches to make sure wire isn't cutting in because small twigs can double in size. This is also the last opportunity to give tropical trees a heavy pruning.
- Watch closely in case of an early frost. It can freeze during the third week in September and preparations should be made to bring all the indoor trees in for the winter.

## October and November

- October provides good root growth for conifers, and this is a second opportunity for transplanting. Be careful not to overwater trees since we are entering the rainy season,.

The first step is to familiarize yourself with the basic styles. These are:



*Formal Upright*



*Informal Upright*



*Slanting or Windswept*



*Literati*



*Raft or Forest*



*Broom*



*Full or Semi-Cascade*

Once you have an idea of these basic shapes, you are on your way to recreating them! All of these styles can be found in nature, along the coast or in the mountains. The 'styles' are simply the names we give to the way in which old trees develop.

**Q**

*Bonsai is such a slow process. I don't want to wait forever to enjoy it!*

**A**

Growing Bonsai is much more than trying to achieve a finished product. The most enjoyable part of the hobby is the actual growing and developing of the trees.

Many Bonsai artists say that the real fun is first shaping and creating your tree. And then you can sit back and dream of what it will become years down the road!

**Q** *What about the Japanese art of Bonsai? Do you have to master it before you start out?*

**A** Learning the Japanese rules of design will give you a firm understanding of how to create a Bonsai tree that is well proportioned with a natural balance. But if you follow the rules of design too blindly, you are denying yourself the real pleasure of the art.

In order to incorporate some of your own personality into the trees, over the years you have to be able to draw on your own creativity, on something of yourself, and not just on what people have done before you.

**Q** *Is there a big difference between growing Bonsai and growing house plants?*

**A** That's not an easy question to answer, because for either hobby you need some horticultural awareness. Mainly, I would say, the difference lies in the fact that the plants that are sold as house plants have been hybridized over many years. The goal of the plant industry is to develop individual plants which won't dry out so fast in indoor conditions, and also will take lower light conditions.

Furthermore, house plants are encouraged to grow and get bigger and bigger, whereas the aim of Bonsai gardeners is to keep the trees very small, or grow bigger only under tightly controlled conditions. Many of the plants used for Bonsai have, generally speaking, not been considered for hybridization at all, and so have not been bred for indoor conditions, though the care and maintenance may be comparable for all plants grown indoors, they are not really the same for both house plants and Bonsai.



## VACATION CARE

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**Q** *What can I do to take care of my tree if I have to go away for a while?*

**A** If you are going away for a brief period, up to a week, you can put a plastic bag around the pot so the soil stays moist. Close it around the trunk with a wire tie. It's not necessary really to enclose the whole tree, but at least enclose the soil, so it won't dry out. As for placement, a spot with lots of bright light but not too much direct sun, where it will stay relatively cool, is probably the best when you're going to leave it unattended like that.

## YOUR BONSAI THROUGH THE YEAR

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Since the original printing of *Ask Dr Bonsai* there have been many books that have taken on the project of seasonal care. The major obstacles to this are that the climates are different depending where the authors live, for instance Florida, Boston, Canada, or England, and there are so many different species of trees it would be impossible to cover it all. This section will simply outline some of the seasonal chores we in New England at Bonsai West perform during a calendar year, starting in the spring.

### *April & May*

April is the beginning of spring here in New England. In fact I divide the growing season up into thirds, April and May, June, July and August, Sept and October.

In the middle of April I am opening my cold frames and beginning to put my most cold hardy trees outside. By the end of the month all my cold hardy trees are outside, and I am starting them on my fertilizing regime with slow release food such as Bio Gold or Holly Tone.

My topicals - which are still indoors until the second week of May after the frost fear is gone - are growing and reaching towards the sun. I keep them pruned hard and increase my fertilizing schedule with liquid food such as Pokon or MiracleGro to a once per week feeding.

It's time to clean out old needles from pines, and to begin the transplanting routine.



## MOSS

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We use moss primarily for ornamental purposes, to green up the soil. Probably the best way to get fresh moss for your trees is to simply go out into the woods and scoop some up.

**Q** *My moss is turning brown and drying up. Does that mean my tree is dying?*

**A** No, not at all, though there is a possibility that your tree is feeling some stress from dry conditions.

There are hundreds, maybe thousands of varieties of moss, and some will hold up better than others to inside conditions. Even the best ones, however, will tend to lose color and turn brown with time, because moss is very sensitive to the dry conditions of a house.

Dry winter heat and air conditioning in the summer will speed up the browning process. Occasionally you may get a moss to readjust to the indoor conditions, especially if you keep up a regular fertilizer schedule. But most moss will go through a shock period when it comes inside.

**Q** *Won't I run the risk of bringing insects into my house if I collect moss in the wild?*

**A** As long as you collect moss in a healthy, open, sunny environment, we haven't really found any problems associated with moss. If you want to, collected moss can be soaked in a solution of water with a mild dish-washing detergent such as Ivory Liquid. But make sure you rinse the soap solution off thoroughly before you apply the moss to your tree!



## BASIC BONSAI CARE

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**Q** *How hard is it to take care of Bonsai?*

**A** It's really not that hard. Probably the two most important things to learn about Bonsai are correct watering and proper location.

The other things we will cover in this section include fertilizing, pruning, repotting, and seasonal care.

**Q** *What tools do I need to get started?*

**A** A good, sharp pair of shears is the first and most important tool. You can do a lot with these alone. The next tool you will probably need is a concave cutter. This tool has a curved blade that scoops as it cuts. This facilitates healing when you remove a large limb. After that, a pair of wire cutters will be needed, especially for removing training wires from your Bonsai.

These three tools, along with a watering can, misting bottle, and a wooden chopstick (to aid in repotting) will take you a long way in growing Bonsai.

**Q** *What's so special about watering?*

**A** Knowing when your tree needs water is one of the principal skills of Bonsai growing.



In fact, proper watering is the single most important factor in growing Bonsai successfully. The trees must never dry out completely, and because they are in such a shallow container, it is very easy for the beginner to let them dry out.

Because most beginning Bonsai gardeners (and some experienced ones as well!) have killed a Bonsai from drought, overwatering is fast becoming the leading hazard. One has to pay close attention to one's trees both wet and dry, and become very comfortable as to when to water.

**Q** *Is it different from watering your house plants?*

**A** Yes it is, and the biggest danger is not realizing that. People often will notice their house plants are dry because they look wilted, so they give them some water and they just perk back up. But with Bonsai that level of wilting is likely to be too late. A wilted Bonsai or one that is dropping its leaves spells real trouble. It will not recover the same way a houseplant does.

The Bonsai has a bare minimum of soil, and once it has been allowed to get bone dry, it is very easy for the tree to die or be severely damaged. Therefore, you really have to check the tree often. Study the soil texture or weight of the plant to determine if the tree is wet or dry.

One of the main problems with house plants arises from over watering, but with Bonsai, one of the most immediate problems is under watering. So the first thing you need to know is if the tree is wet or dry.

**Q** *How often do you need to check it, every two days, once a week?*

**A** Certainly when you start out you want to check your tree at least daily to see if the soil is dry. Until you are more experienced, the easiest way to do that is to press down on the moss or the soil, or, if there's a rock in the landscaping, lift the rock out and feel the soil. Indicators of moisture in the soil are sponginess, dampness, and the color of the soil itself: a dry soil will be much lighter in color than a wet one. Even the weight of the pot itself can let you know whether it is time to water: a watered tree will feel considerably heavier than a dry one.

As time goes on, it will become easier to notice dryness or wetness.

**Q** *What on earth are fungus gnats?*

**A** Fungus gnats are tiny, wispy gnats that you will notice hovering close to the mossy surface of your Bonsai pot. Fungus gnats are usually a first sign of over watering. They won't necessarily damage the tree in themselves, but they're very irritating.

Fungus gnats have a very short life span; they show up when there are very moist or humid conditions. Just as fruit flies "mysteriously" appear around overripe fruit left on the counter, so will fungus gnats just show up if the right conditions exist.

**Q** *What can I do to minimize insects?*

**A** The best thing to do, as I said before, is to keep a close eye on your trees, and try to provide optimal conditions for them.

Misting is crucial, as is keeping the trees in a well-ventilated room. In fact, your misting bottle is in many aspects your number one Bonsai tool, even before a pair of scissors or a watering can.

It is inevitable that you will run into insects again and again over time, and it may be that sometimes you won't notice an insect until damage has already occurred to your tree. That is why it is a good idea to give the occasional preventive spray, maybe even as frequently as once or twice monthly, with an organic insect controller.

A lot of times you can actually use insects as a guide toward correcting a problem. Most insects that infest a tree will keep coming back if they are there in the first place because of poor conditions: not enough light, overcrowding, not enough air flow.

Some of our most successful Bonsai growers are people who have had insect problems and have brought their tree into our clinics on a regular basis, where we have coached them in what to do to keep the insect in check.



## INSECT CONTROL

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Misting your tree's foliage with soapy water and rubbing alcohol once or twice a month is a good preventative against insect problems!

**Q** *Are Bonsai more susceptible to insects if you leave them outdoors?*

**A** Not at all. I would say that the opposite is true. The tree outside is so much stronger that it is naturally much more insect resistant, and no house is really insect-proof. There is really no place where you can keep your tree completely isolated from insects.

**Q** *What is the best way to check for/monitor insects?*

**A** There is no substitute for looking at your tree often, monitoring it closely, coming in contact with it regularly to check for any signs of insects.

A good way to check for insects is to shake the tree foliage over a sheet of paper. If you notice tiny specks moving around on the paper, there are insect pests present on your tree.

**Q** *Will my indoor trees be infested more easily than my house plants?*

**A** No. But the same conditions that allow insects to thrive on your house plants will make them show up on your Bonsai as well. The common insects that bother house plants will also attack Bonsai, so your trees are always potentially at risk to a certain extent. Spider mites, aphids, mealy bugs, are all pests that infest Bonsai. Fungus gnats are another one.

**Q** *How dry should the tree get?*

**A** It depends to a certain degree on the variety of the tree as well as on the time of year, and therefore it is difficult to be really specific. Imagine your pot as translucent: you dunk the pot in water and soon the soil will be completely saturated, a dark color. With time, the level of saturation drops. Generally speaking, a "half-way-dry" point is the time to water. But it's impossible to give accurate guidelines.

In summer, everything dries very quickly, and trees must be checked more often. But at a cooler time of year you might be able to water your tree a little less frequently, since there is less danger of it drying out in the same period of time.

Additionally, a tree in flower will need more water than when it is not in bloom.

Other factors that affect watering frequency are:

- the amount of humidity in the air: obviously, a tree will need less water on a cloudy, rainy day than on a sunny or windy one
- location of the tree: how much sunlight is it getting?
- size of the pot: is the pot very shallow or is it a deeper container?
- the type of soil mix: how water retentive is it?

It's important to make checking the tree for water a part of your daily routine. It might help to place the tree in a spot where you are not likely to overlook it, to help remind you to check its dryness level.

But it's also very dangerous to overwater Bonsai.

A lot of people confuse over watering with a thorough saturation of the soil: but over watering refers purely to watering frequency.

To overwater a tree means to saturate it consistently before it's had a chance to begin to dry out at all. As a result it's always soaking wet, and the roots may begin to rot from lack of oxygen.

In the short run there's not much danger of over watering, it's not something that happens over the space of a day or two. Overwatering takes place over time, several weeks of having the roots completely saturated, sitting in water. As you become more aware of your tree's needs, you find yourself being able to tell just at a glance whether a tree needs watering or not.

In the twenty-four years that I've been growing Bonsai, watering is something that has become second nature, and is now actually one of the most enjoyable parts of Bonsai gardening.

**Q** *What is the best way to water Bonsai?*

**A** For the beginner, one of the most efficient ways to guarantee the amount of saturation that your tree needs is to dunk the pot.

You simply take the entire Bonsai in its pot and literally dunk it into a basin of water, preferably up to the base of the trunk. The tree will be saturated very quickly

The only reason not to do this is if you are concerned about washing away loose soil or gravel at the top of the pot. In that case, a good method of watering is to set the pot in water so that water is soaked up through the drainage holes; this will take quite a bit longer, however.

Dunking is an especially good method to use when trees are kept indoors, where it is very difficult to water adequately; pouring water on from the top as with house plants is likely to make the water run off tightly compacted soil and you simply cannot assure that the roots get the moisture they need.

If your tree is kept outside, attach a fine nozzle to your hose and be sure to pass the water over the tree several times to ensure complete saturation. It is most important that the water does not simply run off the top, but saturates the soil completely. The excess water will simply drain out the bottom, and you can still be sure that all the roots have been completely watered.

Remember that watering needs change with the seasons! We will discuss this in greater detail in the section on seasonal care.

**Q** *Where should Bonsai be kept?*

**A** It is important to try to provide an environment that is as close as possible to what the tree's natural habitat would provide.

The main factors to take into consideration here are temperature, light, and humidity conditions. Trees that need to overwinter indoors will pose special problems, as our indoor conditions are likely to be inadequate. We will discuss this in greater detail in the sections dealing with temperature and tropical trees.

Bonsai can be divided into three basic general categories: Tropical Indoor trees; Temperate trees; and Cold-Weather trees, (i.e., those that need full dormancy in the winter).

**Q** *How about wiring?*

**A** One of the misconceptions people have about wiring is believing it to be the reason Bonsai trees are dwarfed. In reality, wiring is a shaping method: we train our Bonsai by bending branches into beautiful shapes.

**Q** *Is it easy to wire a tree?*

**A** Learning the basic mechanics of is very easy; learning the aesthetics of a beautiful, trained tree may take a decade. The purpose is to bend your tree into a desired shape that you have in your mind. The wire is put onto a branch, or on the trunk, wrapped snugly around the wood, and then the branch or trunk is bent into the position that you want.

The wire holds it in that position until the tree holds that shape on its own. Then the wire must be removed. However, the wire may begin to cut into the bark before the tree holds the desired shape by itself; if that is the case, take the wire off so it doesn't hurt or even strangle the tree. If the tree or branch bounces back, just rewire it again.



**Q** *So you could rewire on a regular basis?*

**A** Yes. Usually a wire stays on somewhere between three months and a year, depending on the rate the tree is growing. A tree will grow faster at the height of the growing season, whereas an old, pot-bound tree will grow much more slowly, and the wire may stay on longer.

**Q** *What kind of wire should I use?*

**A** Traditionally, copper wire was used; nowadays aluminum wire with a copper coating is more commonplace.



**Q** *What if my tree turns brown at the tips?*

**A** Browning at the exterior is often a symptom that the tree is living in too dry conditions, or that it was pruned improperly. It can also be an early warning signal of the presence of insects, such as spider mites!

**Q** *When should I prune my tree?*

**A** Pruning on most varieties should be done primarily from Spring to Fall. Very often it's simply a matter of cutting the leaves back.

**Q** *What about pruning to style?*

**A** That is somewhat more complicated, and making the correct cut does require a lot more knowledge. It may often even be counterintuitive.



You might, for example, be inclined to leave the heavy branches and prune off the young twiggy branches, when in fact it's those strong branches that are sapping all the energy from the core of the tree.

Removing larger branches will also help create the finer branching characteristic of older Bonsai. It really is quite important for you to have an idea of how the tree grows and how it's going to respond to the cut.

Correct pruning is much more than just arbitrarily snipping branches. A branch you may want to cut might turn out to be vital to the finished design of a tree.

Before you take out the scissors and start pruning, you should ask yourself the following: how do I want my tree to look in five years from now, and what can I do to facilitate its getting there? Sometimes it may be best to let the tree simply grow to a larger size, and only then cut it back.

## INDOOR TREES

Originally, Bonsai were always kept outdoors, and the early gardeners grew only the types of trees that would be able to live in their climate. Thus, people in southern China or Japan would only be growing tropical or temperate trees, whereas gardeners in the northern areas would grow trees that could take frost, and even heavy snowfall.

We in America are, in a sense, pioneers of a new art form, that of growing Bonsai indoors. Our growing conditions shouldn't discourage us, but rather allow us to find new and innovative ways of keeping the trees healthy indoors.

Indoor conditions are very different from outdoor ones, of course: light, temperature, moisture of air, air circulation, and day-to-night temperature changes are all quite different from "natural" ones.

**Q** *How much light do Bonsai need?*

**A** Light is essential for keeping plants healthy. Bonsai need full sunlight and good ventilation. Most varieties require at least two hours of direct sun each day. Never place them in a poorly lit area!

Universally, Bonsai like good amounts of direct sunlight. That's a starting point for deciding on proper placement for your trees.

When the trees are inside, make sure they get good, strong sun for at least a couple of hours every day. Light intensity is reduced considerably by window glass, and if the tree is in a poorly lit area, it will not do well.

If light is not adequate, over watering becomes a danger as well, because the tree will dry out a lot more slowly.

Since plants photosynthesize nutrients from sunlight, strong sun will result in smaller leaf size as well, since the foliage does not need to expose as much of its surface area to the light for adequate nourishment. And of course, small, compact foliage is what we want to produce!



**Q** *Are there any trees that can be grown in low light?*

**A** Yes! In recent years, we have been cultivating several species that tolerate low light, including the Hawaiian Arboricola, Brazilian Jaboticaba, and the Texas Ebony. However, while these trees do quite well in low light, be aware that better light will make them perform better.

Grow lights have been much improved in the last decade, and there are several options, such as the OTT grow bulb, available at our nursery and onLine. By using a good grow bulb it is possible to have beautiful indoor Bonsai year-round.

**Q** *What about humidity trays?*

**A** Air conditioning as well as winter heat affects humidity. Both dry out the air, and thus deprive the foliage of needed humidity.

We use the term "humidity tray" to refer to trays filled with gravel or small stones that are placed under the Bonsai pot. Thus, when you water the tree, the excess will drain into the tray. And as that water evaporates, it provides moisture for the tree when the sun beats down on it and the tree needs humidity the most. And it protects your furniture as well!

The stones in the tray serve two functions: they provide a decorative surface for displaying the tree, and, more importantly, they elevate the container above the water in the tray, and thus prevent root rot. It is very important to never allow the tree to sit in water, something that would be far more likely if the pot were placed in a humidity tray without a bed of rocks.

**Q** *What do you mean by adequate ventilation?*

**A** A tree growing outside will always have some kind of air movement around it; when a tree is in the house, the air may be too stale for it to thrive. In nice weather, of course, an open window will do the trick, but at other times it becomes a little more difficult.

that you can conceivably give them two or three prunings in a year, whereas with conifers or evergreens once a year is generally enough.

**Q** *What exactly is maintenance pruning?*

**A** In nature, non-deciduous trees will drop their leaves or needles to make way for new growth or as a way of cleaning themselves up. This allows them to stay just a little bit more insect free. The term for this is die-back, a quite scary term for the beginner.

In tropical trees, the leaves just turn yellow and fall off, something that happens especially up here in the north, where there isn't a lot of light for a good portion of the year.

With most of the needled evergreens, however, needles will brown on the inside. Those needles don't usually drop until the spring, so, unless you actually pull these needles off yourself for cosmetic reasons, you may have a lot of brown on the inside of your plant throughout the winter months. This is especially true for a juniper or a cypress.

When a young branch starts out, it's green wood. The needles grow right from the center. Eventually that branch is going to develop bark. At that point it starts dropping the needles from the old green wood. A degree of browning is therefore always present on a juniper or an evergreen. It is a transition point, the branch is developing from young juvenile growth to older, barky wood. In maintenance pruning you may wish to pull off the needles that are browning on the old wood to keep it looking more attractive.

Thinning out the tree a little is another aspect of maintenance pruning. An overgrown tree may have die-back in its center because the density of the foliage creates too much shade for the tree. At that time, just take out tiniest twigs inside the plant, to allow a little more air movement through the tree itself, to keep the tree healthier.

When I thin a tree, I think in terms of taking out some foliage but keeping it looking just as dense as it was. I take out just a small bit but very evenly across the tree, so that the tree looks just as full as it did before I started.



## PRUNING, SHAPING & STYLING

Pruning really falls into two categories: maintenance pruning, which mainly means thinning the tree out occasionally, to keep it from growing out of its shape, and heavy pruning as a means of styling a tree.

**Q** *Do I have to prune my Bonsai?*

**A** Leaving a tree unpruned can be a big mistake with Bonsai. The new growth each year at the tips will cover up the existing growth inside. This might be alright for a houseplant, but with a Bonsai, it is essential that you can see into it: it is the fine, detailed ramification, the fine branching, which is going to give the small leaves the illusion of having a really powerful canopy of foliage, the illusion of a full-blown tree.

**Q** *So what is the purpose of pruning?*

**A** Pruning maintains a silhouette, the outer shape of the tree. A shoot that grows wild, for example, is trimmed back to keep the foliage to certain proportions. At our Get Wired! Clinics, held at the nursery every Sunday afternoon, we are happy to show you just how to maintain the appearance of your tree to show it off at its best.



**Q** *How often do I need to prune my tree?*

**A** Most trees don't need to be pruned more than once a year. There are some trees, including most tropicals and many of the deciduous varieties, which will grow fast enough

The addition of a small desk fan near indoor Bonsai will promote healthy foliage, by increasing circulation. However, many trees hate a draft, and hate having cold air blown directly at them. In many old houses, leaky windows in the winter may be a problem. Care must be taken that the trees are not placed where any drafts thus generated will hurt them.

**Q** *Where should I put my trees year-round if I can't put them outside?*

**A:** There are a few options open even to those who live in apartments or who may not have a yard, such as balconies or fire escapes. But if none of these are available, your selection of what trees to use for Bonsai becomes limited to tropical varieties of Bonsai that can thrive for the entire year in an environment without a marked change in temperature or obvious seasonal changes.

All the information in the previous sections about light, water, etc., applies to these tropical trees year-round.

## TEMPERATE TREES

**Q** *What exactly are temperate trees?*

**A** The temperate group is probably the most popular group of trees. The Chinese Elm, for example, is a classic temperate tree. These are trees from climates that have a definite change of season, but without very harsh winters.

To replicate their natural environment, they require what's known as a partial dormancy: they need to have some change in conditions through the winter months. While they don't have to be subjected to freezing conditions, they will fail to thrive if the temperature is very much the same throughout the year, as it would be in a warm room. They do need some kind of a slow-down period during the winter.

Ideally, these trees should be outside throughout the entire summer. They should stay outside during the early fall and through the season where the temperatures will drop down to the high twenties or low thirties.



This way, the trees are able to follow the natural weather pattern of experiencing a gradual change in the seasons.

A common mistake is to take a tree that has been grown indoors throughout the summer and then, wishing to give the tree a "cold snap" in an attempt to induce dormancy, placing it outdoors into what would be, to the temperate tree, the very sudden and rather severe cold of fall or early winter.

Dormancy is a gradual process, and it takes a couple of months for a tree to ease into it. You can't just place the tree into a cold place and expect a natural dormancy to occur. The tree has to adjust gradually to the change of seasons, just as it happens in nature.

On the other hand, if you do not give it a place where the temperature will change and dormancy begins, the tree will gradually get weaker and weaker, just like a person trying to function without sleep. That is why trees benefit from being left outside in the fall and early winter.

**Q** *Can I bring my temperate trees into the house after they've been outside in the fall?*

**A** Yes, if certain precautions are taken. The trees, if they are to winter indoors, should stay outside in the fall for as long as possible to allow for some resting period. When they are brought inside, they must then be kept in a cool room in the sunniest window possible throughout the cold seasons.

If that is impossible, they absolutely need artificial light to supplement the low natural light of a northern winter. They will have to be tricked into "thinking" that it's springtime, while their counterparts outdoors will be experiencing a gradual dormant cycle.

Ideally, you should try to provide daytime temperatures that hover around sixty degrees. A tree kept in a hot, dry apartment or house is not likely to do very well, unless you make a real effort to find a cool window-sill or at the very least move it to a spot where there will be a drop in temperature at night. And while temperate trees may not need conditions as cold as the trees in the cold weather or deciduous category, it won't hurt them if you give them a full dormancy.



reputable Bonsai nursery for repotting instructions before you attempt it yourself.

**Q** *How often should I repot my tree?*

**A** Very seldom does being pot-bound affect a tree's health; in fact, being pot-bound is one of the principle aspects of Bonsai: the roots have no place to go, and the tree stays small.

Although we recommend repotting every two to five years, many trees have been in the same soil far longer than that and are still doing well. As your tree becomes more pot-bound, you may need to feed it more, but repotting is not necessarily called for.

**Q** *Should you ever repot a sick Bonsai?*

**A** Often, a tree that's not doing well will really get a burst of new energy by going into some new soil. A larger container, preferably a plastic stock pot, will give it some growing room that it may need to pick itself up. But it is essential to use a good soil and have good drainage, so the tree doesn't become water-logged. Once again, it's best to take it to your Bonsai professional for advice; the tree won't die for lack of repotting.





**Q** *What about rocks?*

**A** Again, rocks are an ornamental feature used to balance the tree. Rocks help to create the illusion of a tree growing wild in the mountains.

**Q** *How do I keep the soil from falling through the large holes in the bottom of my pot?*

**A** We use a piece of plastic mesh screen over the drainage holes to prevent the soil from falling out. In addition, if the tree doesn't yet have a very strong root ball, we recommend wiring the tree into the pot, and anchoring the wire through the drainage hole. This is not a difficult procedure, but it helps to see it done.

The Bonsai West 'Get Wired' Workshops are a great opportunity for learning how to repot your tree so that you can do it yourself next time. We recommend this strongly; to just sit down and repot your Bonsai without any previous experience is not a good idea.

**Q** *Are there any dangers to watch out for when repotting your tree?*

**A** The most important thing is that the roots don't dry out in the sun and wind. If you are repotting it in the summer, you will place it into the pot as quickly as possible, so that the root hairs are not exposed to the air for too long a time.

**Q** *Can you prune too many roots?*

**A** Yes, and that is a very common mistake. The tree will immediately show the stress by dropping leaves and wilting. That is another reason that we recommend very strongly that you bring your tree to a

**Q** *When should I bring my trees indoors?*

**A** Naturally there can be no hard and fast rules about that, since the weather is not as predictable as we would like it to be. However, it is fairly safe to say that, in the southern New England area at least, leaving your trees outside through to November 15th is a safe bet.

There is no substitute for keeping a close eye on the weather though: a sudden cold snap in October may be unusual, but has been known to happen, and a strong windchill could also be a problem.

For safety's sake, bring your outside trees a little closer to the house or tuck them in between some shrubs or bushes for a degree of protection after their leaves have dropped and night time temperatures hover around freezing or below. Try to situate them where they will be protected from strong wind if the roots are frozen. It will give them better color and the foliage will stay stronger.

**Q** *How do I know whether or not my trees can take a frost?*

**A** It is very important that you talk to your local Bonsai supplier, and be able to trust that you are getting the correct information - and you can always do an onLine search for the cold-hardiness of your tree. Much excellent information is available for all species.

Not all trees can freeze, and some varieties, though they may not die, really won't respond well to temperatures below freezing. Generally speaking, however, it is safe to say that all evergreen conifers can handle some degree of cold, and certainly light if not hard freezes.

**Q** *So they can freeze?*

**A** Yes - a qualified yes! A temperate tree in a container, like a Bonsai pot or even a regular plastic pot, can freeze solid: but there is a point where the temperature is so cold that the roots can't survive it.

The danger zone begins somewhere between twenty and twenty-five degrees Fahrenheit.

## COLD WEATHER TREES

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It is easy to be misled by the label "cold weather trees". The warning given above holds true here also.

To repeat: no Bonsai should, to be on the safe side, remain outside, unprotected, when the weather is colder than twenty degrees Fahrenheit for any length of time, to prevent the roots from freezing beyond a point from which they can recover.

**Q** *Which trees are the best for cold-weather growing?*

**A** We in the northeast are considered to be living in a cold-weather region of the country: thus all the varieties, including conifers and deciduous trees, that grow naturally in this climate are trees that are wonderful for Bonsai, as long as you take the right precautions in growing them.

Please refer to the appendix at the end of this page for a listing of trees in all three climate categories.

**Q** *What exactly are deciduous trees?*

**A** The term refers to trees that drop their leaves for the winter, not just any leafy tree, because some trees that are leafy are tropical and will not shed their foliage. Deciduous trees include varieties like maple, birch, beech, apple, etc.

**Q** *So what should I do with my cold-weather trees in the winter?*

**A** There are many options here. You should begin by choosing a location where the temperature is unlikely to drop below twenty degrees. If all you have available is an unheated porch or a garage that could possibly get colder than that, you may need to insulate your trees

**Q** *What is root pruning?*

**A** Root pruning is an important part in the repotting process. Root pruning is a matter of nipping the roots of the tree back, to reinvigorate the tree or to fit it into a new pot.

The time of year that the tree is the strongest is when you can prune the most roots without damaging it, since that is the time the new fibrous roots will grow back most vigorously. That is why we don't suggest you do any root pruning just before the dormant season starts.

**Q** *What should you look for in repotting Bonsai?*

**A** In repotting a Bonsai, it's very important to think about balance and placement.

The tree should be about a third of the way off to the side, never in the center of the pot, unless it is a round or square pot.

Look at photographs of specimen Bonsai to get a feel for how the tree should be balanced in its pot.

The size of the pot should harmonize with the size of the trunk and the expanse of the foliage. The tree is carefully wired into the pot so that the freshly pruned roots make firm contact with the new soil, and to prevent the tree from tipping out of its pot.

**Q** *What is the purpose of moss in repotting?*

**A** We use moss to cover the root ball at the base of the trunk, but the function of the moss is mostly ornamental.

It does, however, keep water in to a degree; the tree won't dry out as fast, and when it's hot out, it actually keeps the soil a little bit cooler.



**Q** *Is there a time that's better for repotting than other times?*

**A** You can repot your Bonsai at any time if you do not prune too many roots. If you plan on doing major root-pruning, then, for most varieties, the ideal time is in the spring: not before March, and not really after June.

Temperate and cold-weather trees can also be repotted from mid-September to mid-October; check the appendix at the end of this text for a list of trees.

Tropicals, however, like to be repotted in the summertime.

**Q** *What is the best way to repot?*

**A** Holding the trunk of the tree, gently turn it upside down and knock the tree out of the pot. What you should be holding in your hand right now is a very well rooted tree; the soil should be intact, and it should have a fibrous, firm root system, all whitish in color.

If that's not the case, if the soil crumbles in your hand, and all the soil falls apart, then your tree may not be as well rooted as you had thought, and it should really go back into its pot to allow the root system to grow strong.

Black and squishy roots and texture may well be a sign of root rot; perhaps the soil was too wet, or a poorly draining soil was used at one time.

Work your fingers around the roots; any extra soil will break away and drop off, and you should be left with a solid mass of roots and soil right below the trunk. This is the root ball. It should be intact with soil on it.

If the tree will fit into this new pot as is, there is no need to do heavy root pruning. Just nip the tips of the roots back with your scissors. This will create new fibrous and vigorous roots, the first thing that will start growing once the tree is in its new pot.



further. Nor should the high temperature during the winter months be higher than fifty degrees Fahrenheit for more than a few days in a row. A bulkhead or root cellar would be an ideal location.

If you have settled on a location where the average temperature will stay between thirty and forty degrees, the trees, even the evergreens, will no longer need light. But beware: the warmer they get, the more light they need!

It is a very good idea to invest in a high/low thermometer, available at any hardware store, to check on the temperatures in the location where you are wintering your trees. A high/low thermometer tells you in the morning what your coldest temperature was the night before.

If all you have is a regular thermometer, it is best if you go out on a cold night and check the temperature in your garage or your cold frame and see whether your trees need extra protection.

Temperatures of fifty degrees Fahrenheit are considered temperate; a tree kept under these conditions would need light to survive the winter, as dormancy would not be total.

**Q** *Can I winter my trees anywhere else?*

**A** Of course. One could build a deep cold frame by digging down about four feet into the ground, or taking your tree and actually planting it in the ground.

By digging down below the frost line, you can insure that the roots don't freeze in the winter. There is a tremendous amount of work involved in that of course, but if you have the land and the inclination to dig down that deep, by all means try it.

Lay a bed of gravel at the bottom of your pit, so that the roots don't rot



by having water collect. It is best to build this at the north side of the house, so that when the days get longer in the spring, the sunlight won't heat up the cold frame too early.

One of the biggest dangers to maintaining a successful dormant cycle is to assure that the trees don't break dormancy too early, put out new buds, and then freeze again.

You could also store your trees in a shed of some sort, but you will always have to keep the seasonal low temperature in mind.

Some people with a large collection will use some kind of a heater with a thermostat that will click on automatically if it gets too cold, and will maintain the temperature at about thirty-five degrees.

It is also possible to put your trees into a box of mulch or straw to keep them more insulated. Small collections can always be moved temporarily to a more sheltered spot, to the basement for example, if the weather is really cold for an extended period of time (say, a week or so), and then they can be brought back out to the garage when the danger is past.

Deciduous trees can be stored in a cold cellar (below 35 degrees), an unheated garage, cold frame, or covered trench. On warm days, check to see if watering is needed. Deciduous trees can be wintered in darkness, but need as much light as possible when they leaf out.

**Q** *Is the procedure the same for deciduous trees as well as evergreens?*

**A** Basically, yes. Once the leaves are gone, photosynthesis no longer takes place, and a deciduous tree is not going to need light no matter what the temperature is.

Not until dormancy is broken and the new leaves start to open in the Spring does the need for light return. Therefore, it is important to make sure that dormancy isn't broken too early in the year. If that happens, the leaves open early, too early for the tree to survive outside, and you have to find a suitable place for it inside.

You will know that you have found the perfect spot for wintering your cold-weather tree if the seasonal changes that occur with your Bonsai mirror the changes actually taking place in nature.

Trees that overwinter in a basement will usually have conditions somewhat



## REPOTTING

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Bonsai don't need repotting very often; they can stay in one pot for several years at a time. If you have purchased a tree within the last half a year, it would be very safe to say that you won't need to transplant this tree unless you don't like the pot it was in, or for some other cosmetic reason.

**Q** *Is it like repotting house plants?*

**A** We have to assume that the person repotting a Bonsai has had some experience repotting house plants, but there are many differences. Usually, when you are repotting a houseplant, you are trying to give your plant room to grow bigger and bigger by transplanting it into larger and larger pots. With Bonsai, however, you want the tree's needles and leaves to continue getting smaller in size, so there's no reason why the pot should keep getting larger. Therefore, roots need to be pruned to invigorate the tree and to generate new growth, and to be able to fit it back into a small pot.

The following is a brief summary of basic instructions for potting your own Bonsai stock plants.

**1** Remove the tree from the plastic pot by turning the pot upside down, tapping the bottom, and letting the tree slide out into your hand. The soil should be moist so that the root ball remains intact. Gently scrape away the top soil around the base of the tree, exposing the lower trunk. Do not break too many surface roots. Cut off the bottom third of the soil and roots and flatten out the remaining root mass.

**2** Prepare the pot by placing a piece of screen over each drainage hole, and pour about one inch of fresh Bonsai soil into the bottom of the new pot. Place the tree in the pot, pour in the remaining soil, and pack it firmly. Finally, submerge the Bonsai in water up to the base of the trunk and let it sit a few minutes.

**3** Your Bonsai can be shaped by trimming the branches, or by wiring them into new positions. If you wire the branches, be sure not to wire so tightly that you cut into the bark, nor so loosely that you have no support.



Watch out for the so-called "Bonsai" with soil glued on so it doesn't fall out during shipping!

At Bonsai West we use a very coarse mixture of peat, sand, baked ground clay, usually with some type of ground up pine bark added.

**Q** *Could I try to mix my own soil?*

**A** Yes - though mixing your own soil has become a bit like making your own graham crackers. There are so many places that sell soil now, that it's easy enough to buy a bag.

If you do decide to mix your own, try to make sure the texture is very coarse. Pines like more sand and Azaleas like more organics - but other than that, most of your trees will thrive in a well developed blend.

The soils that we use have all necessary components in them.

**Q** *How important is having the right soil?*

**A** You can grow Bonsai in a lot of different soils, depending on your location and your watering habits. As always, you learn by doing: as you discover how much water your soil holds or doesn't hold, you can adjust your care and your watering to compensate for that.

In general, a mix that drains well gives you less of a chance of root rot, so your trees stay healthier. You need oxygen in your soil to keep the roots growing and doing well.

**Q** *Can you use regular houseplant soil for Bonsai?*

**A** This is not a good idea. Houseplant soils break down very quickly. They're a heavier soil mix, and ideally are changed on a yearly basis. But Bonsai stay in the same pot for years, and if you use a lot of soil that's meant for house plants, it tends to lose its drainage capabilities very quickly, as it compacts fast. It holds too much water to be ideally suitable for a Bonsai container.

warmer from the outside ones, the leaves will open up earlier, and then you'll have to find a sunny spot or supplement light in some way, since the new leaves need bright sun and longer daylight hours to grow.

**Q** *How long should dormancy last?*

**A** In April in New England, as the temperatures rise from the fifties into the sixties, trees will start to break dormancy. A lot of new buds are swelling, and now is the time to bring the trees into the light. Be careful that the tender new leaves don't burn in too much sun - it's always best to transition your trees to full sun gradually. Cold wind is also a danger to the newly budded tree.

You might want to actually bring the tree from its over-wintering spot into the house for the last few weeks before you get ready to put the tree outside.

**Q** *What, then, should the seasonal cycle be for outdoor trees?*

**A** The seasonal cycle is roughly as follows: the trees remain outdoors through September and October, right through the middle of November; they are brought to a cold/cool spot for November, December, January, February and March.

Come April, you will have to check the temperature to make sure it's not getting too warm, i.e., above fifty degrees, and your trees are starting to wake up. If that is the case, bring the trees up into the house and put them in a sunny window. This will result in forcing the tree out of dormancy a little early.

By the middle of May, the trees can now be safely moved back outside, taking care not to place them into direct full sun at first to prevent the new tender leaves from burning. Over a period of a few weeks, increase the intensity of the sunlight they are exposed to, until they are in the spot where they will spend the entire summer.



## FERTILIZING

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**Q** *Do Bonsai need fertilizing?*

**A** Just because Bonsai are small does not mean that they don't need fertilizer! We recommend, as a rule of thumb, half the strength suggested for regular houseplant fertilizing on a regular basis. In spring and summer, during the time the tree is growing, that means every two to four weeks. Indoor Bonsai can be fed all year.

Always water before fertilizing. Never fertilize freshly repotted trees, weak trees, or trees in cold winter storage!

**Q** *What kind of fertilizer should I use?*

**A** There are, fertilizers that have been developed specifically for Bonsai, such as Pokon, Biogold, and Green King. But well-balanced houseplant fertilizers will do just as well if used at half strength.

Fertilizer containers will be marked with three numbers: the first is concerned with green leaves and foliar growth, the second number is for flowers and fruit, and the third number has to do with how the roots use the other two.

So if you have a tree that is not flowering as desired, you look for a fertilizer with a high middle number: it will be a blossom booster. If you want green foliage, the first number may be more important.

Feel free to use whatever you want to experiment with, as long as you use it at half strength. It is even a good idea to alternate fertilizers from time to time, to get a mixture of trace elements.

**Q** *Can you over- or under-fertilize?*

**A** Yes, of course. The danger of overfertilizing is that the size of the leaves and needles will increase, and the roots may get damaged. If you underfertilize, you run the risk of not allowing the roots to take in enough nutrients.

Because Bonsai are watered so frequently, and so thoroughly, a lot of the nutrients the tree needs are constantly being leached out. Therefore, regular fertilizing at half strength is important: remember, you are fertilizing to keep the trees strong to fight off insects and disease, and to keep the foliage color a beautiful deep green. You are not feeding to promote rapid growth!

**Q** *Can trees be fertilized at any time?*

**A** The general rule of thumb is to fertilize more in Spring and Summer, less in Fall, and never in Winter. Never fertilize a tree that is sick or has dried out severely or one that has just been repotted: wait for at least four to six weeks after repotting.

## SOILS

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Many of the older Bonsai books are quite vague on the subject of soil. The same classic recipe, one third soil, one third loam, one third sand, is repeated everywhere. But the writers seem to vary widely on what they mean by "soil", "loam", etc.! A lot of the older growers were secretive about their soil mixes, everybody had his or her own special mix, and everybody was trying to figure out what everyone else's mix was. That has changed: today people are more open about what their soil mix consists of.

**Q** *What kind of soil do you use for Bonsai?*

**A** The soils that we use for Bonsai are different from regular houseplant soil. If you have just acquired a Bonsai, you won't have to worry about soil for at least a couple of years - that is, assuming you bought your tree from a reputable dealer!





### *Easy Directions*

The Bonsai West Nursery is located at  
100 Great Road (2A / 119)  
Littleton, MA 01460.  
Two miles east of I-495

### *From 495*

Take exit 31 (Littleton Common) and drive east on  
2A/119 for two miles. We're on the right hand side,  
just past the turn-off for the Nashoba Valley Ski  
Area.

### *From Boston*

Take the Rt2 (Acton) exit off 128 and follow the  
signs for Littleton / Acton. We're 5 miles past the  
Concord Rotary on 2A.

Telephone 978 486 3556  
[www.bonsaiwest.com](http://www.bonsaiwest.com)



*"Ask Doctor Bonsai is an excellent, concise and much needed source of information for every Bonsai newcomer. Bonsai clubs should present a copy to every new member. It should be given to anyone taking a beginners' workshop, and be a part of every first-time Bonsai buyer's purchase."*

***Jack Billet***

*Bonsai artist and teacher*

**Bonsai West**

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