

# Iowa Bonsai Association Newsletter

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<https://sites.google.com/site/cedarrapidsbonsai/>

March 2017

Volume 45, Issue 3



## IBA March Activities

**March 18, 8:00 AM, Iowa Bonsai Association Board Meeting, all members welcome**

**9:00 AM, Open Study Group and Presentation at 11:30 AM**

**IBA Meetings at The Greater Des Moines Botanical Garden.  
909 Robert D. Ray Drive**

**Topics:** *Open Study Group - Tyler Johnson of the Greater Des Moines Botanical Gardens will present on pests and their control. We will also have a short round table discussion on bonsai fertilizer and fungal disease issues.*

## EIBA March Activities

**March 9, 7:30 PM, Board Meeting at Panera Restaurant on Edgewood Road**

**Topics:** *Follow up on "Bruce more decision to end their Garden and Art Fair that we have participated in for years, workshop plans, March club mtg planning.*

**March 9, 7:30 PM, Club Meeting, Pierson Flower Shop on Ellis Blvd.**

**Topic:** *Repotting, Pruning, Experiment Results Unveiled – same seedlings grown in various soils, Soil sifting demo.*

## Bonsai Events to be Aware of this Spring

**IBA has two workshops scheduled this spring.**

**Workshop with Todd Schlafer on April 1 - 2.**

**Bjorn Bjornholm will be giving a workshop on Sunday May 14.**

**Contact Scott Allen for further information**

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**and registration about both workshops that will be held at the Magruder Bonsai Studio.**

**MABA holds the 2017 Convention in Indianapolis, see info on the top of Page 2.**

## Repotting Very Large Trees – A Video

It is repotting season. Treating our trees to fresh soil, a good root trimming, perhaps a beautiful new pot, and tying the tree in well, is perhaps the best thing we do for the health of our bonsai trees. That tree is likely in its new home for two or three years, possibly even longer.

So, it pays to do our repotting as well as we can. Teaching repotting by written word is difficult. If a picture is worth a thousand words, how many words is a video worth? Below is a high quality video by Bjorn Bjorholm, living and working in Japan, regarding repotting some large trees. Although our trees are not as large, the steps are basically the same. Watch and enjoy The Bonsai Art of Japan episode 40.

[https://www.youtube.com/watch?v=zRKyBpYnmfA&feature=em-subst\\_digest](https://www.youtube.com/watch?v=zRKyBpYnmfA&feature=em-subst_digest)



you want are not long roots, but compact, fine roots. You get these by using good soil (akadama, lava, pumice work great or you can drop the lava and just use pumice and lava. Organic based soil is much cheaper and works fairly well for younger trees.

When it comes time to repot a deciduous tree, remove all the soil and wash the roots with a strong water spray. Now you can see the roots you will prune. Trim off any extra long roots that would extend beyond the



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## Michael Hagedorn Q and A

Recently, Michael did a Q and A on Bonsai Empire answering questions from around the world. He has a lot of good, to the point answers. Here are my notes from the 75 minutes. I'll bet you learn a couple things. I sure did!

### Can You Give Us Ponderosa Pine Tips?

PP have large terminal buds which create long needles. We have to reduce the size of the terminal buds.

1. You want a strong tree first. Get it healthy and strong.
2. Then, develop ramification by needle plucking in early fall, so you get more buds formed the following spring.
3. Do not fertilize PP in spring and do not over water. If you do, you get needle twist. Long pine needles look best when straight. Also, by not fertilizing in spring, you are not growing that bud larger and you are not increasing the size of your needles.

## How to Tie in a Tree with a One Hole Pot

*John Denny*

Bonsai pots have many drain hole configurations. One of the trickier situations is figuring out how to arrange wires to tie in your tree, when the pot has only a single drain hole and no wire holes. Here is a description and a couple of photos showing how.



4. No need to cut needles. That is ugly. Reduce the size naturally by increasing the number of buds and reducing the size of the buds by not fertilizing in spring and do not over water in spring.

### **What is a Good Soil for Junipers?**

In the US, we use only about 1/3 akadama and the rest can be pumice with a bit of lava. Junipers do not need the high water holding capacity of akadama, plus it is expensive and hard to get. The pumice allows great gas exchange, and lava helps root growth. Most trees in the west for the average bonsai hobbyist, have less developed root systems and this mix for junipers will help them catch up. To widen the question, deciduous trees can use 50% akadama so the soil holds a bit more water. Soil mix does not need to vary too much from one climate to another, but it should vary by species. Pine soil might go down to 25% akadama. Tropicals might do best in soils with akadama at rates above 50%.

### **How should we care for rock plantings?**

Rocks can really heat up in the sun. First, watch out for dark colored rocks that absorb too much heat. Rock plantings can dry out quickly, so keep them under shade cloth. You may need to water them much more frequently. Also, since they can dry out easily, when you make muck for your rock plantings, be sure to use long fiber sphagnum moss. Do not shred it. And do not use peat moss as it can be very difficult to rehydrate dried out peat moss. It becomes hydrophobic (water avoiding).

### **Tell me about Boxwoods**

Boxwoods are the ideal hedge tree. You can cut them past the foliage and they will push buds. Only do this on very strong trees with really good root systems. Most boxwoods in bonsai pots are not strong enough to do this. So, if you do this, do it in the development stage. Another way to pop many buds is to defoliate in June. You will get a very large number of buds including well back inside on older foliage.

### **Thoughts on Blue Spruce?**

Blue Spruce are very strong. They tend to be coarser, so go with a larger tree size to help keep things in scale.

### **When do I begin to fertilize spruce?**

If the tree is developed or even partially developed,

hold off fertilizing until the new foliage hardens off. Otherwise you will get long extensions of new growth. In Portland, Michael pinches tips of spruce in late May normally. Fertilize after that.

### **Should I use the same air layer techniques for root layering?**

Yes, basically. Make sure you totally ring the tree, which can sometimes be a bit tricky on trees with a lot of twisting roots coming at various heights. Also, make sure you separate the old roots from the new roots with a layer of weed fabric. Add wet sphagnum moss on top around the cut area and just above it where the roots will grow out.

### **How do I avoid juvenile foliage in Rocky Mountain Junipers?**

RMJs have a lot of variation genetically regarding how easily they revert to juvenile foliage. They are basically on the edge of growing either juvenile or mature scale like foliage. As you build a strong root pad, the foliage gets "happier" and will move away from juvenile growth. Once you have a decent root pad established, cut back on fertilizer and only fertilize lightly which helps avoid juvenile growth. And avoid over watering and keeping them in over large pots will help, too.

### **For Japanese maples, what fertilizers do you recommend to buy?**

First, for developed Jpn maples, keep the NPK all under 10. 5-5-5 is great. BioGold is good. The larger round cakes from Japan are good. For nearly all deciduous trees, do not over fertilize until after the main growth is done, so you avoid long extensions and long internodes.

### **How do you manage your trees in cold weather/winter?**

In Portland, we do not see a lot of weather below the freezing point. Most of the trees I work with are mountain trees or Japanese trees that handle cold fairly well. I worry more about Tridents, Black pine, and some others. I keep the number 27F in my head. If the temp drops below 27F I will bring the more tender trees inside. Otherwise, I keep all the trees on the ground under my benches. The ground will keep the roots zone about 8 degrees warmer than if I had them on the bench. The mountain trees can handle temps as low as 10F when on the ground. In Fall when the trees are still in a slow growth phase and we get a cold snap, I bring them inside at 27F. And again in spring, when there is

green growth, I do the same. I protect them if we get below freezing in a sudden cold snap.

### **When is the best time to prune mountain pines (white, mugho, etc)?**

Late summer or early fall, so there is time for them to respond to that work. They need time to build buds for the following spring growth. So, in Portland that means September.

### **What is best soil and water pH for Japanese maple?**

6.5 is a good pH for most plants. Maples don't do well with higher pH water, so if your water is higher in pH, find a way to adjust it by adding an acid. Michael has a blog post on acidifying water for bonsai.

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## **Developing a Shohin Black Pine from a Seedling**

*John Denny*

Working with seedlings to develop nice bonsai is fun and you can end up with very nice trees for very little money. What you need are: Time and Technique.

Begin by purchasing some one year old seedlings, which I did five years ago. I snipped off the tap root. Next, I used 2mm wire and wired the seedling from the roots to the top. Using pliers, I made interesting bends in the seedlings so the future trunk would have movement. If you have branches at this point, make the bends so the branches are placed on the outside of the curves. I filled the nursery pots half full with soil, then placed a small circle of weed fabric on the soil. I placed the seedling's roots on top of the fabric and spread the roots radially, then filled the pot with soil. As the roots grow, they will spread out, not down, creating a very nice root pad for the future.

I grew these seedlings for five years, upsizing the pots after two years. Also, watch the seedlings for wire marks and remove wire. You can rewire and add more bends if you like. Eventually, you will end up with tall seedlings around 2 or 3 feet that have small branches very low on

the trunk. These are the branches you will use to create your shohin pine. Here are photos of a couple of trees after five years.



Note the low small branches, which will become the future shohin branches. After five years, I was ready to prep the trees for their cut back to shohin size. Both trees looked like the tree on the left. In the next step of development, the tree on the right had upper branches removed and needles plucked leaving only the top flush of newest needles. This technique causes an imbalance in hormones like auxin, cytokinen, and sugars. To recover this balance, the tree will put more energy into growing the lowest branches, fattening the trunk some, and creating new buds down low. Once this happens next year, I can cut the long sacrifice branch and I will have shohin pines to pot and finish developing into bonsai. It will take about two additional years to have a basic shohin black pine.

As I mentioned, it takes time and technique, but you can create some nice trees for not a lot of money. Seedlings are great fun. Give them a try!

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## **Bonsai Empire “Bonsai Fundamentals Course” with Michael Hagedorn**

This is a new course from Bonsai Empire. It discusses several key areas of bonsai such as Plant Physiology, Japanese Aesthetics, and Bonsai Design. Michael Hagedorn is the teacher. And the trailer for the course promises some tremendous bonsai eye candy as the course is shot in Japan at Michael's teacher, Shinji <https://www.youtube.com/watch?v=zRKYBpYnmfA&feature=em-subsdigest>

## Live Video Lessons with Ryan Neil of Bonsai Mirai

Ryan Neil, who studied several years with Kimura in Japan, and now lives and works outside of Portland, has developed plans to do live lecture and demonstrate work on his trees. I have not seen details, but check out his website at:

<https://mail.google.com/mail/u/0/?tab=cm#inbox/15a710e5f4c8438b>

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## Alternating Bud Deciduous Trees and Their Care

*John Denny*

Deciduous trees can be of two types. One type, like maples, has buds on opposing sides of a branch and they leaf out in opposing pairs. The other type is alternating bud trees where buds and leaves alternate sides as you move along a branch. They do not leaf out in pairs. Common examples of alternating bud trees would be hornbeams and elms.

Knowing this has importance because it helps determine the maintenance and care techniques each type of tree requires. For example, repot alternating bud trees just as buds begin to move. This is earlier than opposite bud trees, like maples, where ideally you should wait until buds are half open. Otherwise, repotting is very similar to repotting opposite bud trees. Use a mix of akadama, pumice and lava. The ratio should be 2-1-1. Akadama, the water holding soil component should be 50%. Do not remove more than 50% of the root mass during root pruning. Place your tree in the shade for a good two weeks after repotting. Iowa is windy, so keep your tree away from wind which can quickly remove moisture from leaves, while the freshly pruned root system is still healing and unable to take up enough water. Aftercare is very important.

Regarding fertilization of mature alternate bud trees, do not fertilize until the first growth has hardened off. BioGold is a good organic fertilizer to use. If you plan to defoliate your tree, wait until the second flush of growth has hardened off. This avoids overly large leaf size.

Watch your soil moisture levels in spring for deciduous trees, especially ones with a lot of new leaves. These new leaves need a lot of water. When new growth

is pushing is the most dangerous time of year for watering, so check your trees twice a day if you can. After leaves harden off, they will require less watering, though on hot or windy days, they need more. Water retention can be increased somewhat by placing a thin layer of sphagnum moss, shredded, on the soil surface. Keeping deciduous trees from the hot sun of early afternoon is quite beneficial. Locate your trees so they get partial shade during the hottest part of the day or use shade cloth of 30 or 40%



*A Korean hornbeam in beautiful fall color.*

The same pests and diseases can attack both opposite paired and alternate paired deciduous trees. Be on the lookout for aphids, scale, leaf eating insects, and fungi that can damage your bonsai. Keep looking on a daily basis. Spray as needed or you can spray every five or six weeks if you are okay with prophylactic applications.

Winter care is similar for both types of deciduous trees. Protect them from winter temps below 28F (3C). Keep the daytime winter temps low so your trees do not bud out too early. If they do, keep them from freezing temps and give them light.

When considering pruning alternating bud trees, divide trees into two categories – those that can be fully defoliated and those that cannot. The first type, those that can be fully defoliated, include stewartia, flowering apricot, and Japanese snowbell, American hornbeam, pomegranate, Privet, Japanese and Chinese Quince. Let these species grow out to 7 or 8 leaves and allow them to harden off. At this point (late May or early June in

Iowa?), these species can be defoliated. Defoliation can be partial, say 80%, taking the outer leaves away and leaving the inner leaves. This allows sunlight into the interior leaves, strengthening that area and improving good inner buds. Having ample and strong inner buds is of paramount importance when it is time to cut back your tree to redevelop good branching patterns. Defoliation also shortens internode length, creates smaller leaves, and improves ramification. One of the main differences I see between average American bonsai and Japanese bonsai is the high degree of ramification in the Japanese deciduous trees. Quince, like Chojubai, should be defoliated later in mid-July. Remember to cut the longer shoots back to just a couple of buds. Also, it goes without saying, though I am saying it, is do not defoliate any tree that is not strong and healthy to begin with.



*A nice hornbeam in winter silhouette.*

The second category of alternating bud trees are those that can NOT be defoliated. These include Beech, Korean and Japanese hornbeams. If defoliated fully, these trees will show uneven growth with both large and small leaves and possible major branch dieback. So, how do we get light into the interior of these species? Cut the elongated branches back to two alternating buds, then cut each of those two leaves in half. Fold the leaf in half lengthwise, then cut at an angle so the leaf still retains a basic leaf shape. Doing this type of “defoliation”: will increase the amount of light penetrating into the tree which will strengthen the tree in naturally weaker areas.

In late fall or winter, prune away undesirable growth –

upward growth that is too strong, too large branches in apex of the tree, branches turning in toward the trunk, branches extending beyond the silhouette. Remember, the key to pruning alternating bud trees is to cut back to a bud that will push growth next spring in the direction that you wish the branch to grow. This is key to having a nice looking tree.

Wiring is best done on category one trees right after defoliation. You can see what you are doing with the leaves gone. Plus, the branches are most flexible then, too. Older category one and category two trees can be wired in winter, though the branches will not be as flexible. Wiring and branch placement for deciduous trees should allow the branch to initially lift, then fall, and finally the tip should rise all the while alternating movement side to side. In the apex, the branches should have a more upward angle. Aluminum wire should be used at a tighter angle of 45 to 50 degrees. The finer branches towards the end of larger branches should be fanned out in the shape of a hand to catch more sunlight and look pleasing to the eye. Deciduous trees can grow quickly, so watch your wire for branch damaging wire marks. If you wire in June or July, you may only be able to leave the wire on for two months.



*A wonderful Chinese Quince from Kokofu ten.*

Remember, we have been talking about trees in the actual stage of more finished bonsai. If your trees are young and just in the developing stage, you will be following a more aggressive plan of heavier growth to acquire thicker trunks, basic branch structure, and strong roots. Most club members in Iowa maintain a lot of deciduous bonsai. I hope this article helped make clear how to better care for your trees.

## Root Hairs and How They Impact Your Bonsai

*John Denny*

We have all heard of “root hairs”, but what the heck are they and how do they influence and affect our bonsai trees? First, root hairs do their work out sight, which is why we know little about them.

An attribute of a good healthy bonsai is a dense mass of fine roots. On those roots is a mass of root hairs, which are specialized cells that expand the surface area of the roots by a factor of 100 or more. This extra mass of root hairs helps the roots absorb far more moisture and nutrients. Each rootlet has a “root cap” on the tip and behind this root cap are the many, many root hairs.

Root hairs live only a few weeks, but roots are constantly reproducing more of them. Many of these root hairs are destroyed in the repotting process. Combing out roots, pulling out soil particles, pruning root tips, jamming chopsticks into the root mass all damage or destroy root hairs. But once roots begin growth again, new root hairs are developed and life goes on for the tree. Thinking of the period after repotting, we are advised not to fertilize or to place trees in sun and wind. This is because there are not yet enough root hairs developed to handle rapid transpiration from sun and wind, nor to handle fertilization. Another aspect of repotting that can impact root hairs is the failure to firmly wire your tree into the pot. If your tree can wiggle due to wind, that can tear up vulnerable root hairs.

There is a lot of discussion about bonsai soils and recipes. But, really, what is important about that soil, is the root’s ability to grow and thrive in that soil. That soil gives moisture, air, and nutrients for the roots. Soil serves the roots, not the other way around.

Root hairs do have limitations, however. They only grow along the root for a short distance behind the root cap, not all along the entire length of the root. They also do not have a long life span, needing

continual replacement.

If root hairs do such a fine job of helping roots absorb moisture, why does a plant, especially pines, need mycorrhizae? Mycorrhizae is a fungus that also helps roots absorb moisture. It is the white stuff covering the bottom and sides of the root ball of pine trees, when you pull the roots out of the pot during repotting. Over 90% of plants can utilize mycorrhizae. Mycorrhizae can grow all along a root, not just near the root tip, thus expanding far beyond the range of root hairs. Mycorrhizae grow continuously throughout the root system and is always functioning. This symbiotic relationship is why we don’t bare root pines during repotting. We leave roughly half of the root system intact so that we maintain the all-important mycorrhizae. Conifers, like pines and spruce, produce root hairs after germination, but once the roots develop the symbiotic relationship with the fungal mass of mycorrhizae, the tree’s roots actually stop producing root hairs!

We don’t often see the root hairs or mycorrhizae of our trees, but they are both critical to the health of our trees and it pays to understand what they do and what we should do to help them function at their best!

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## Watering Bonsai Trees – A Video

We have all heard that watering trees is a difficult technique to understand. This is due to all the variables that affect the water content of the soil and the rate of take up of that water. Most of us have also never watched an expert water trees and teach us while we observe.

Well, here is your chance to have that experience! Bjorn Bjorholm is a bonsai master living in Japan and making his living doing bonsai. Below is a YouTube video of Bjorn and apprentices watering trees in a Japanese bonsai nursery. Check out the less than ten minute video and learn. This is The Bonsai Art of Japan episode 41.

[https://www.youtube.com/watch?v=OZ1QvDbGIPc&feature=em-subsub\\_digest](https://www.youtube.com/watch?v=OZ1QvDbGIPc&feature=em-subsub_digest)