

Discussion on Deciduous Trees & Evergreen Trees & Soil

By Charlie Mosse, December 2020

Members ask about deciduous trees and why they do not react the same way every year. Some years they drop all their leaves naturally and some years they do not. Do not despair. That is the nature of deciduous trees in a mild climate.

Even trees of the same species do not drop all of their leaves at the same time or to the same degree. Melba Tucker's Elm forest at the Safari Park Bonsai Pavilion consists of many separate Elms trees of the same cultivar. If you were to see the tree as of now, some of the trees are almost fully leafed and some are almost leafless. How can this be? Most likely the original cuttings were from different trees, perhaps even slightly different cultivars. It does make for a more natural forest but can be puzzling.

I spoke with Safari Park Bonsai Pavillion curator, John Jackson, about his trees. He has a Trident Maple at his home that is still green but not growing. His donated Trident at the Pavilion is almost leafless. The weather in the Pavilion is warmer and colder than the weather at John's house. Not significantly different but enough to defoliate the Pavilion's tree on time or perhaps it's the genetics of each tree. Regardless, it is not a problem.

Since many of our deciduous trees do not completely defoliate on their own, simply wait until the majority of the leaves are brown. Then remove them all. They will look better and you can avoid the leaves making a mess. Do not remove the leaves when they are showing fall colors. The leaves are still providing resources to be stored by the tree from those beautiful leaves. If by December or so the leaves are still green, go ahead and defoliate the tree by cutting off the leaves and petioles with scissors.

When defoliated you can easily study the tree to determine where to trim and prune for future growth. When the tree's buds begin to swell in the early spring, complete the trimming and pruning. FYI, you can trim the small twigs earlier if you like as some do so in the late fall early winter if the tree is dormant or nearly so. At bud swell is the best time to prune branches >1/4" when nutrients and hormones are flowing strongly. This helps to heal the cuts better and faster. John likes to wire deciduous at bud swell but does say that others do wiring starting in November. Remember to watch for the wire cutting into the bark sooner than you do for conifers. Check all of the way around the branch because the pressure the wire puts on the bark is almost always uneven at different spots along the branch.

Web sites references are mentioned in the Education article all of which teach about deciduous trees like Bonsai Tonight and Bonsai Mirai, both are excellent. Questions can be posted on the SDBC FaceBook page so you can get answers and maybe be put in contact with one of the club's experts. Feel free to post photos with your question(s).

Repotting season is here. The weather is cooling and slowing down the trees. Do trees go into true dormancy in San Diego County? As discussed above, some do not because we have a less distinct winter. Junipers many times keep growing if temps are mild but will stop if it gets cold enough for enough hours.

Pines generally stop growing by now or very soon but most wait until late winter to repot. Junipers can be safely repotted starting now and through February/March. We have had mild Santa Ana's with low humidity. If you have already re-potted some trees, with the cooler temps the trees should be OK. An

overhead misting or light spray in the morning and early afternoon can help. Deciduous trees are best repotted at bud swell or just before if that fits your schedule better.

Regardless it is good to get soil mixes ready now, if not to have soil ready then to beat the price increases at the first of the year. There are pre-mixes available from most of the vendors listed in Bill Graham's Education article. I did find a new one at Walter Andersen's Nursery made by E.B.Stone. A better off the shelf mix than most but fines should be sifted out.

Discussing soil mixes makes for a lively discussion. There are so many variables to consider that one can get caught up in the minutia. Variables are:

- tree species
- stage of development of roots
- stage of development of the branching
- pot shape and depth
- micro-climate where the tree is being grown (sun exposure, wind, reflected heat, landscape around the area including the ground material)
- method of watering
- soil mix particle size.

There are more and then one cannot discuss soils without including fertilizer and watering. Somewhat of a puzzle but, once one gets experience, it gets easier. Again, ask one of our experts.

The Club/Safari Park Bonsai Pavilion mix is 2-2-1 or 2 part pumice:2 parts scoria:1 part organic.

- Pumice does absorb and release some water and nutrient but not to the same benefit as bark or akadama.
- Scoria holds water briefly on the surfaces and in pockets of the particles but then dries quickly.
- Organic is bark, preferably high quality orchid bark or hard akadama. Both have a good Cation Exchange Capacity (CEC) for absorbing and releasing nutrients and also absorb and release water. Note that both do break down into tiny particles. Akadama is different in that it is a clay particle. Roots grow into it and break it down which is good as it creates finer and finer roots, but being clay it also absorbs not only good ions but also other undesirable salts that come in with the Colorado River water, some not so good for the trees.

Other mixes include the Boon mix which has the ratio 1-1-1, pumice:scoria:akadama. This is a standard mix in many bonsai nurseries and clubs, particularly in California. Some will adjust the mix to make it retain more water like for deciduous trees or to make it drier like for pines. For faster drying soils one can add granite screened from riverbeds or from decomposed granite, or you can decrease the organic portion and increase the scoria portion. Soil mixes are somewhat personal. Tree species grown, micro-climate and watering techniques vary and so do soil mixes. Basic recipes are a good place to start since they have been proven to work well. The club mix used at the Pavilion speaks for itself as does Boon's mix. Modifying the basic soil mixes for one's own trees is perfectly acceptable and sometimes necessary.

-Junipers prefer a well-drained soil that dries out reasonably well.

-Pines like a faster draining soil and less water retention than junipers. They need to be watered thoroughly like other trees but then like to dry a bit more quickly.

-Deciduous trees like more moisture retention.

The SDBC web site has soil information under resources. Also, if you really want an education, go the following site, askadamwhy.com and type into search 'soils'. There is a lot of info, colorfully explained, but very thorough. This is a doozie but worth it. Just take into account that this professional is in Florida so coarse, porous soils are the main thrust. We go for more moisture retention.

<https://adamaskwhy.com/2013/02/01/the-much-anticipated-long-promised-long-winded-ever-lovin-bonsai-soil-epic/>

Soil cover will be for another discussion but one should become familiar with soil covers. Adding a soil cover is a worthwhile part of the re-potting process, or for rejuvenating a compacted top layer of soil, or for simply adding it to the soil surface for the coming season to help existing soils stay cooler and require less water.

Basically, they can be:

- "Grated" sphagnum moss processed through a sifting screen retaining moss pieces the size range of the soil mix, for the particular tree, sifting out the fines and larger pieces. What remains is mixed with the soil mix and applied to the soil.
- Coarse scoria. Size depends on the tree size to a degree but something large enough that will not wash away under good watering technique. 1/4" is a good all around size. Larger for big bonsai.
- Coarse granite. Same size as for scoria but can be a bit smaller due to its density. It is usually light in color so it can help reflect sun light.
- Screening...drainage screen, rain gutter screen, window screen. Use homemade aluminum wire staples to retain in place.
- Strands of quality sphagnum moss, preferably from New Zealand, applied strategically to the soil surface.

There is more to the first example but we have several members who have learned this technique. More on it at a later time.

Soil covers aid in the following:

- Moisture retention. Important here in SoCal especially during the warmer months, say May through October. That varies by location.
- More even drying, which is better for all trees, but particularly deciduous. Consistency of moisture level in the soil helps significantly to promote tree health.
- Helping to establish more roots closer to the surface.
- If thick enough they can help to keep the soil a bit cooler. Lighter color helps a bit, but even dark scoria with a decent layer is better than no layer.
- Soil erosion and loss of soil due to too much water pressure or "flash flooding" of the soil surface.
- Helps preserve the integrity of the akadama on and near the surface of the soil.

One caution though. Using a soil cover obscures the soil surface such that one cannot see or readily feel the soil surface. So, to use the dependable old fashioned eye and finger test, one has to push the cover aside a bit. After a while you will learn without having to move it aside too often. However, it is still good to see the soil surface to see what the soil is doing.

Bonsai Mirai has an excellent video on creating and applying soil cover using sphagnum moss but you do have to join. However, there is a 7 day free trial available.