Re-potting….Determining the need

By Charlie Mosse, December 2022

Repotting season in San Diego is quite long compared to other areas because of our mild weather, and that we are now growing warm weather species in increasing numbers. The fall/winter repotting time is upon us for pines and junipers.

How do we determine if a particular tree needs to be repotted?

Here are some things to look for to help make that determination.

- The soil is very hard and has a hard crust. It therefore does not accept water properly and needs excessive amounts of water to properly wet the rootball.
- Water does percolate into the soil but very slowly due to compaction and/or crusting of the surface. You may see other symptoms listed below.
- Tree vigor is waning. The tree does not respond as well to fertilizing.
- Leaf color is not as vibrant as it should be.
- Leaf size is smaller than usual even for a bonsai. This can be desirable if all else is OK.
- There is thinning of branches and/or twigging and maybe even some dieback.
- Leaves are dropping during the season when they should not be.
- Back budding that is normal for the species has decreased throughout the tree and/or not happening on all branches as it normally would.
- Fertilizing program has not changed but leaves are showing signs of deficiencies.
- A pointed chopstick is difficult to penetrate into the soil.
- The peak growing period for the species is shorter than usual.
- The fall/winter dormancy (leaf color change and leaf drop) occurs sooner than usual.

Many of the above symptoms can be caused by other things such as poor oxygenation and poor drainage due to poor soil quality, incorrect watering, incorrect fertilizing, unfavorable exposure, heat spikes and heat waves, insects and disease. We do deal with these problems, but most of the time when the soil is very hard, it is the basis for many of the symptoms and therefore it is time to repot.

When one does not have time to do a full or partial repot, or if the tree is not healthy, what can one do until the tree can be properly repotted? Below are 4 common ways to successfully delay re-potting, buy you some time.

1. If you think you can wait to re-pot, scratch the crusted soil surface with a chopstick. Then submerge the rootball in a water/fertilizer solution. Note that you do not have to use fertilizer at every watering. This method will get the water and nutrient into the entire rootball. Let the rootball soak for 5 to 30 minutes. Tilt to thoroughly drain the soil. Since the soil is hard/crusted, the pot can be put on its side to get a very thorough drain. This is especially good for shallow pots because they do not drain as well as deeper pots. A thorough wetting of the rootball will improve the vigor of the tree. Note, this is also good to use during hot weather for most trees.
2. A more complete method of the above is called improving soil percolation as coined by Ryan Neil. You remove the soil surface down to good soil that looks like it is not compacted where you can easily discern separate particles. However, if the soil is badly compacted, the

subsurface soil will also be hard. Go ahead and remove the top 1/4”-1/2” and replace it with good soil. This will help get water into the old subsurface soil.

3. Up-pot into a slightly larger container with minimal root disturbance. You may need to loosen the ball a bit by wiggling a chopstick in the ball, cut out rotted roots, and gently remove any surface crust. Pot into a coarse soil mix for the size of the tree. Let the tree re-grow roots directly into the new soil undisturbed until strong, consistent growth is seen, maybe up to 2 years depending on the original health of the tree. Many times it can be done in a single season.
4. Double pot into a larger container. For example, if the tree is in a 6” inside diameter pot, use about an 8” inside diameter pot for the outer pot. Place about 1/4”-1/2” of pumice in the bottom, set the tree into the larger pot and fill the space with pumice. Some have drilled 1/4” holes into bottom and sides of the smaller pot to increase the aeration and encourages new roots into the pumice. This will produce rapidly growing roots which will promote rapid growth which is good for recovering trees or trees in development.

If you are having difficulty determining what to do, bring your tree(s) into a club meeting for expert advice. There is a great opportunity coming up in January when the club has its annual re-potting event. See the current newsletter edition and look under **Education** for details.