

Repotting Bonsai

Why Do We Repot?

- 1) Loss of vigor (weak foliage and poor growth is the PRIMARY INDICATOR)
- 2) From plastic or wood box to bonsai pot
- 3) Change bonsai pot (aesthetic decision or larger for health reasons)
- 4) Poor percolation
- 5) Tree is root bound
- 6) Improve root structure
- 7) Change potting angle
- 8) Slow growth (reduce inter-node length)
- 9) Soil is too wet or too dry

When Do We Repot?

- 1) January – March in Zone 8-9
- 2) Fall is acceptable, summer is VERY RISKY.
- 3) Deciduous species when buds swell during that February - March period

What Tools Must We Have?

- 1) Repotting Sickle or old knife
- 2) Chop Sticks
- 3) Pliers (needle nose)
- 4) Root hook
- 5) Root cutter
- 6) Sharp heavy shears
- 7) Sieves
- 8) Soil scoop
- 9) Saw (sometimes)
- 10) Small brush

What Supplies Do We Need?

- 1) Pot or pots
- 2) Wire (aluminum, copper or steel)
- 3) Plastic tubing (maybe)
- 4) Plastic mesh
- 5) Bonsai Soil

What Pot to Select?

- 1) Feminine tree (slender, gentle curves, thin branches) use feminine pot
- 2) Masculine tree (thick trunk, coarse bark, sharp angles) masculine pot
- 3) Pot depth based upon trunk width above nebari spread
- 4) Pot dimensions? The general rule is: The pot should be of the same depth as the trunk is wide above the nebari. Oval and rectangular pots are usually 2/3 of the trees height. Round or square pots is 1/3 the height of the tree - unless foliage is unusually large, then the pot should also be wider.

What Soil to Use?

- 1) 60-70% Akadama for deciduous species
- 2) 40-50% Akadama for conifers
- 3) 1/8 inch granules for Shohin
- 4) 1/4-3/8 inch for most bonsai
- 5) 1/2 inch for very large
- 6) Aeration layer? Larger size, pumice or shale

We have pre-mixed conifer soil which is medium size (1/4 inch granules.) It's convenient but not magic.

"Mix it yourself" requires sifting soil to eliminate dust and select uniform size granules. Mix is usually akadama plus 20-30% pumice and 20-30% volcanic cinder. Later two can be purchased at local rock sales or bonsai nurseries. Calidama works like akadama but seems to hold up longer.

Smaller granules hold more water and trees grow slower. Akadama holds more water and trees grow slower. Slower growth means shorter inter-nodes! Use smaller granules or more akadama if you can't water consistently?

Akadama has high cation ion exchange: it hangs on to nutrients and minerals and releases them gradually.

Some add charcoal. No science.

Some add B12. No science. Probably works better than bourbon or kerosene.

Mycorrhiza is clearly beneficial to black pines. Key is to find the right mycorrhiza for the species you are transplanting if other than black pine.

What Do We Do?

If you are moving a tree from a plastic nursery pot to a ceramic bonsai pot, you will require a saw to remove at least 50 to 75% of the root mass. Such a move will likely require a larger, deeper pot than you would select as the final bonsai pot.

Study the tree. Brush the soil from the nebari. SELECT THE FRONT OF THE TREE based upon the nebari and trunk line.

- 1) Take the tree out of the existing pot and sit it on the table. Smell the roots.
- 2) If you are using the same pot, wash it out with soap and water. Examine the screens. Replace if needed.
- 3) Put new wires in the pot. Set the pot aside.
- 4) Four point versus Two point ties
- 5) If you are changing pots, set 2-3 possible pot choices on the table
- 6) Using wooden chop sticks, rake the surface soil away from the nebari and examine the surface roots. Are they plentiful? That's a clue to how much you can remove safely.
- 7) Still using chop sticks, rake the soil off the bottom, particular that old hard soil right below the trunk. Rake the bottom soil out then cut the free roots flat with sharp shears. Cutting roots off cleanly is crucial to healthy root growth. The goal is to keep the root ball VERY FLAT and the roots extending out radially from the center.

Place the flat root ball on the edge of the table and scratch out the soil on the edge circumferentially. Cut 1-2 inches off the edge roots all the way around. Remove less if the roots are sparse or weak. Cut away foul smelling roots if you find them.

You can spritz the roots with a mister but don't wash them or bare-root them!

- 8) Select your pot by gently placing the tree in each pot. When you have made your choice, put screens and wires in the pot. SELECT THE FRONT OF THE POT based upon the feet and the edges (and any blemish in the pot.)
- 9) In a larger pot, you may add an "aeration layer" of shale or pumice of larger granule size. Smaller pots do not require this.
- 10) Poor a layer of fresh bonsai soil into the pot. Create a small mount where the trunk will rest.

- 11) Now place the tree in the pot and twist in gently into the pile.
- 12) Now sit back and study the position of the tree in the pot. (This is VERY IMPORTANT.) Consider the “visual mass” of the tree and try to place the tree slightly to the right or left of center, so that the visual mass is in the center for an upright tree. A slanting style may need to be farther to the side for the composition to appear “balanced.” Most bonsai should be tilted slightly away from the front view, but the crown bent slightly forward. Take time to select the position (right/left, front/back) that looks best to you, and then hold the tree firmly in that place as you secure the tie down wires. This requires patience.
- 13) Now secure the tree in the pot by twisting the tie down wires together around the circumference of the root ball. A “four point tie” is the most secure, (it will be demonstrated) but your pot may only permit a two or three point tie. The wire should be just snug enough to prevent the tree from rocking in the pot. Plastic tubing may be threaded over the wire where it cuts across larger roots. Do not cut roots with the tie down wire.
- 14) Now pour in sufficient fresh soil to fill the pot about ½ inches from the edge.
- 15) Gently work the soil down around the edges so there are no air pockets along the sides or bottom of the root ball. Do this by gently passing your chop stick against the inner wall of the pot, then rotating the tip gently so the soil collapses down. You may need to add more soil. The tree will feel more snug in the pot when this is complete. DO NOT FORCEFULLY GRIND THE SOIL DOWN. This will break down the akadama prematurely.
- 16) Now pour a thin layer of small grain (shohin) soil on top as a top dressing. Press this down firmly with your hand or a spade. Be sure to leave at least 3/8 inch rim of pot around the edge.
- 17) Now very gently water the soil (let the spray rain downward) until the drainage is completely clear (at least a couple minutes.)
- 18) The plant can be placed in sun immediately. Warm roots are happy roots.

19) Now leave it alone. Repotting is stressful and the tree will need months to regain a positive energy balance. Water as needed. Do not fertilize until new growth is evident...the machinery is not there to take up nutrients... and then only sparingly. PROTECT REPOTTED BONSAI FROM SUDDEN FREEZE.

20) As you are repotting, ask yourself these questions:

Did I continue the development or improve the roots?

Did I get the tree in the ideal position?

Is the tree firmly tied in the pot?

Is the soil mix I used going to cause the tree to grow too fast or too slow?

Did I leave enough room for the roots to grow?

Is this an appropriate pot for this bonsai?