

RMBS July 2019 President's Message: **"Heat Protection for Bonsai"**

"I will master something, then creativity will come." –Japanese Proverb

As the above proverb suggests, creating something new and exciting with the art of bonsai can only come once one has attained a certain level of mastery. The more and more I practice bonsai, I find it is **horticultural mastery** (the act of building health and strength in a tree) that allows the bonsaiist to mold the composition into subtle beauty without setting the tree back significantly. **An essential element to our horticultural practice is understanding how and when to protect your bonsai from a heat event.**

In the Rocky Mountains, late spring and early summer can bring heat spells with temperatures rising to the high 90F degree range. **Although late spring temperatures are certainly not the 100F+ days we experience in the height of summer, they might be some of the most dangerous days for the containerized trees in your garden.** Here is the reason: certain species may not have finished the process of hardening off their foliage to prevent extreme evapo-transpiration which will wither the plant. Once hardening off (needles darken in color, their constitution is harder / sharper and do not pull off easily) is complete in late summer, these species can tolerate such high temperatures without missing a beat. Bonsai repotted in the spring may still be actively building fine root systems and containers subjected to high heat will cook the nascent roots and cause die-back. Remember, not everything needs heat protection. Established junipers and pines thrive off high heat and sunlight during this period.

Here is a list of the bonsai in my garden which I consider heat protection for during these periods:

- 1) Elongating species (spruce, fir, larch, hemlock, redwood) which have unhardened (new) growth
- 2) Deciduous (maples especially) and flowering species of most varieties
- 3) Trees which were recently repotted (late spring)
- 4) Any tree in a small container, or a container relatively small in relation to the foliar mass (will experience excessive drying in the heat)
- 5) Any trees showing weakness or poor growth for any reason (disease, recent collection, heavy work)

Strategies for heat protection are often intuitive and easy to accomplish. First, **move the tree and container to a dappled sunlight or shady location** (often on the perimeter of your garden, under larger trees and bushes). Don't forget structures like a house or shed can cut down on the intense afternoon sunshine if you put the tree next to it. This will not only decrease water loss but can also cool the pot and roots by restricting them from intense heat. A light-colored cloth, t-shirt or piece of wood can be placed over the pot and moistened to keep the container a few degrees cooler in the hot sun. Larry Jackel also uses synthetic mats under the pots to hold extra moisture for the trees at the bonsai pavilion which cannot be moved from display areas to shadier locales. **Putting the container on the ground will moderate heat and cool the root systems.** This is often as simple as placing on the ground below the bench. Gravel or mulch bunkers this time of year give extra protection and help prevent water loss (make sure they are free-draining). **Shade structures or shade cloth can diminish intense heat, while maintaining airflow and sunshine necessary to maintain strong growth.** I use 30% shade cloth (cheap to purchase online and available at your local garden center) stapled to 2x2" boards to make a mobile shade that I can deploy as needed. Make sure the cloth is at minimum 3-4 feet above the trees to allow them ample airflow and diffusion of light through the cloth. **Misting of foliage and frequent watering**

can also help your bonsai through those heat spells and keep them happy and advancing forward. As with (almost) everything with bonsai, you must balance heat protection for appropriate trees with exposure to ample sunlight to allow for their growth and photosynthesis. For this reason, it is often incorrect to leave these trees in shady or nonoptimal locations for the rest of the summer. Once the spell has past, or the growth hardens off, bonsai should be moved back to as much light as they are able to tolerate based on species and condition.

Your brother in bonsai,

Andy Berry

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