December Bonsai Tips

(Thanks to Danny Coffey for his advice and to Boon Manakitivipart for his monthly tips sent to his students and clients for many years, on which many of these tips are based.)

Overwintering: For a detailed discussion of overwintering both tropical and temperate bonsai, see the PowerPoint entitled "BONSAI WINTER CARE & STORAGE" on the BRBS Website under the heading "Tips, Advice and More."

Watering: Keep an eye on your trees' watering needs. The trees do not need much water while dormant, but never let your bonsai go completely dry. Roots need an appropriate amount of moisture to stay alive and healthy, but overwatering may cause root rot so be careful not to water too often.

For bonsai overwintered outside in the open, during prolonged periods of rain raise up one end of the pots to reduce the amount of water in the soil and prevent roots from drowning. This is especially important for trees like Japanese white pines that like to be a little drier.

Be aware also that even those bonsai overwintered outside can suffer from a lack of water during periods of rain, as their needles or other foliage can prevent rain water from reaching the soil. Whether inside or outside, ignored bonsai can die from a lack of water during winter.

Dormant Spray: Before putting your trees in winter storage and after they are dormant and foliage has been removed from the deciduous bonsai, spray them using lime-sulfur (but be aware of the cautions below about health dangers and intolerant plants). Lime-sulfur is both a fungicide and an insecticide, and will kill insect eggs, fungus, and scale.

In 2008, the EPA questioned whether, because of its toxicity, lime-sulfur should be available to homeowners, but small bottles are still available from bonsai vendors as well as larger quantities from nursery suppliers.

Although Boon has said that the generally-recommended dose is 1 part lime-sulfur to 20 parts water (or about 6 ounces of lime-sulfur per gallon of water), Danny generally uses only 2-3 ounces per gallon of water.

Lime-sulfur can burn a tree's roots, so before spraying your trees protect the roots by covering the soil surface with plastic sheeting or wet newspapers. Wipe off any lime-sulfur on the pots as the lime-sulfur can leave stains.

Lime-sulfur can cause irreversible eye damage and is harmful if swallowed, inhaled, or absorbed through the skin. Protect yourself by wearing goggles, gloves and protective clothing.

Some plants are susceptible to injury from lime-sulfur. However, if sprayed in the correct concentration and when the temperature is low, bonsai practitioners have found that there are few bonsai species that cannot tolerate lime-sulfur.

Boon has cautioned that, "when it is not cold enough, lime-sulfur can burn Shimpaku junipers." He has also said: "Do not spray azalea or spruce; for Ezo spruce, lime-sulfur will burn the foliage and kill them."

Additional information about lime-sulfur is set forth at the end of these tips.

An alternative to using lime-sulfur is copper spray. But copper is just a fungicide and not also an insecticide. Also, copper is toxic to plants when there's a lot of it in the soil, and it doesn't break down at all. Repeated seasonal spraying with copper-based fungicides aren't the best for the soil.

Protect Your Bonsai: You can avoid killing temperatures and wind damage for temperate bonsai by one or a combination of the following means:

- Keeping the bonsai in a temperature-controlled greenhouse.
- Keeping the bonsai in a cold frame, unheated garage, or under outside benches covered with a frost blanket**,** etc.
- Burying the bonsai in a raised gravel bed or in the ground.
- Placing the bonsai on the ground with their pots surrounded by mulch.
- Placing the bonsai under a roof shelter.

Beware of Rodent Activity: Mice and other rodents can kill or severely damage your bonsai while in winter storage, especially if left at ground level, by eating the bark around their trunks and branches.

Check Regularly for Insects and Infections. Look out for scale, aphids, mealy bugs, ants, slugs, snails, etc., as well as signs of fungal or viral infections.

Protect Your Containers: Even high-fired ceramic bonsai containers can crack or break at freezing temperatures, especially if pressure from an expanding root mass has built up from lack of repotting or if the bonsai has just been watered before a deep freeze. For any valuable pots that will be exposed to freezing temperatures, wrap them with bubble-wrap (with the bubbles against the pot), Styrofoam, or frost blankets.

Suitable Work for December:

- Conifers and evergreen bonsai – thinning and wiring (generally using copper wire).
- Deciduous bonsai -- pruning and wiring (generally using aluminum wire).
- Working on jin and shari.
- Treating deadwood with lime-sulfur to prevent it from rotting.
- Getting prepared for repotting (buying soil components, pots, pot hole screens, wire, and tools).

Additional Information about Lime-Sulfur

(Adapted from http://lancaster.unl.edu)

Lime-sulfur, a fungicide composed of inorganic sulfur and lime, was originally developed in 1851 by a man named Grison who was the head gardener at the vegetable houses in Versailles, France. Grison boiled "flowers of sulphur," freshly slaked lime, and water for 10 minutes, drew off the clear liquid and mixed it with water. He then used this solution to protect plants against mildews. The solution was originally known as the "Grison Liquid" or "Eau Grison." In 1886, lime-sulfur was apparently first used in the United States to control peach leaf curl in California.

Sulfur is the only ingredient in the mix that is toxic to pathogens. It is able to kill pathogens through direct contact or fumigation (sulfur vapors). The vapor action of sulfur allows the fungicide to be effective from a distance and is important in killing spores of powdery mildew. Once taken up by the

fungus, sulfur disrupts the transfer of electrons causing the reduction of sulfur to hydrogen sulfide (H2S), which is toxic to most cellular proteins.

Sulfur itself is also toxic to certain plant species and is capable of causing a phytotoxic reaction. As a result, lime has been added to the mix to reduce the phytotoxicity of sulfur. The more lime added to the mix the less phytotoxic. In general, lime is considered a "safener" for plants.