

## Wintering: Are You Ready?

by Jack Wikle

Winter protection for bonsai is much like bonsai soil decisions, we find different people doing different things --- some more successful than others.

Let me offer some broad concepts first then some practical options for those undecided in how to handle this annual problem in cold climates.

1. Plants native to this area or common in local landscapes will winter easily if their roots, which are much less cold tolerant than their tops, are kept at soil temperatures rather than air temperatures.
2. Plants not seen regularly in local landscapes and nurseries will need very good outdoor winter protection or, if they are tropical or subtropical plants, they will need to be brought indoors where supplemental heat (above 55 degrees F. is adequate but above 65 degrees F. will be better) is available.
3. It is very important to protect your outdoor bonsai when temperatures of 20 degrees F. or below follow a warm spell in the spring or the fall. Most serious cold damage to bonsai happens before trees are put away in the fall or after they come out of winter storage in the spring. My personal guidelines are that when temperatures below 30 are forecast, any bonsai I can pick up with one hand is set on the ground so the roots won't get as cold as they would up on the benches. When temperatures below 20 are forecast, I move any bonsai I can pick up with one hand into an unheated garage or give it equivalent protection overnight and I set all two-hand bonsai on the ground. If a tree is too large --- or almost too large --- for me to lift, it stays on the bench.
4. It is not good to put bonsai into storage too early. Exposure to increasing cold and light freezes induces increased tolerance for cold.
5. There is more than a little scientific evidence that keeping plants well fertilized and adequately watered results in less winter damage than letting them go into the stress of winter dry and under-fertilized.
6. It is good to protect bonsai from sun and wind during the winter if at all possible. This slows drying and avoids the rapid temperature fluctuations that occur in exposed objects when the winter sun "goes in and out." Better to have a plant cool slowly and stay cold than to go

through a lot of temperature changes. Remember also that the quickly frozen plant suffers less damage if it thaws slowly.

7. Surprisingly, our outdoor bonsai, including evergreens, do not need light during the winter. Many bonsai are wintered satisfactorily in complete darkness.
8. Protection from hungry mice is very important. Burying bonsai in a pile of leaves or other mulch during the winter without a barrier (such as a screen enclosure) to keep mice out is an invitation to disaster.

So, what will work? Perhaps the easiest and most direct wintering method is to “plant” (“plunge”?) your bonsai in the ground without removing its pot in a location out of the sun and wind as much as possible. In doing this, avoid spots where the soil is likely to be overly wet or overly dry. This means staying away from heavy clay soil if you have a choice. Also be wary of planting directly under the drip line of a roof where the soil stays wet. And, avoid planting beneath the overhang of a roof where the soil tends to be dry.

If the bonsai is not too large, planting it in the soil, pot and all, then covering it with a Styrofoam “rose cone” can work very well. Dig a shallow trench to accommodate the lip of the rose cone then bury the lip to keep mice out. Use a pencil or something similar to punch several holes in the Styrofoam allowing a little ventilation. If the cone was manufactured with a vent opening large enough to let a mouse in, cover that opening with screen.

A third and very popular bonsai wintering technique is to dig a cold frame-like pit in the soil and sink the pots of the bonsai in moist peat or loose soil at the bottom of the pit. This insulation surrounding the pot is especially important for small plants in small pots. Again, digging in a location where the pit is shaded from direct sun is advantageous. Pit covers of glass or clear plastic are not necessary or even desirable especially if the pit is in the sun where the “greenhouse effect” will exaggerate temperature fluctuations. If you are more comfortable with a pit cover, make it wood or some other opaque material and plan on watering a few times during the winter. On the other hand, leaving the pit open, with just screen covers to keep rodents out, allows rain and melting snow to keep your trees from getting dry. One caution, it is important that the storage pit drain well enough that water will not stand there. Experiment by digging a hole in the pit floor and filling it with water to see how long it takes to empty completely. Water standing for more than a few hours is reason for major concern.

If you are fortunate enough to have a house with an old-fashioned fruit cellar, this can be an excellent place to winter bonsai. Some people have built the equivalent of a fruit cellar in modern homes by walling off a basement corner, insulating it with foam insulation boards, and rigging a thermostatically controlled fan to exhaust warm, inside air and draw in cold, outside air as necessary to

keep the room temperature a little above freezing. This arrangement works very well.

How about the garage? It is my impression that people wintering bonsai successfully in a garage usually don't keep their cars there. So they don't get the blasts of wind and dry air associated with repeated opening and closing of garage doors. If you try this, I would recommend getting a large tub or building a bin that you can fill with wet peat to plunge the pots of your trees in. This large mass of wet material will stay wet with just a watering or two during the winter and root-level temperatures will be much more stable than allowing bonsai pots to sit on a garage floor.

When do we put things away? Keeping Principle No. 3 firmly in mind, putting trees away sometime in late October or early November and bringing them out again in early April works very well in the Great Lakes area.

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