

Winter protection

Drew Leonhard

Oct 2025

As I start, I want everyone to know what I share is not a hard rule that you must follow. This is what has been successful for me and my trees. You each must understand your own collections and your landscape/area you contain your trees in throughout the winter. We all have microclimates that can determine little nuances you can work with. For example, I have an area protected by two sides of my house, many trees surrounding the area and a lake about 50 yards away. Additionally, I use a raised garden bed that provides some more protection. All of these factors impact my atmosphere and how I maintain my collection.

To winterize a bonsai, first determine your tree's hardiness: tropical and subtropical species go indoors, (*house or greenhouse*) while temperate trees stay outside but need protection from extreme cold, wind, and direct sun.

I am not going to spend much time on topicals, because they are relatively easy for winter protection. Here's the thing, if you have tropical trees outside Spring through Fall then you need to bring them in when you begin to have temps in the low 50Fs. Most tropical trees will be ok down to 40F, but may react by losing leaves and stunting some of their growth. I suggest once you see mid to low 50Fs constantly in the forecast move them in and have them inside through the winter until you begin to have constant temps of 60F and higher in the Spring.

Place your tropical trees in a bright, warm, spot and continue to water when the soil begins to dry out. And avoid placing the trees near heating vents as they can dry out bonsai quickly. Supplemental light is a big benefit if you can set up something for them. And if you add lighting, I recommend at least 12hrs of supplement lighting each day. (*I do 15hrs myself—6am to 9pm*) Nothing can compete with sunlight so the more you can add and for a good length of time, the better.

Like I said I was going to keep it simple for you and your topicals, because nobody loves doing the dance with their trees...inside at night, outside in the morning, inside at night, outside in the morning.

Now let's discuss temperate trees: evergreens and deciduous such as pines, junipers, oaks, elms, maples and many others.

For me there are a couple steps in the preparation for winter dormancy and protection.

The first thing is knowing what's taking place right now. This time of year (*In NC while your trees still have leaves*), your trees are taking in and storing energy for the winter and next year's first flush of growth. So, any trimming and pruning should wait. Now if you are preparing for a show, such as the NC State Fair, please go ahead and get those trees looking their best for the show.

However, if you have trees needing a haircut, this is not the best time to do it. It's ok, let them be shaggy until the leaves begin to turn fall colors and drop off. It's beneficial for them to have all this extra foliage. Because right now they are storing energy. This energy storage is very important for when they wake up in the Spring to push out that first flush of growth as well to make them strong through the Winter months while in dormancy. So as much as you may want to, do not trim or cut back your trees right now. Instead enjoy the extra time you have in your garden for something else. Be Patient.

Ok next step begins when the leaves start to turn colors and fall off; your deciduous trees have concluded energy storage. Now you can give them a little fall/winter trim and remove all their leaves. Removing leaves allows you to make sure no insects or diseases like a fungus are hiding. Caution: When removing the leaves, be careful not to harm any dormant buds at the base of the petiole/stem. These are your new growth for next year! Some may even be flower buds depending on the tree you are working on, so be cautious when removing the leaves.

When the tree is bare it's also best to do a preventative spraying with dormant oil or a 20:1 lime sulfur spray. (*20 parts water and 1 part lime sulfur*) When you spray your trees with lime sulfur make sure to protect your pots and the soil. You do not want to stain your pots, and you do not want lime sulfur getting to the roots. Additionally, do not spray your Satsuki azaleas or topicals with lime sulfur. They don't like it very much.

Also, its good practice is to make sure you have removed all fertilizer build up on the top of your soil and replace it with some fresh bonsai mix. Your soil can get a bit crusty through the growing season with fertilizer cakes and such. Just do your best not to disturb the roots too much. By doing this, the soil can more easily accept moisture and have better air exchange. It also means your soil will be ready for when you start watering more often as they wake up next year. That does not mean you are not going to be watering during the winter! More to come on that.

So far, we've allowed our trees to fill up the energy reserves and then we helped protect them from any over wintering insects and fungus. Now when do you need to protect your temperate trees from the weather?

There again, as I made mention earlier, you need to know your collections and environment. For me, usually sometime between Thanksgiving and Christmas is the time I'll start to prepare to bed them in for the Winter. But not too early; it's very important for your trees to experience some cold weather. It's beneficial to let them have those evenings in the 30Fs and lower. This allows soil to really cool off from the warmth and get those roots into a nice cool stage where they know it's time to fully enter dormancy.

Also realize just because you see that the low temp is going to be somewhere between 28F and 32F, it will not necessarily freeze your roots unless it's for a long period of time. If you notice the coldest part of an evening is right before sunrise, your trees will only

see that low temp of the day for maybe a couple hours. Because temps then begin to warm up as the sun comes up.

When I see those cold nights and days where the highs now just reach 40F and the lows are low 30Fs and upper 20Fs mid-way through the night then I will place all trees in their winter locations.

Some tender maples (*Trident maples*) and other trees are placed into an unheated shed, that does have windows so I can provide air circulation.

The rest I place on the ground. (*The ground will provide a few degrees of protection, as the ground does not get as cold as the ambient air temperature.*) For instance, I have a couple hornbeams and Japanese maples that will just be placed on the ground up next to a raised garden bed. That raise structure provides a little more protection for them. Then as more cold temps come the oak and bald cypress (*these are some of my larger trees*) are also placed on the ground around or into that raised garden bed. So, you see I've collected most of my trees around and with each other, this creates some more level of protection with the stronger/hardier and bigger trees on the outside of that space helping protect the smaller and less hardy trees. Lastly, the pines, junipers and other hardier trees are placed on the ground in that same area.

If your tables are tall enough you can also place them on the ground under your tables. Your full collection could go into an unheated shed or garage, again you know your collections and what you have available.

Now that the trees are all in their winter locations and we've had plenty of cold nights in the 30s, I'll cover them in with leaves. I pile leaves all around the pots with a thickness up to the lowest branches or so. In doing so I'm insulating the pots and roots, not just from more coldness, but as well from fluctuations of temperature—locking in a cold steady temp for their dormancy. I've also helped lock in some steady moisture for the roots, so they do not dry out. You can use other mulch materials as well; I just like the free cost of the leaves.

Now throughout Winter, I'll watch for very cold nights where we'll see temps get into the teens or lower and I may toss on a few sheets and blankets for a little added protection in those situations. Also watch for windy conditions that can dry out your trees. So having walls or other nature landscape that help reduce the wind effect is a benefit. You do not want to let your trees dry out. They do still need some water, and you are going to watch and make sure to maintain some moisture for them through the winter. There is no set time that you should water. Watering in the Winter is about knowledge of your trees and keeping an eye on them.

Keep an eye on your trees, watch to make sure rodents do not harm your trees and for any disease that could impact your trees. Fungus can be a little more of an issue in a greenhouse or unheated building if the air circulation is not good. So, make sure you have good circulation if you have your trees in building.

Even within a given species, you might find that young pre-bonsai can withstand lower temperatures than older, more refined trees. If your refined bonsai lose branches over winter but the younger trees do fine, you'll need to provide more shelter for the refined trees.

In an effort to make things easier, below is a quick reference guide. If you have questions about wintertime protection and prep, please reach out to any local bonsai guru who has dealt with a few seasons of NC winters.

Thank you and happy bonsai'ing! 😊

QUICK GUIDE

For Hardy/Temperate Bonsai:

1. **Move to a sheltered location:** before severe cold sets in, placing the trees in a cold frame, unheated greenhouse, or against a sheltered wall or hedge.
2. **Protect roots from freezing:** by burying the pots in the ground or heeling them in with woodchips/mulch or leaves.
3. **Provide protection from wind and sun,** as both can dry out the soil, leading to frost cracks on the trunk.
4. **Maintain moisture;** soil should remain damp, not bone dry or constantly waterlogged.

General Winter Care Tips:

- **Monitor for pests:** like white flies on tropical trees or rodents on outdoor bonsai.
- **Do not overwater,** as this can lead to root rot, especially in cold conditions.
- **Avoid bringing hardy trees indoors:** unless necessary, as this can cause them to wake from dormancy, depleting their energy.
- **Don't forget them,** always take time to check your trees through the Winter.

A couple of good sites on winter protection for your bonsai:

<https://bonsaitonight.com/winter-care/>

<https://www.bonsaiempire.com/basics/bonsai-care/overwintering>