Maintaining Tree Tubes

My WoodLot™

Why maintenance?

Tree tubes protect trees, but they are not “set it and forget it” tools. If the tubes aren’t maintained, they are likely to harm or even kill the tree.

This slideshow will review simple actions you can do to keep your tree tubes in good shape. Following these tips will help give your young trees the best chance to survive.

Maintenance matters! This tree grew to a height of 12 feet in 4 years. Then the stake holding up its tree tube broke in a storm, leaving the tree unsupported. The tree later snapped and died. This tree would have lived if the landowner had noticed the broken stake and replaced it.

During this tree's first winter, a mouse made a nest in the tree tube. Had the tube been cleared of debris in the fall, the mouse probably would have made its nest somewhere else. This tree now has a severe bend in the main trunk that makes it likely to snap during high winds.

When should I do maintenance?

Check your tree tubes for damage at least 2-3 times annually. You should also check them after severe storms, high wind, or ice storms, which are the most likely times for damage to occur.

Other tree tube maintenance only needs to happen once each year. The best time of year to do the full maintenance in the coming slides is in late fall after everything is dormant or in early spring before buds open.

Avoid doing tree tube maintenance during the growing season if possible. Buds, shoots, and leaves are all fragile and prone to damage. Yellow jacket and wasp nests are also active during this time and are common inside tree tubes. Limiting maintenance to dormant seasons will reduce your chances of being stung.

Six Steps to Maintaining Tree Tubes

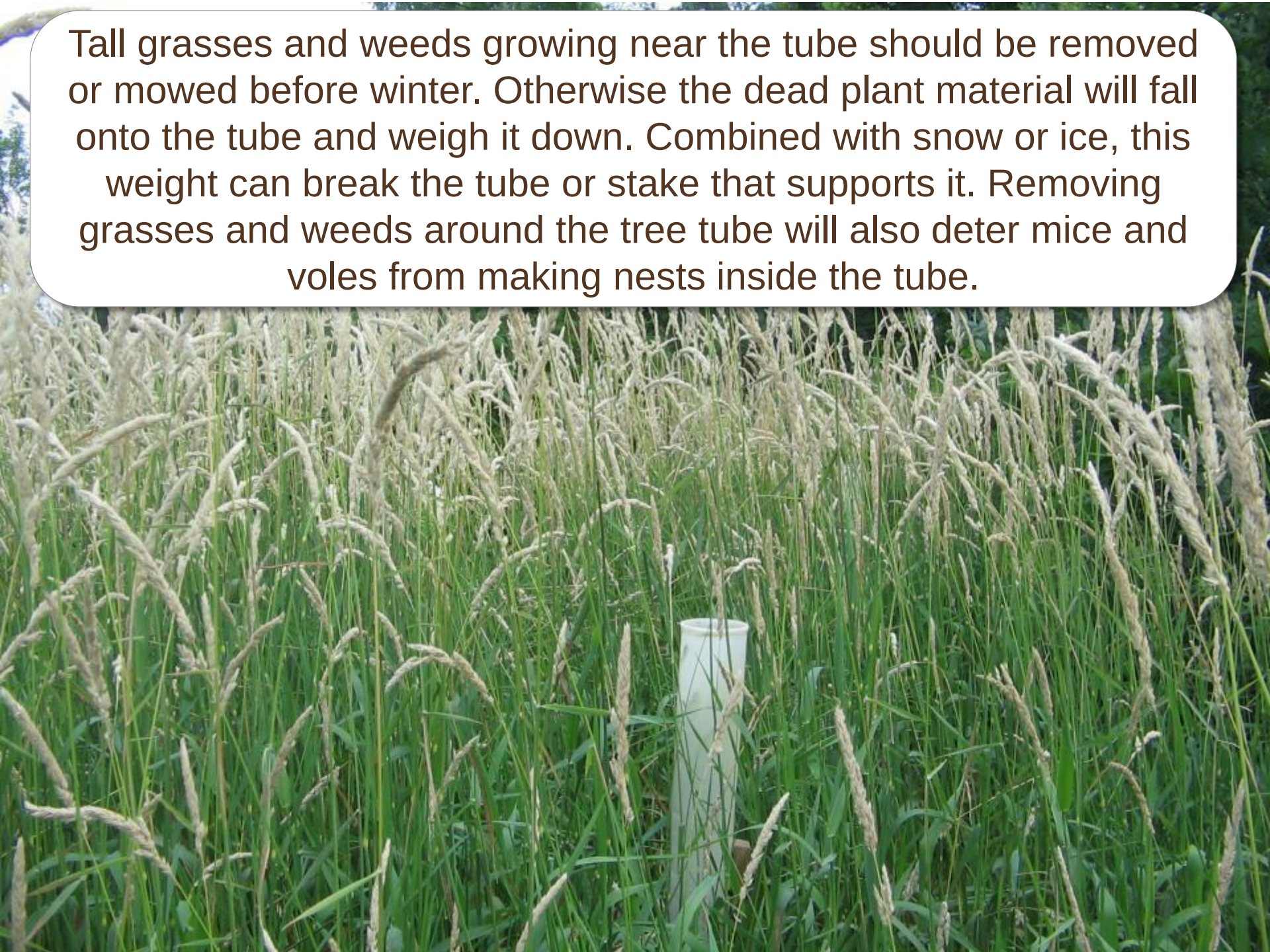
1. Remove outside plants
2. Remove inside plants and debris
3. Prune the tree
4. Check the stake and zip ties
5. Graduate the tree from the tube (if it's ready)
6. Clean up

Step 1. Remove Outside Plants

Remove any plants other than your tree (ex. weeds, vines, grasses) that are growing either on the tube itself or growing out the top of the tube. These plants need to be removed before you can take off the tube to do the other maintenance steps.

This oriental bittersweet vine has grown completely around the tube. It was cut and pulled out before the tube was removed.

Tall grasses and weeds growing near the tube should be removed or mowed before winter. Otherwise the dead plant material will fall onto the tube and weigh it down. Combined with snow or ice, this weight can break the tube or stake that supports it. Removing grasses and weeds around the tree tube will also deter mice and voles from making nests inside the tube.

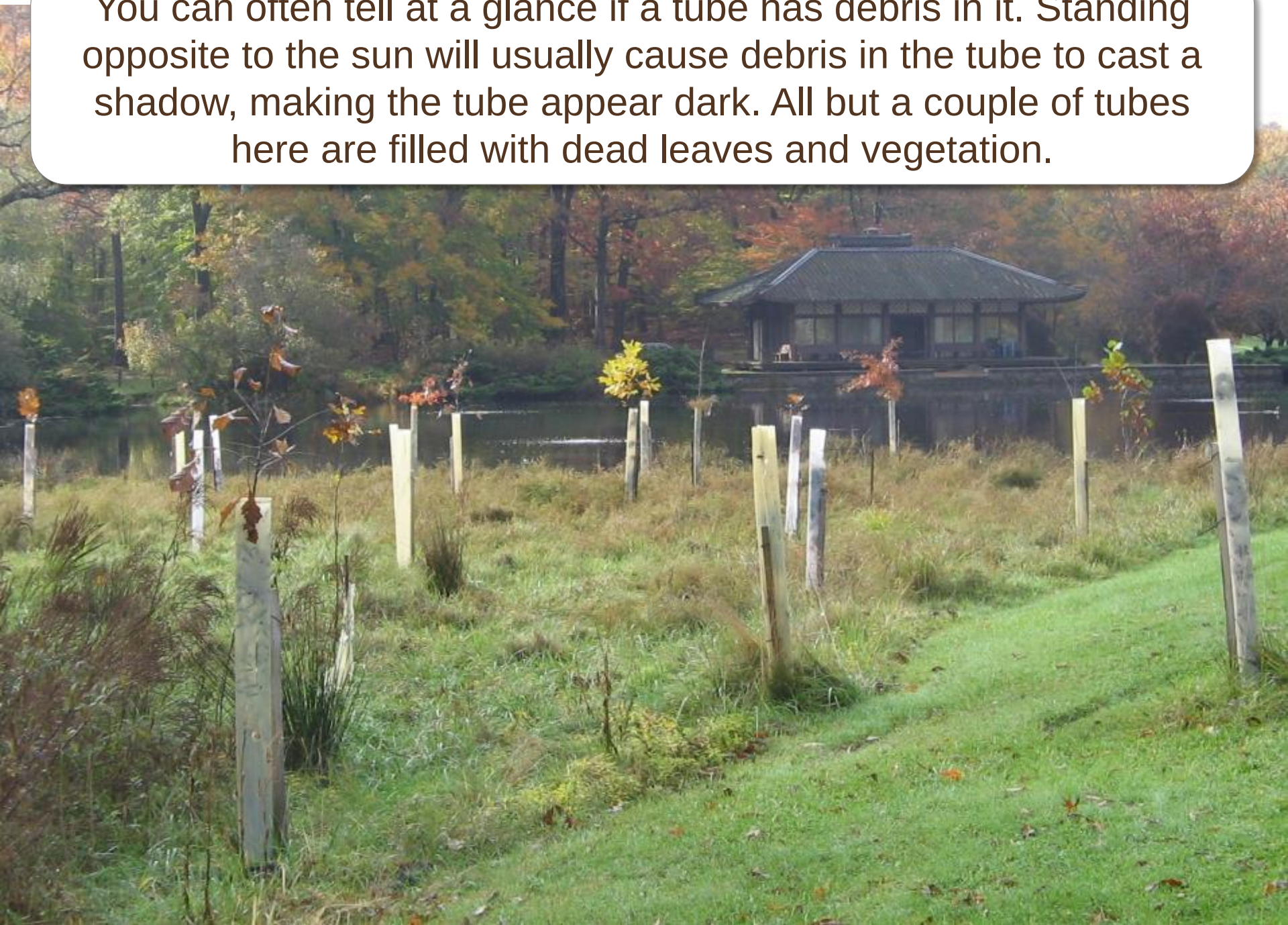


Step 2. Remove Inside Plants and Debris

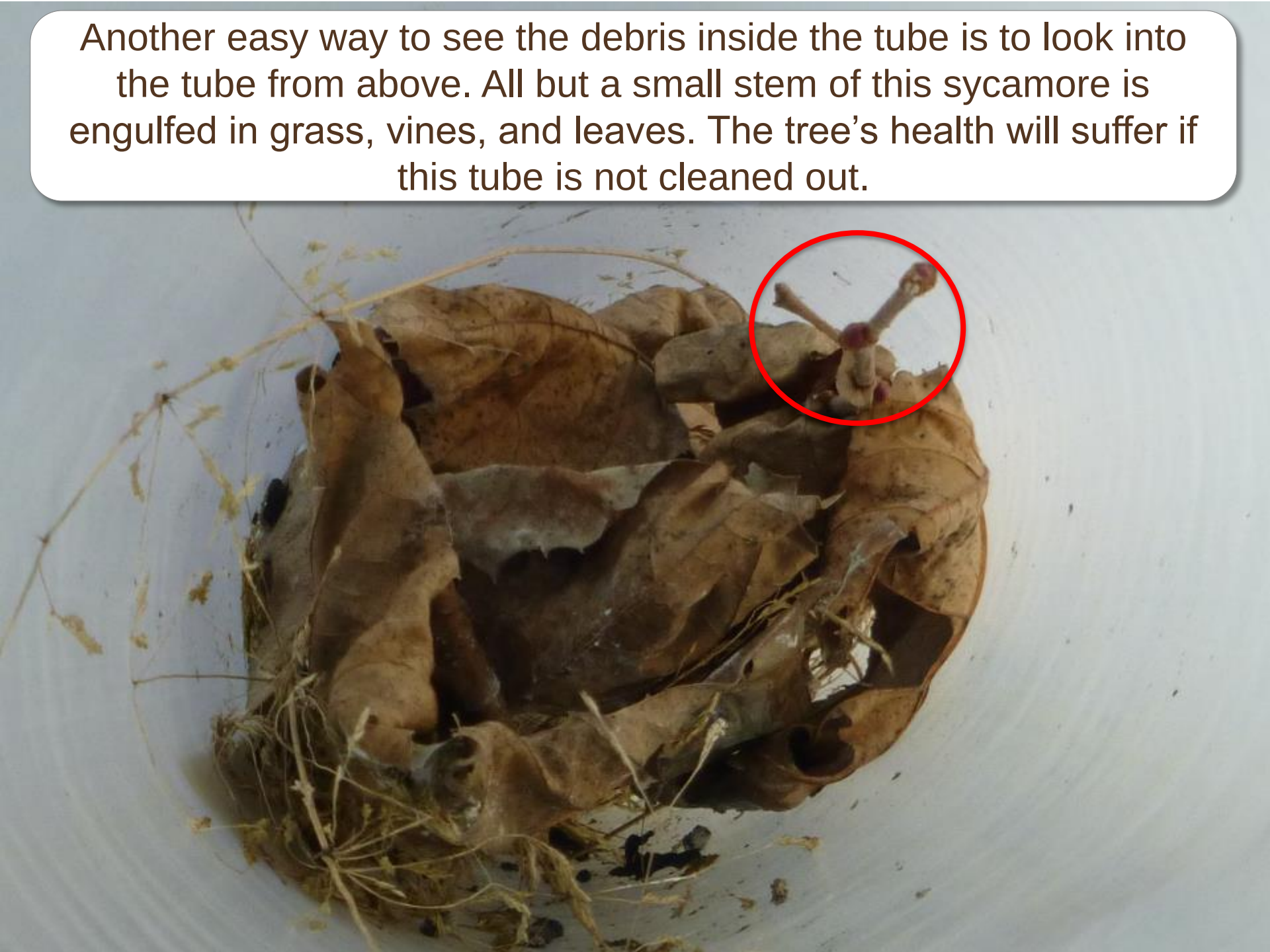
All debris, dead plant parts, and living plants inside the tube need to be removed (other than your tree, obviously). If left in place, this debris will damage your tree. Plant debris also attracts mice, which will eat the tree's bark and roots.

To get rid of this debris, take off the tree tube and gently remove the debris from the tree by hand while wearing gardening gloves.

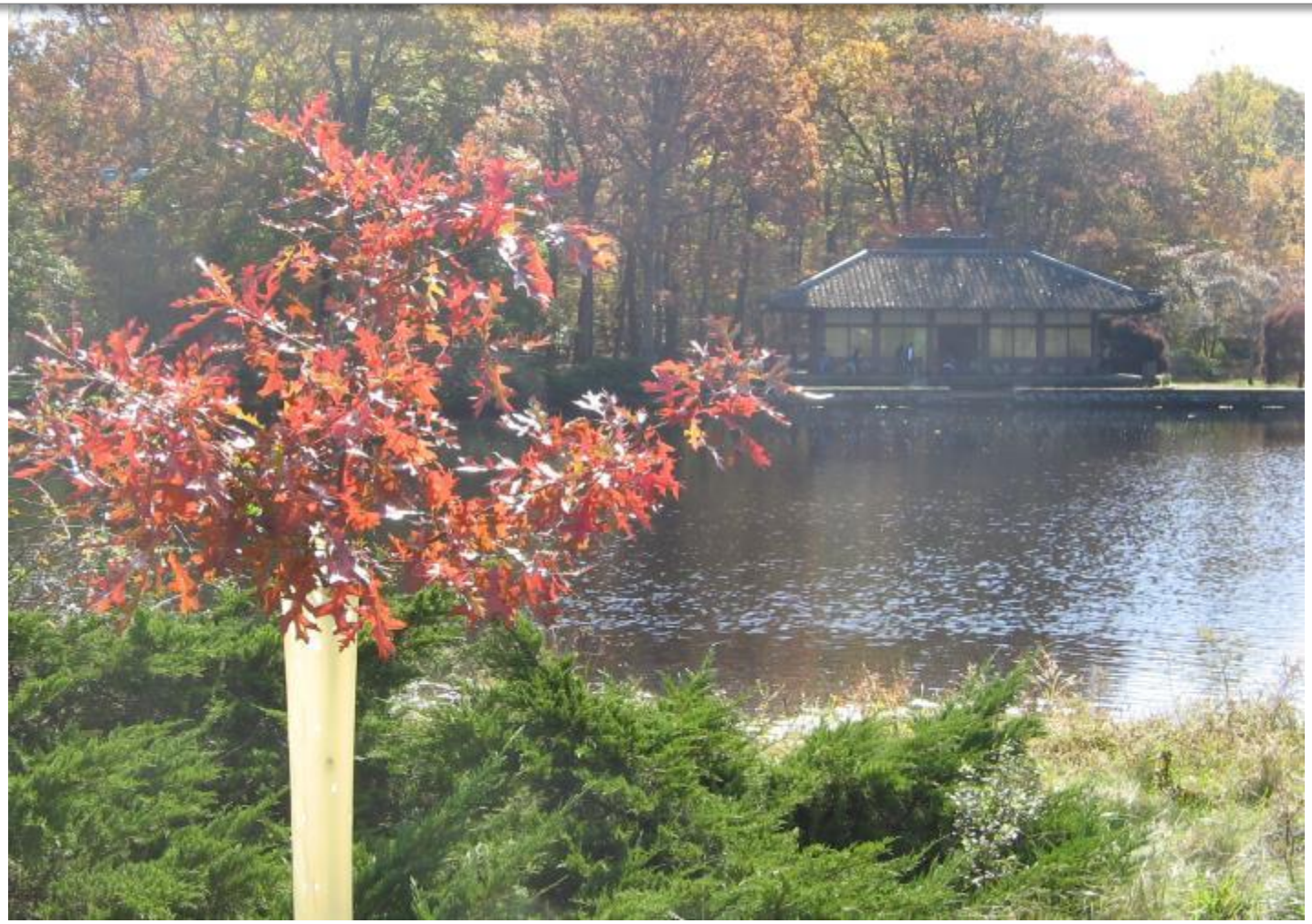
You can often tell at a glance if a tube has debris in it. Standing opposite to the sun will usually cause debris in the tube to cast a shadow, making the tube appear dark. All but a couple of tubes here are filled with dead leaves and vegetation.



Another easy way to see the debris inside the tube is to look into the tube from above. All but a small stem of this sycamore is engulfed in grass, vines, and leaves. The tree's health will suffer if this tube is not cleaned out.



Sometimes the branches of larger trees prevent the tube from being fully removed. In this case, do the best you can. Pull debris from the top, and lift up the tube as best you can to pull out debris from the bottom. Note: This condition is a sign that your tree may be ready to graduate from its tube.

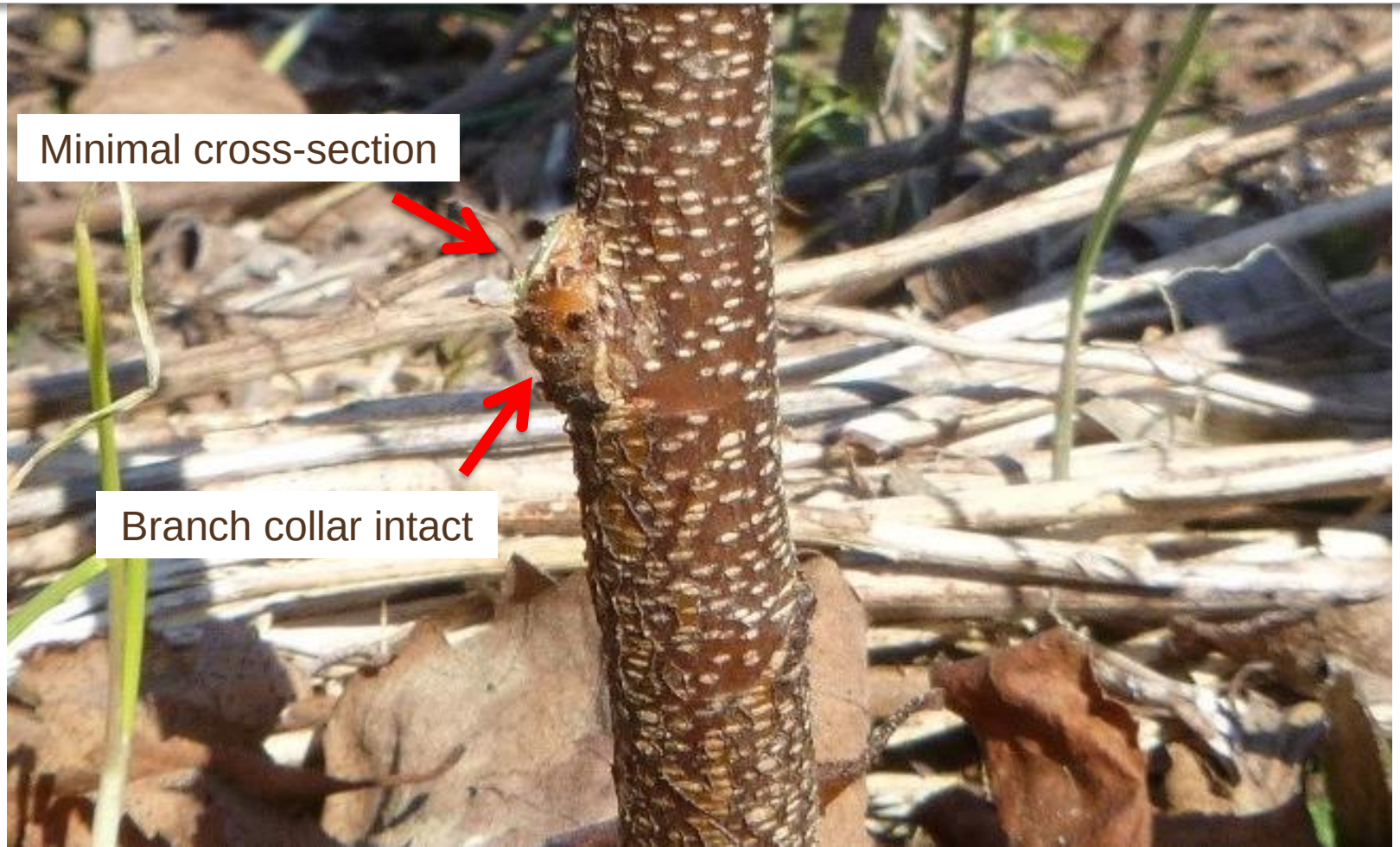


Step 3. Prune the Tree

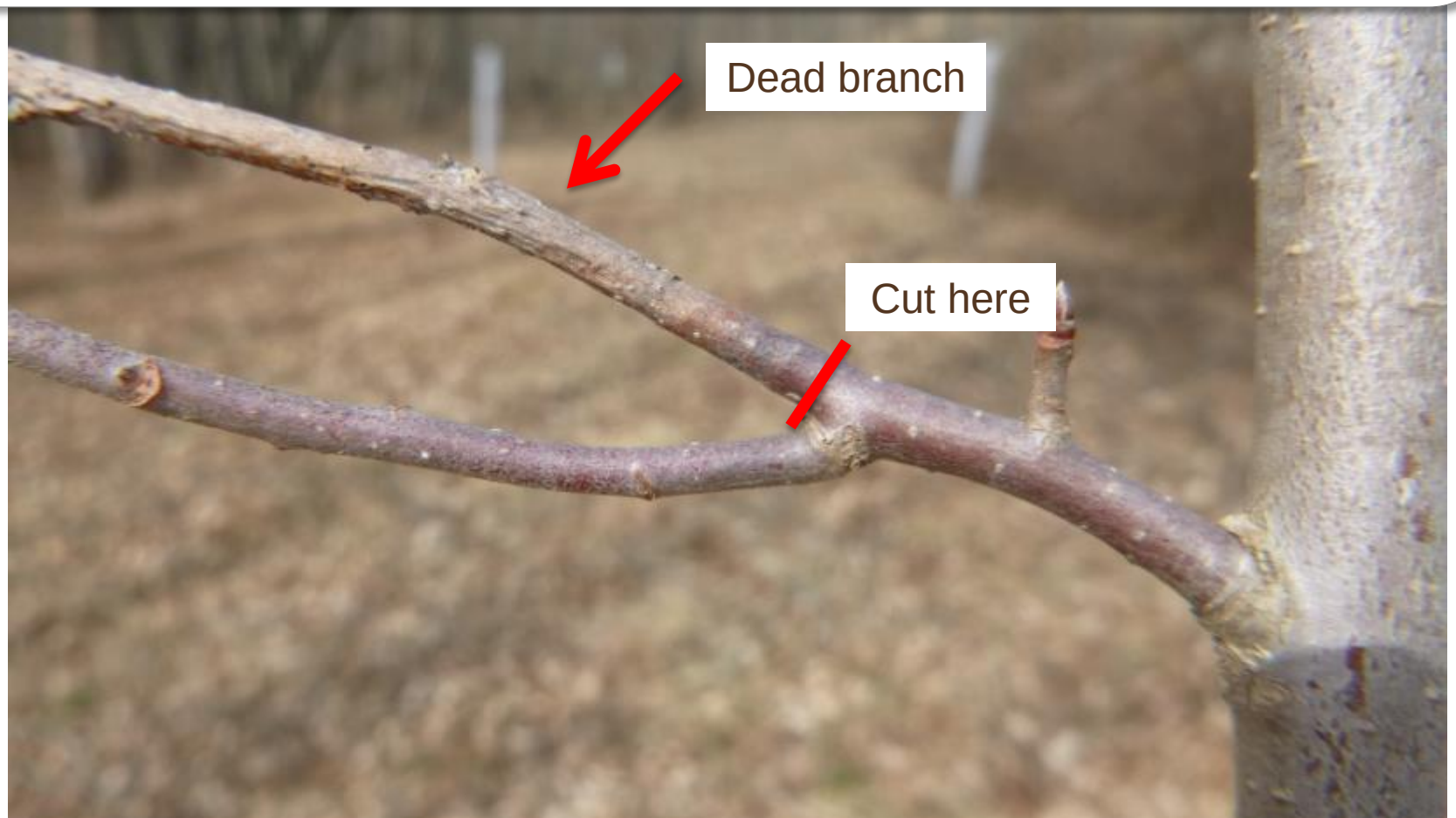
The shape and form of trees is important to their long-term health. Even at this small size, pruning can help a tree develop a healthy shape.

Pruning isn't hard, but it does require some knowledge of what to cut and what to leave. The next few slides show some pointers. When doing this work, use a sharp pair of hand pruners.

Pruning helps a tree in the long term, but it does create a wound. Proper pruning technique gives your tree the best chance to heal that injury. To prune, cut at an angle that minimizes the wound's size. Cut close to the base of the branch you are removing, but do not damage the branch collar (the ring of bark where the branch meets the trunk). This picture shows good pruning technique.

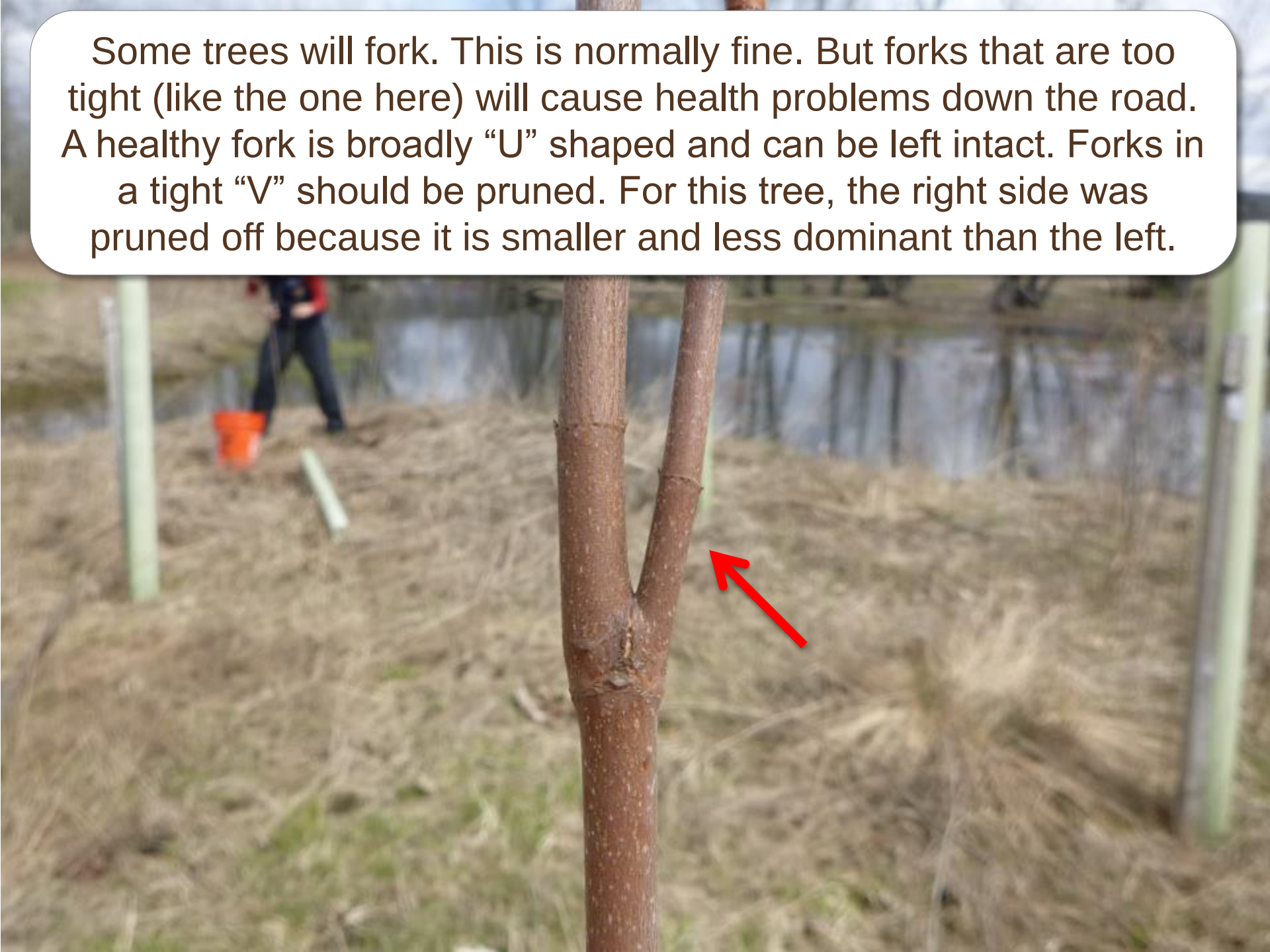


All dead branches should be pruned off. This will help the tree heal faster and will give more growing space to living branches. To spot dead branches in the dormant season, look for shriveled, discolored bark (like in this photo). If you're unsure, use the edge of your pruner blade to gently make a small slice into the bark. If you see green, the branch is alive. If underneath is brown or gray, it's dead.




Some trees become multi-trunked inside the tube. There should only be a single trunk inside the tube, so prune off side trunks.

Branches can sometimes grow downwards. These branches should be pruned off.


Some trees will fork. This is normally fine. But forks that are too tight (like the one here) will cause health problems down the road. A healthy fork is broadly “U” shaped and can be left intact. Forks in a tight “V” should be pruned. For this tree, the right side was pruned off because it is smaller and less dominant than the left.

Step 4. Check the Stake and Zip Ties

A tree tube's stake and zip ties are crucial. If they break, the tree will likely fall over or snap.

You'll need a mallet or hammer to maintain stakes. You'll also need replacement zip ties. When maintaining tree tubes, it's helpful to bring a bucket to carry these supplies and to put any broken zip ties in as you go.

Check each tree stake for cracks, splits, or leaning at knots. Stakes with these traits are more likely to fail and should be replaced.

Over time, wind and frost can loosen stakes. Wiggle each stake back and forth. If it moves more than 1” in any direction, then it needs to be hammered in more. Note: be sure not to hammer the stake too far into the ground. It still needs to be tall enough for the top zip tie. If the stake still isn’t stable at that point, pull out the stake and set it in a new position.

Zip ties become more fragile after 2-3 years outside and can become brittle during cold weather. Replace any zip ties that are broken or missing, like the missing top zip tie on this tree tube.

Step 5. Graduate the Tree from the Tube

While a tree tube helps your young tree survive deer browse, you can't leave the tube on forever. Your tree needs to grow! But how do you know when it's ok for your baby tree to run free? Here's an easy test:

1. Unhook the zip ties holding the tube to the stake.
2. Grab the tube or tree with one hand and pull back until the lean is about 25°.
3. Let go.

If the tree is ready to stand on its own, the tree will be hard to pull. When released, it will spring rapidly back to vertical, but it will not stop moving for 5-10 seconds.

If tree tube support is still needed, the tree will be easier to pull. It will still spring rapidly back to vertical, but it will come to rest in under 5 seconds.

After the tree tube comes off, your tree may need a bark protector like the one shown here to prevent deer from rubbing their antlers on the bark. Bark protectors are only needed if your property has heavy deer pressure. To learn about bark protectors and whether you should consider them on your young trees, check out the MyWoodlot Activity “Protect Planted Trees” and click on “Installing Bark Protectors.”

Step 6. Clean Up

Once you finish your maintenance, what should you do with your used tree tubes, broken stakes, and other debris?

Most of the plastic, such as tree tubes and broken zip ties, can be recycled. As for stakes, wooden ones can be left on site as long as they haven't been treated with chemicals. They will decay back into the soil within a few years.

My Woodlot™

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