



Maryland Forest Service Shelter and Seedling Maintenance

So you signed up with the Maryland Forest Service for a tree and shrub planting, and you ended up with a yard full of those funny-looking white tubes zip-tied to wooden stakes and some weird nets on top. Now what?

First a bit of background on those odd white tubes.

Those tubes are tree shelters that prevent deer from eating your seedlings and keep voles from nibbling at the bark.



Above: tree shelter rows

Left: signs of wildlife damage



Tree shelters also transmit a certain percentage of UV light, acting as a mini-greenhouse and prompting the tree or shrub to grow upward and above the top of the shelter at a fairly rapid rate. The nets are called bird nets and prevent birds from attempting to nest inside or chase an insect meal into the tube, eventually getting stuck and dying.

Without these tree shelters, and timely mowing, wildlife or weeds would likely devour or engulf large portions of any planting. Heavy competition by native and invasive plants, as well as increasing browse by the burgeoning deer population in Maryland, can drastically limit survivability of unprotected young trees and shrubs trying to set root.

As your seedlings settle in and grow, here are some helpful tips to ensure your planting's success.

One Year at a Time

The first five years are when maintenance can have the most impact on your seedling survival rate, so a basic timeline with typical steps follows. Mowing at least three times a year between planting rows is absolutely imperative to have a successful planting, but the following steps are also vital to an established tree and shrub planting grown from bare-root seedlings.



Maryland Forest Service
580 Taylor Ave.
Annapolis, MD 21401
dnr.maryland.gov/forests

Toll-free in Maryland: 877-620-8367
Out of state call 410-260-8367
TTY users call via the MD Relay
2/21 DNR 02-020221-266

Maintaining Your Planting: Years 1-3

- Re-drive and straighten any leaning stakes and shelters.
- Make sure bird nets are pulled flush against top of tube, leaving 1-2" opening for terminal bud to grow through. If net is not pulled flush with no opening at top, terminal bud will get tangled in net, curl up and possibly break.



- Remove bird nets when top of tree, aka terminal bud, is about 2" from top of shelter. Reuse nets on other plantings or dispose of in the trash.



- Pull any weeds that grow inside of shelter with your seedlings, and remove vines growing up stakes and shelters.



- If you have to remove shelter to get weeding done, be sure to not bend or break seedling, or catch it between shelter and zip tie, when putting shelter back on.

Maintaining Your Planting: Years 3-5

- Continue stake resetting, shelter weed control, and bird net removal if still necessary.
- Prune any dead/diseased branches in late winter, using proper pruning technique and cutting at an angle.
- Loosen zip ties on shelters for trees that develop root firmness and begin to hold steady in winds (tree has good form and stands on its own, not shifting in direction of stake and shelter).
- By this point, mostly all your seedlings should be turning into saplings and grown above their respective shelters while filling out in diameter.



5-6 year old planting. Persimmon, river birch at forefront

- Undo zip ties and remove shelters from trees with 1 inch between their trunk and the shelter.
- If possible, tear shelter at corrugated seam. Otherwise, cut at seam or wherever there is room to work, being careful not to cut sapling trunk by putting knife blade sideways and outward toward shelter.
- When bottom of shelter is bound around base of tree and deeply tucked into soil, cut tube aboveground where able to remove and leave remaining portion of tube so as not to disturb and damage young developing sapling roots.



Corrugated seam of shelter (left), shelter on 6-year-old tree breaking off along seam (right)

- After shelter is removed, use your boot heel to firm up soil and eliminate any holes formed at base of tree. This will prevent air pockets and root drying, as well as invasion by rodents.
- If going into fall and want to remove shelter, best to wait until after deer rub season (Oct-Jan) is over. A young buck rubbing velvet off on a very young sapling can lead to tree mortality or long-lasting wound and potential for disease or pest problems.
- Once shelter removed, leave wooden stake in ground if still standing; letting it rot and break down into the soil.
- If you do want to remove stake, slowly twist it until bottom portion breaks off in ground, preventing a hole being left in the ground.

SPECIAL TIP: REUSE THOSE TUBES! Cut new tie holes on each side of where you just cut down your tree shelter and reuse to wrap around another seedling in need of protection from wildlife. The Maryland Forest Service typically uses tree shelters that are #5 plastic, which is polypropylene, so check with your local recycling facilities to see if they accept this material.



Arrow showing easy push-release button on zip ties, which can be reused by landowners