

Planting or Transplanting a Hemlock

This instruction is for planting containerized or balled-and-burlapped hemlocks between 18” and 8’ tall or transplanting hemlock saplings between 18” and 5’ tall.

What You’ll Need – These are suggestions; call the Hemlock Help Line for advice regarding substitutions.

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| <ul style="list-style-type: none">• Work gloves• Trowel for small tree or sharp-bladed shovel for larger one• Plastic grocery bags or trash bags for the root balls• Native soil from original growth site or planting site• Mr. Natural Woodland Soil Mix• Mr. Natural Worm Castings or Hen Manure or homemade compost• Espoma HollyTone (or any slow-release, acid-based fertilizer labeled for azaleas, camellias, blueberries, etc.)• Ironite granules | <ul style="list-style-type: none">• Soil Moist for water retention• MiracleGro Quick Start liquid• Imidacloprid 75 WSP or 2F / 2L for 5 years of HWA protection <i>or</i> Bayer Advanced Tree & Shrub for 1 year of HWA protection• Shredded hardwood mulch• Bamboo stake, roll of velcro tape & scissors• Water |
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Sources: See the [Contacts](#) page of our web site for sources of HWA Imidacloprid treatment products. You can get most of the other items at stores such as Home Depot, Lowe’s, Walmart, hardware stores and garden centers. In Georgia, you can usually find Mr. Natural Woodland Soil Mix, Worm Castings, and Hen Manure at Leilani’s Gardens in Dawsonville 706-265-3510, Anderson Feed and Supply in Dahlonega 706-864-3364, Ash Brothers Feed & Farm Supply in Cleveland 706-865-2124, and Little G’s Garden Center in Cherry Log 706-273-2012. Elsewhere, check your local garden supply stores and on-line to see where they may be purchased. If you can’t find Mr. Natural WSM, you can substitute MiracleGro Moisture Control, available at places like Home Depot, Lowe’s, Ace Hardware, or Walmart. **Call the Hemlock Help Line 706-429-8010 for more information.**

Note: Stores/products mentioned above are provided as suggestions only and are not meant as endorsements.

Size

The planting size of a containerized or balled-and-burlapped hemlock is limited only by the space available and your ability to lift the weight and dig an adequate hole. For *transplanting* trees, unless you have large earth-moving equipment, it is not recommended to move one that is more than about 5 feet tall because of the size of dirt ball needed for the tree to survive.

Tree Health

Choose trees that are healthy and have good structure. If a tree is lightly infested with adelgids, it’s still OK because you’ll treat it as part of the planting process. If you attempt to plant or transplant a sickly tree or one that is badly infested, it might not live.

Timing

The best time to plant or transplant a hemlock is early fall when the soil temperature is still warm enough to encourage root development but the air temperature is cooling down. Second best is late winter / early spring before the flush of new growth.

Choosing and Preparing the Planting Site

Hemlocks prefer semi-shade or at least afternoon shade in a moist but well-drained (not soggy) location. A north- or east-facing slope that is protected from harsh winds and/or near a stream is ideal, but moisture and drainage are the most important factors.

1. **Survey the planting site** and modify it if necessary to ensure a good growing environment.
 - a. Remove potential hazards such as leftover construction debris, chemical or oil spills, and bits of mortar or limestone that would create alkaline soil conditions.
 - b. If soil debris or contamination is a problem, you should either remove the top six to eight inches of soil and replace it with a good grade of topsoil or choose another site. If soil texture and structure are a problem (e.g., too much sand or rock or soil depth too shallow), you should choose another site. If drainage is a problem, you should either plant your tree slightly higher (1” – 2”) than the surrounding ground or choose another site.
 - c. Note the texture and structure of the soil, e.g., clay, loam/silt, sand, rocky, etc. Loamy soil or amended clay soil is best.
 - d. Check for drainage patterns that would cause excessive dryness or soggy conditions. Avoid such areas if possible.
2. If you’re going to transplant a tree, **prepare the new hole** BEFORE you dig up the tree you want to move.
3. **Dig a hole** 3 times the width of the container or root ball (i.e., you could place the pot or root ball in the hole 3 times in a triangle) but only 2” deeper than the dirt in the container or the root ball. Pile the removed dirt next to the hole. If you’re transplanting a tree from another location, also add the native soil brought from the original growing site.

Note: Dig when the soil is either dry or just damp enough to make a clump when compressed; don’t dig when the soil is wet.



4. **Make special soil amendments mixture** as follows:

2 parts Woodland Soil Mix

1 part worm castings, hen manure, or aged homemade compost

1 tblsp HollyTone per gallon of soil

1 tblsp Ironite per gallon of soil

*Note: Eastern hemlocks (*Tsuga canadensis*) require a pH range of 4.2 to 5.7. The soil in a woodland setting is normally acidic enough, but in a residential setting it may or may not be within the desired range. If you're in doubt about the pH of your planting site, contact your local Cooperative Extension Service agent about a soil test. If your soil is more alkaline than it should be, your Extension Agent can provide instructions for amending it. Never apply lime near a hemlock.*

5. **Combine the amendments mixture with the native soil** you removed from the original growing site and/or the planting hole in a ratio of 1/3 amendments mix to 2/3 native soil. Put 2 – 3 inches of this soil mix back into the hole.

6. Prepare one gallon of **initial watering solution** per gallon of root ball size. With each gallon of water, add 1 capful of Quick Start and ½ ounce of Imidacloprid 2F/2L or 4 oz. of Bayer Advanced Tree & Shrub.

Note: Keep this watering solution out of the sunlight until you're ready to use it.

Digging Up a Tree to Transplant

1. Be sure your shovel blade is sharp to minimize root damage. To cut the roots cleanly, dig a circle around the tree as wide as the drip line (the ends of the branches). The depth of the root ball is based on the height of the tree. If tree is 1-2' tall, dig 6-8" deep; 3-4' tall, dig 12" deep; 4-5' tall, dig 15-18" deep.
2. Lift tree by its root ball, *not* the trunk, to prevent tearing the root system and place it in a plastic bag for transport to the new site.
3. Take the tree *immediately* to its new site. Do not leave the tree in the bag or place the bag in the sun.
4. Also **dig some extra native soil from the original site to take to the planting site**. Amount of this extra soil should be equal to the root ball size.

Planting the Tree in its New Site

Hemlock trees are shallow rooted, so the key to successful planting is to be sure the tree *ends up* "at grade," i.e., at the same level as it was originally in the ground or pot.

1. **a. If tree is in a container**, remove container carefully by turning it upside down in your hands and catching the root ball. Gently "tickle" the root hairs so they're facing outwards. If the roots are pot-bound, use a sharp tool to make several half-inch-deep slits in the root mass to free them. Place the tree in the center of the hole and refill it halfway with your soil mix.
b. If tree is bare-rooted, place it in center of hole and gently spread roots out. Refill the hole halfway with your soil mix.
c. If tree is balled and burlapped, remove wire or cord but do *not* remove burlap yet. Place tree in center of hole and refill hole halfway with soil mix. Then open the burlap and lay it out flat in the hole so that no part of the fabric will come in contact with the surface of the ground.
2. While hole is only half full, **sprinkle a small amount of Soil Moist** water retention crystals all around the roots of the tree (about 1 tsp per gallon of root ball size).
3. **Fill hole the rest of the way** with **soil mix** so it just covers the root ball. Don't bury it any deeper. The tree should now be sitting 1" – 2" above grade level at this point. Firm the dirt *gently* with your foot to eliminate air pockets.
4. **Apply 2 – 3 inches of shredded hardwood mulch** (not pine straw or nuggets) around the tree to conserve moisture, keep the soil temperature stable, and prevent weeds. *Hint:* Don't heap it up like a mulch volcano! Spread the mulch from the trunk out to the drip line, but pull it back a few inches from the trunk to avoid introducing insects or fungal growth.
5. Immediately after planting, **water thoroughly** but slowly, giving about a gallon of the **initial watering mix** per gallon of root ball size. Two or three hours later, firm the dirt again with your foot to eliminate any remaining air pockets and **water again with the initial watering mix**. The tree should now be sitting exactly at grade, level with the surrounding ground. Don't create a "watering saucer" around the tree as this could retain too much water.
6. **Staking** is usually not necessary for a small tree up to 3 or 4 feet tall, but if wind is a problem, place a bamboo stake in the soil next to the trunk and secure the tree *loosely*, 2/3 of the way up the stem, so it can still sway several inches side to side. Remove stake and velcro after the first year.
7. **During the establishment period** of up to a year, water with plain water once a week if you don't have rainfall that week. Keep the soil uniformly moist -- not too wet or too dry. Use 1 gallon of water per gallon of original root ball size.
8. **Continue HWA protection**. If you're using Bayer Advanced Tree & Shrub, retreat every year in the spring. If you're using an Imidacloprid 75 WSP or 2F / 2L product, retreat every 5th year in the spring.
9. **Giving additional fertilizer** after planting is usually not necessary, but if you do, wait until late winter of the year following planting. Sprinkle close to the trunk and out to the drip line, and be sure to *follow the recommended dosage* on the product label as too much fertilizer can kill a plant. Do not apply lime anywhere near your hemlock.