

BARE ROOT TREE PLANTING GUIDE

Planting bare root trees requires meticulous care from reception to installation. These steps ensure successful tree establishment and long-term growth.

- Step 1: Receiving Tree for Planting (at tree storage area):

- Upon delivery, keep trees in a cool, shaded place.
- If storing overnight, water packaging.
- Fill a 5-gallon bucket halfway with water.
- Remove the number of trees to be planted that day from packing materials.
- Inspect the roots and gently untangle them.
- Inspect the crowns and prune dead or damaged branches.
- Place the tree in the water bucket.
- If trees were packaged with sphagnum moss or other wet material, place it along the inside of the bucket to help stabilize the trees.
- Plant trees within 6 hours of unpackaging.

- Step 2: Prepare Hole (at tree planting location):

- Measure the root spread and root height (Figure 1).
- Remove grass within a circular area 1.5 times as wide as the root spread.
- Dig the hole to the depth of the highest fibrous root or trunk flare to the bottom of the longest root (Figure 2).
- In clay soils, use a shovel to loosen the glazed walls of the planting hole.

Bare root
(roots spread out flat on the ground)

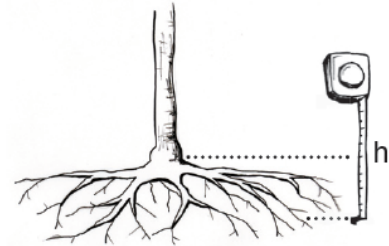


Figure 1: Measure the spread and height of the root ball. This is exactly how deep you should dig the hole. Measure the approximate width of the root ball or root system. Multiply this by 2, or if your soil is hard (clay or compacted), by at least 3. This is how wide you should dig the hole. Source: US Forest Service Tree Owner's Manual.

www.treeownersmanual.info

HOLE DEPTH = height of root ball (h)
HOLE WIDTH = width of root ball (w) x 2 or 3

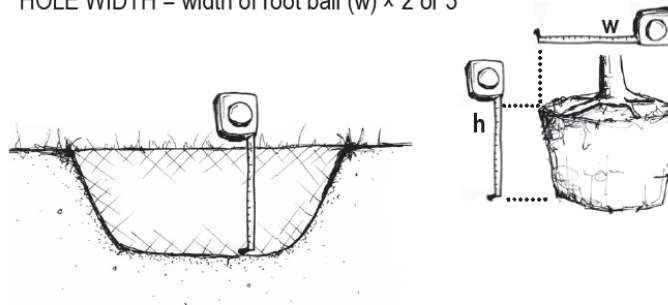


Figure 2: Dig the hole. The dimensions of the hole are very important in determining the survival of your tree. Dig the hole ONLY as deep as the root system (NO deeper!). Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.

- Step 3: Place Tree in Hole:
 - Place the handle of the shovel across the center atop the hole.
 - Place the tree in the hole and against the center of the shovel handle so the tree is centered in the hole and roots are below the shovel and ground.
 - Align the highest fibrous root or trunk flare level or slightly above the bottom side of the handle so that this area of the tree is at or slightly above soil grade.
 - Look from all sides of the tree at the straightness of the tree in the hole and adjust the lean so the top of the tree is standing straight and up, not to one side.
 - Add backfill soil to the hole to secure the tree in place and remove the shovel from the top of the hole (Figure 3).

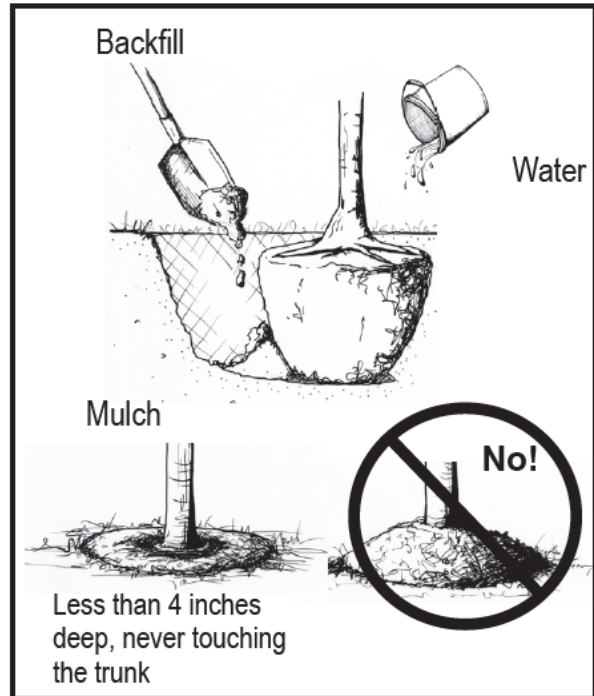


Figure 3: Make sure the trunk is straight. Put the original soil back in the hole, breaking up large clods, and working it in with your hands or a shovel. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.

- Step 4: Fill Hole and Make Berm:
 - Add the remaining backfill soil around the roots, using your fingers to lightly but firmly tamp the soil. If the soil is dry, apply water after each layer is tamped.
 - Do not add soil amendments such as peat or bark. Do not use fertilizer, potting soil, or chemicals on your new trees.

- Biochar can be used to amend backfill soil during tree planting, following the label instructions.
- Build a berm 3 inches high and wide with the remaining soil, circling the inside edge of where grass was removed.
- **Step 5: Optional Tree Protection:**
 - Due to the typical size of these trees, rabbits and deer may pose a threat to the survivability of newly installed trees.
 - Make a 4-inch wide and 32-inch-tall wire cage to place around the tree.
 - Just before backfilling the planting hole, place the cage in the hole with the tree.
 - Plastic tree guards are also effective.
 - To discourage browsing of stem cambium by voles or mice or browsing of twigs and buds by rabbits or deer, apply a repellent following labeled directions.
- **Step 6: Water at Installation:**
 - Using low water pressure from a hose or bucket, apply water around the hole until the surrounding soil is thoroughly moist immediately following installation (Figure 4).

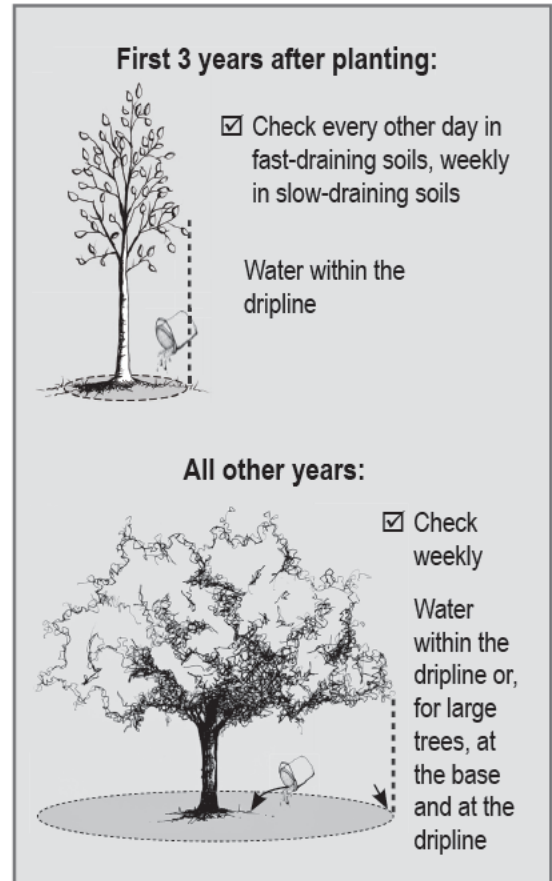


Figure 4: Tree roots need oxygen. Soil saturated with water for more than 24 hours can prevent roots from getting oxygen. Therefore, watering too much is as dangerous as watering too little (and is harder to correct). Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.

- **Step 7: Mulch the Planting Hole:**
 - Mulch materials may be natural wood chips or shredded bark, needles, or leaves free of any extraneous material such as soil, stones, and debris.
 - Apply mulch 2-4 inches deep over the filled hole and berm, leaving 3 inches around the trunk clear from mulch (Figure 5).



Figure 5: There should never be more than 4 inches of mulch over the roots. Too much mulch or soil can prevent oxygen from reaching the roots. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.