CONTAINERIZED TREE PLANTING GUIDE

Planting containerized 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 the soil medium in the container.
    - To avoid moisture loss, do not leave trees in direct sunlight for more than 4 hours.
- Step 2: Prepare Hole (at tree planting location):
    - Measure the width of the container and height of the soil in the container (Figure 1).
    - Remove grass within a circular area a minimum of 1.5 times as wide as the container.
    - Dig the hole to the depth of the height of the soil in the container (Figure 2).
    - In clay soils, use a shovel to loosen the glazed walls of the planting hole.

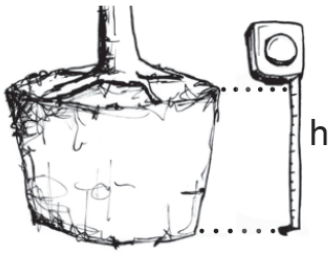

Figure 1: *Measure the spread and height of the root ball. This is exactly how deep you should dig the hole. Measure the approximate width of the root ball or root system. Multiply this by 2, or if your soil is hard (clay or compacted), by at least 3. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.*

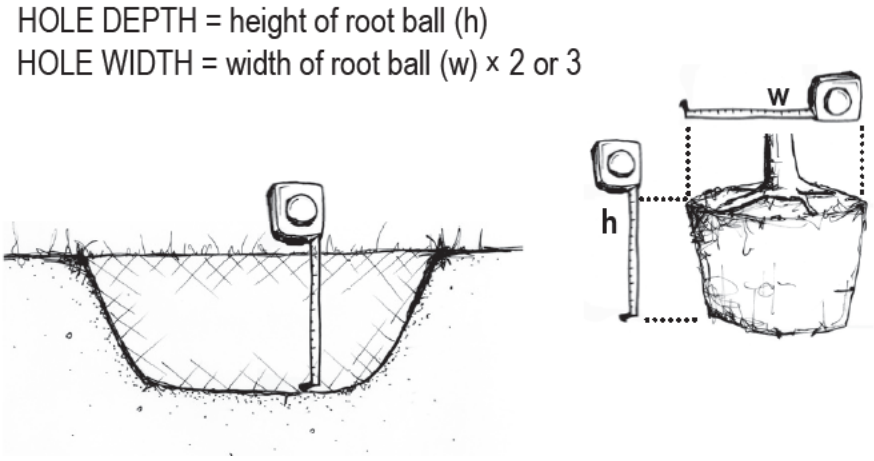

Figure 2: *Dig the hole. The dimensions of the hole are very important in determining the survival of your tree. Dig the hole ONLY as deep as the root system (NO deeper!). Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.*

- Step 3: Prepare Tree for Planting:
    - Locate the tree's trunk flare by removing soil from the top of the container until the highest non-fibrous root is uncovered (Figure 3).

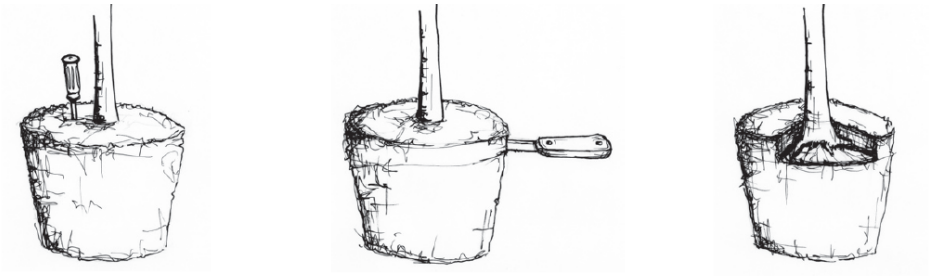

Figure 3: *Remove the entire container. Pull or cut the soil off the top of the root ball until the main root system is found. A saw works well to remove the top layer of soil. Be careful not to cut into the trunk. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.*

- Remove the tree from the container by cutting the vertical sides of the container in four places from top to bottom.
- Observe all sides of the root ball for circling or matted roots. Know your container because some containers reduce these occurrences.
- Remove roots circling around the outer part of the root ball using a handsaw to create a box-like cut on the ball. Cut about 5% of the root ball's diameter from four sides (Figure 4).

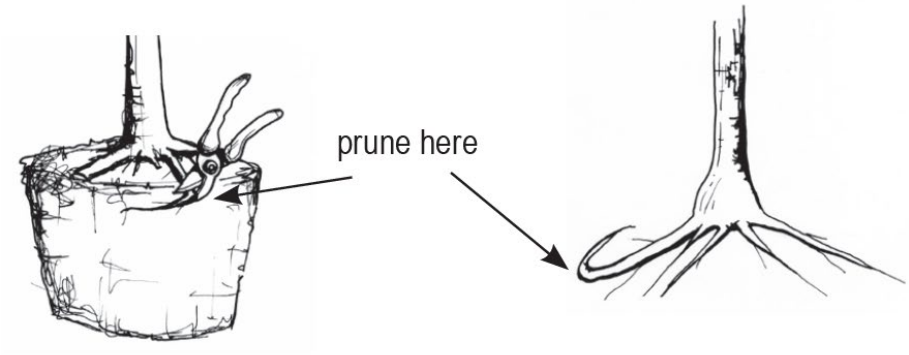

Figure 4*: Remove all small roots above the main root system with a hand pruner. Examine the main root system for roots that extend out but then turn to the side or back towards the trunk. Prune these roots at the point where they turn. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.*

- Remove matted roots from the bottom of the root ball using a handsaw to remove a layer of roots and planting medium. Cut about 5% of the root ball's height from the bottom.
- Inspect the crown, prune any dead or damaged branches, and remove any tags, strings, or tape (Figure 5).

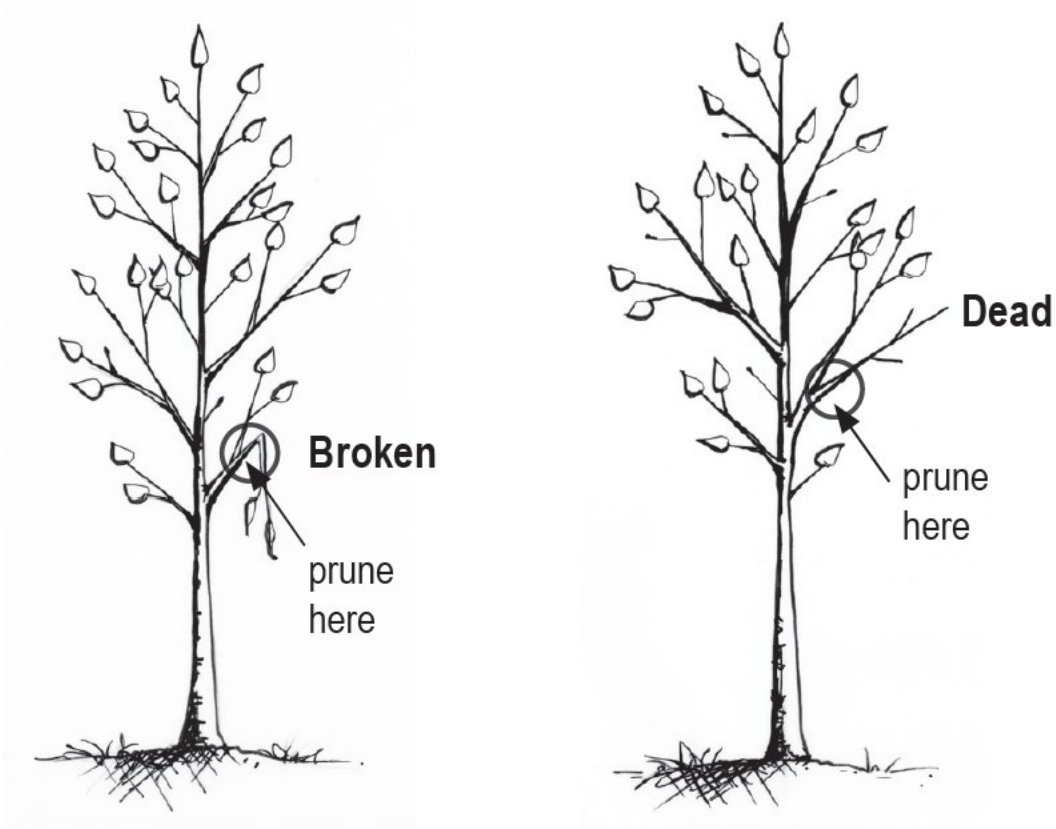

Figure 5: *Prune only branches that are broken or dead. Minimize pruning at the time of planting. Trees need as many leaves as possible to recover from transplant shock (leaves produce the tree's food). Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.*

- Step 4: Place Tree in Hole:
    - Place the tree in the center of the hole.
    - Remove soil from top of root ball and cut away circling roots around the trunk flare, fibrous roots above it, or roots that cannot be straightened.
    - Use the shovel's handle to check that the bottom of the trunk flare is at or just above soil grade.
    - Add or remove soil to the hole to align the bottom of the trunk flare with 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.

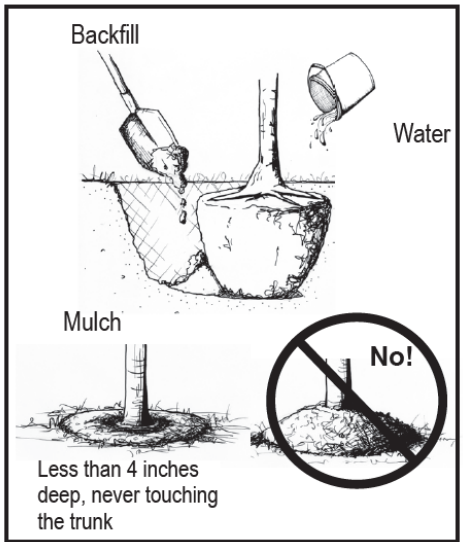

Figure 6: Make sure the trunk is straight. Put the original soil back in the hole, breaking up large clods, and working it in with your hands or a shovel. Source: US Forest Service Tree Owner's Manual. www.treeownersmanual.info.

    - Add backfill soil to the hole to secure the tree in place and remove the shovel from the top of the hole (Figure 6).
- Step 5: Fill Hole and Make Berm
    - 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.
    - About 6 inches at a time, add the remaining backfill soil around the root ball in layers, lightly but firmly tamp each layer. If the soil is dry, apply water after each layer is tamped.
    - Build a berm 3 inches high and wide with the remaining soil, circling the inside edge of where grass was removed.
- Step 6: Optional Tree Protection:
    - Due to the potential 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.
    - Depending on the locality of the planting site, such as proximity to woodlands or a body of water, deer and beavers can pose a real threat to the survivability of newly installed trees.
        - Install loose-fitting 48-inch tall and minimum 4-inch diameter tree guards, made of wire or plastic mesh, around the tree trunk.
    - Consider staking if the site is windy, vandalism is a concern, or the root ball shifts in the hole after planting:
        - Stake the tree with two wooden stakes placed on opposite sides of the tree.
        - Attach nylon or fabric ties to the stakes and around the tree above the first branch.
        - Tie loops around the tree trunk should be made loose, approximately 3x the trunk diameter.
        - Ties from the tree to the stakes should be left with a slight sag to allow for slight tree and trunk movement.
- Step 7: 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.
- Step 8: 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.