

Getting a tree off to a good start at the time of planting is critical for its long-term health.

Selecting Stock

Tree nurseries prepare trees for transport in one of three ways: as bare-root stock, in containers, or with root balls wrapped in burlap. There are advantages and disadvantages to each type of nursery stock, so keep in mind the information in this guide to help you choose the type of stock that will work best for your project.

Bare-Root Trees

Advantages

- Only available in the spring.
- Less expensive.
- Lighter and easier to transport.
- Any root problems are visible.
- Root flares and union grafts are easily visible.

Disadvantages

- Roots can dry out if not kept moist during transit or before planting.



It is important to plant trees at the proper depth – ensuring that the root flare is visible at the soil surface.

Container-Grown Trees

Advantages

- Readily available at most nurseries.
- Easy to handle.
- Well-developed root system.
- Not as prone to drying out (desiccation) as bare-root stock.
- Wider planting window.

Disadvantages

- Root flare can be buried in potting medium.
- Circling roots can be a problem.
- Not all trees purchased in a container are true container-grown stock. When you lift a tree out of the container, the soil should not fall away from the roots. If the soil falls away easily, you are really buying a bare-root tree.



Balled & Burlapped (B&B) Trees

Advantages

- Spaded from the ground and the root ball is bound with burlap, twine, and a wire basket to keep the soil and roots in place.
- Allows you to plant larger trees than container-grown or bare-root.

Disadvantages

- Root flare can be buried in root ball.
- Very heavy; not easy for volunteers of all ages to move and plant.
- Typically are more costly.



Planting Bare-Root Trees

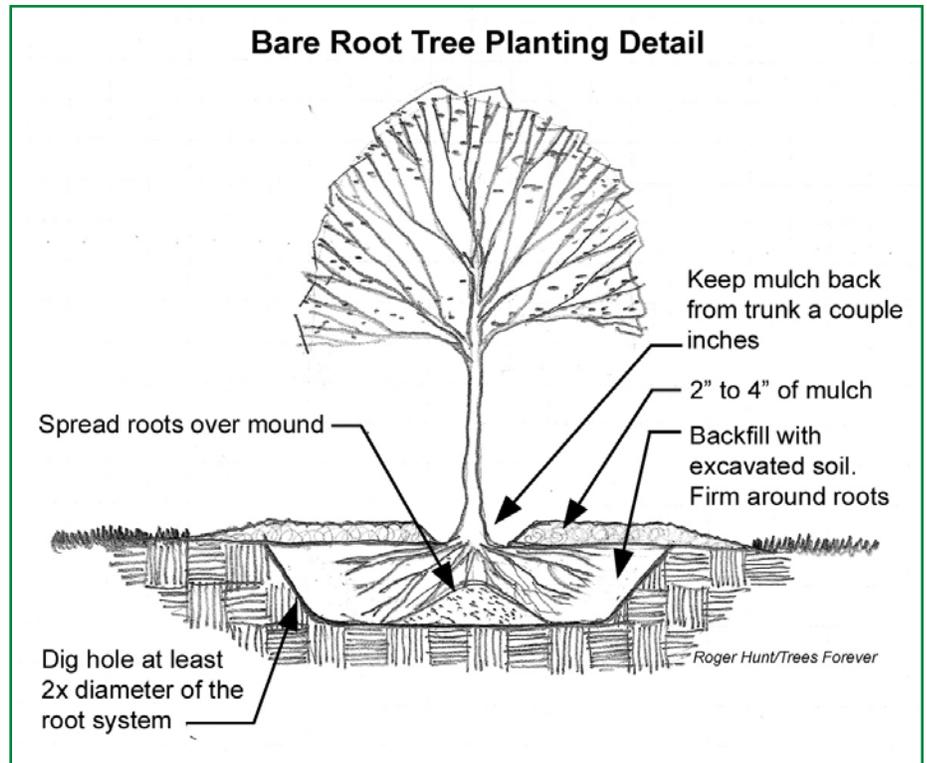
1. Dig the hole the same depth as the root system, but twice as wide to easily accommodate root spread without crowding. Beware of planting trees too deeply. Create a mound of soil in the middle of the bottom of the hole to spread roots across. **Important:** Plant trees at the same depth they were growing or slightly higher in poorly drained soils.

2. All damaged and broken roots should be cut off cleanly before placing the tree in the hole.

3. Backfill using soil excavated from the hole. Do not amend backfill. Make sure the correct planting depth is maintained. Firm the soil uniformly in and around roots until the hole is three-quarters full.

4. Fill hole with water and let settle. Complete backfill and water again. Mulch with 2 to 4 inches of organic mulch.

5. Many bare-root trees require staking, particularly if the planting location is an open, exposed site. Stake the tree properly. Avoid using wire against the trunk to stake a tree. Use any strong, soft, wide strips of material, such as canvas or pantyhose. Also, don't support the tree too rigidly. Trees need to be free to move a little bit to develop a strong trunk. Remove the stakes after the first or second growing season.



6. Wrap the tree trunk of smooth-barked trees with tree wrap prior to the first winter. Remove the wrap in the spring.

7. Remove broken, crowded, rubbing, or interfering branches. Never prune more than 15% of the crown and always maintain a well-balanced appearance.



Staking should only be done when necessary and only temporarily. Forgetting to remove staking after 1-2 years can lead to permanent damage and significantly shorten the life of a tree.

Planting Container-Grown Trees

1. Important: If you cannot see the first lateral supporting root, excavate the top of the soil in the container with your fingers or a small garden claw tool to identify the depth of the first lateral feeder root and to expose the root flare. Use this as your guide for the correct planting depth. Many container-grown trees are buried too deeply in soil when they arrive from the nursery; *you should not assume that a container-grown tree can be planted "as is" – often this leads to planting too deeply.*

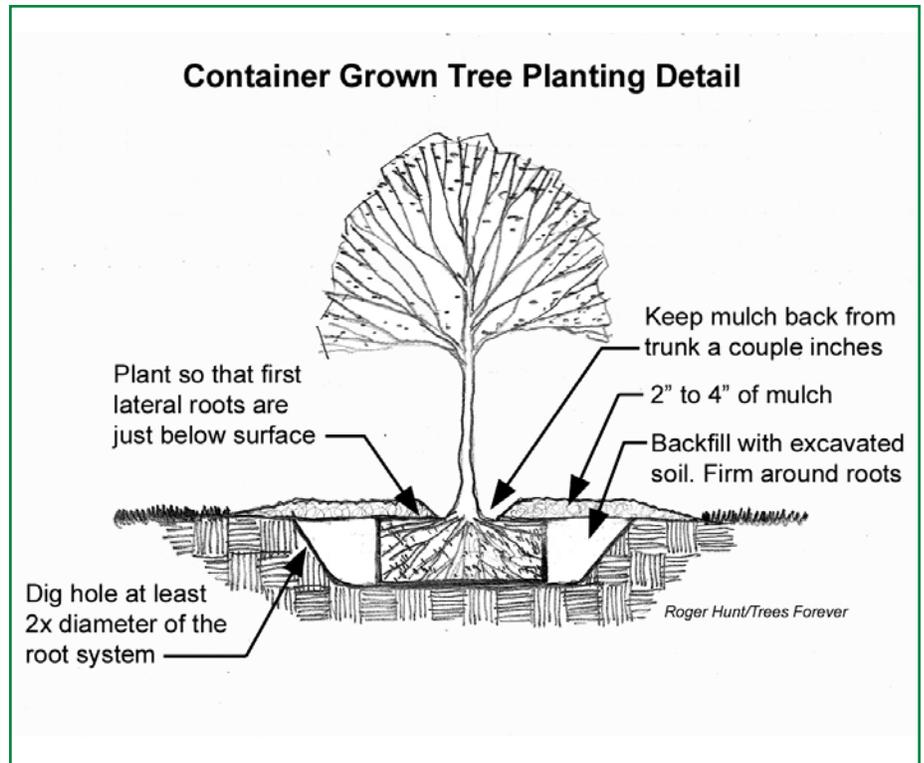
2. Dig the hole at least twice as wide as the diameter of the root ball and so the root flare is at or above the level of the surrounding ground.

3. Remove the tree from container before planting and discard (recycle) the container. Try not to handle the tree by the trunk; instead, use the root ball to move the tree.

4. Inspect the root system for pot-bound and encircling roots. Cut the roots to break any encircling pattern by making 3-4 vertical slices through the perimeter of the root ball. In extreme root-bound cases, return the tree to the nursery and ask for replacement.

5. All damaged and broken roots should be cut off cleanly before placing the tree in the hole.

6. Backfill using soil excavated from the hole. Do not amend backfill. Make sure the correct planting depth is maintained. Firm backfill uniformly around roots until the hole is three-quarters full.



7. Fill hole with water and let settle. Finish backfilling. Mulch with 2-4 inches of organic mulch and water again.

8. Container-grown trees probably will not require staking; however, if the tree will be growing in an extremely open, windy site, staking may be necessary. Be sure this is done properly and then remove the stakes after the first or second growing season.

9. Wrap the tree trunks of smooth-barked trees with tree wrap prior to the first winter. Remove the wrap the spring.

10. Remove broken, crowded, rubbing, or interfering branches. Never prune more than 15% of the crown and always maintain a well-balanced appearance.



If roots are circling because they have been in a pot too long, make 3-4 vertical cuts through the perimeter of the root ball with a saw, shovel, utility knife, or other sharp tool to help ensure roots grow out from the trunk of the tree, rather than in a circular pattern.

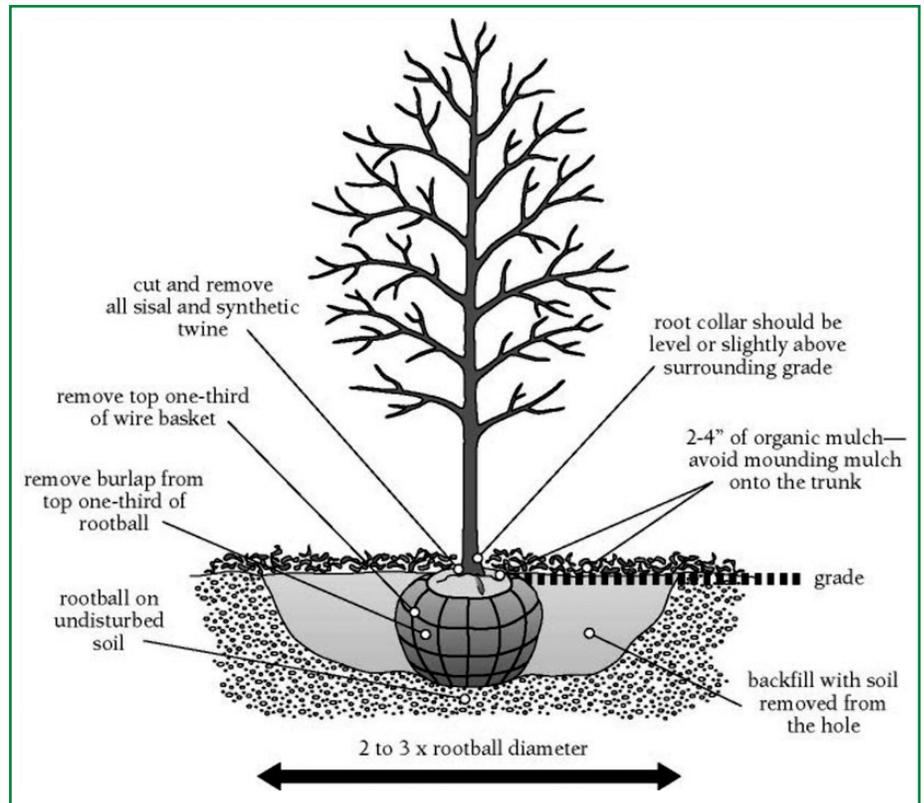
Planting Balled & Burlapped Trees

1. Important: Remove twine and pull burlap back from the root ball. If you cannot see the first lateral supporting root, excavate the top of the soil with your fingers or a small garden claw tool to identify the depth of the first lateral feeder root and expose the root flare. Use this as your guide for the correct planting depth.

2. Dig the hole the same depth as the root system and **at least** twice as wide as the root ball. Using wire or bolt cutters, remove the wire cage if this can be done without destroying the integrity of the ball. Gently lift and lower or roll the root ball into the hole.

3. Backfill three-quarters full using soil excavated from the hole. Do not amend backfill. Lightly tamp or water soil to eliminate air pockets and let settle.

4. Cut burlap and remove from the top of the ball (burlap may be folded back along the side of the ball). Complete backfilling of soil.



5. Balled and burlapped trees may require staking. Be sure this is done properly, and remove after the first or second growing season. Wrap tree trunks of smooth-barked trees with tree wrap prior to the first winter. Remove the wrap in the spring.

6. Remove broken, crowded, rubbing, or interfering branches. Never prune more than 15% of the crown and always maintain a well-balanced appearance.



Using wire or bolt cutters, remove all or at least the top portion of the wire basket to prevent interference with roots as the tree grows.

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