

Planting



Planting a tree is **much** more involved than just digging a hole, plopping the tree in, and backfilling the hole. RTS plants specimens in accordance with ANSI A300 (Part 6) - Planting and Transplanting. Not only because we **must** as [ISA Certified Arborists®](#), but also because it ensures an excellent chance of long-term success and low maintenance requirements. We also ensure that all purchased nursery stock is healthy and meets [ANSI Z60.1](#) (American Standard for Nursery Stock).

Two often overlooked, but critical steps are the site analysis and [soil analysis](#). The site analysis takes into consideration site suitability by examining factors like [USDA hardiness](#), location/size [conflicts](#), total sunlight per day, allelopathy, availability of supplemental irrigation, and more. The [soil analysis](#) determines if the potential candidate is a good match for your existing soil as-is or if soil modification is needed for lasting vitality and health.

What type of tree(s) do you recommend I plant?

The answer to that question ultimately depends on your goals and site suitability. The [Arbor Day Foundation](#) has excellent [resources](#) for putting the right tree in the right place. RTS staff can also work with you to select something appropriate.

What size tree(s) do you recommend I plant?

[Research](#) has revealed that smaller container-grown trees overcome transplant stress more quickly, grow faster, and often equal the size of their larger container-grown counterparts after just [3-5 years](#). Accordingly, we typically advise planting something in the 1.0-1.5" caliper range in most instances.

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New Tree Planting

Information on proper practices for planting a tree with a nine-step approach to successful planting and establishment.

Purchasing a tree is a lifelong investment. How well this investment grows depends on the type of tree selected and the planting location, the care provided during planting, and the follow-up care after planting.

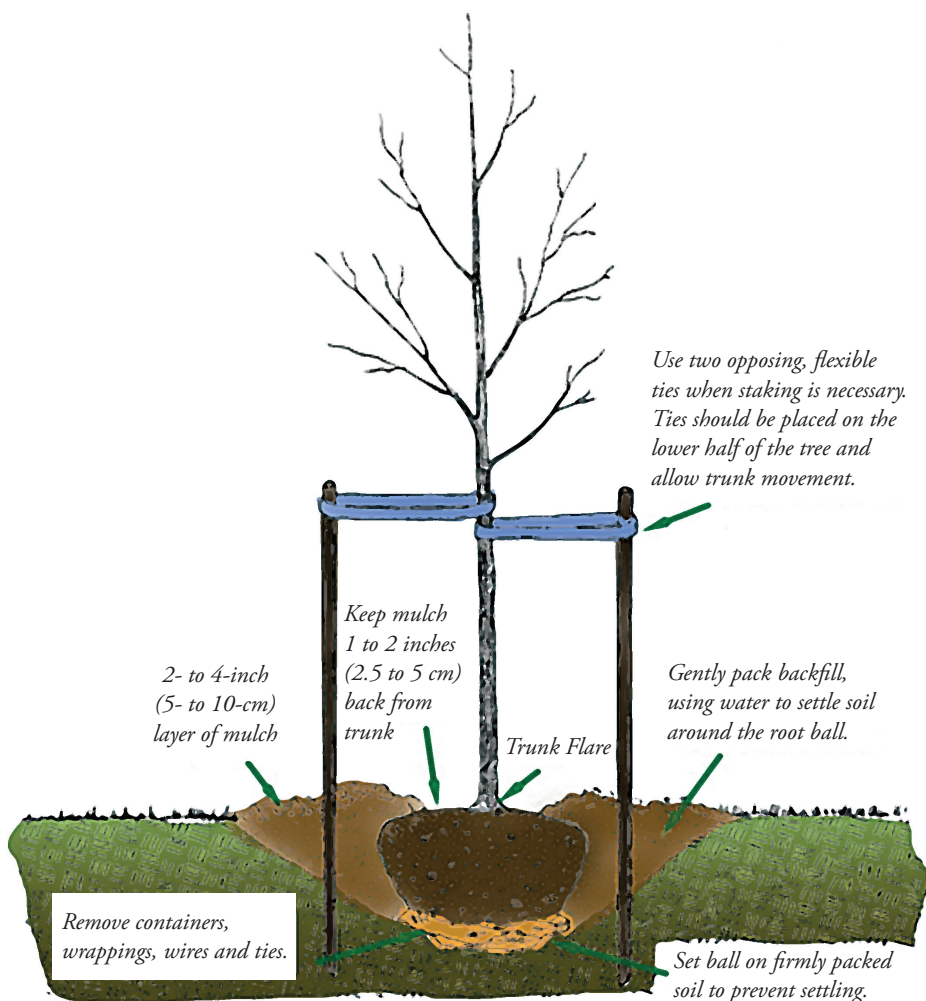
When to Plant

Ideally, trees are planted during the dormant season — in the fall after leaf drop or in early spring before budbreak. Weather conditions are cool and allow plants to establish roots in the new location before spring rains and summer heat stimulate new top growth. Healthy balled and burlapped or container trees, however, can be planted throughout the growing season if given appropriate care. In tropical and subtropical climates where trees grow year round, any time is a good time to plant a tree, provided that sufficient water is available.

Planting Stress

Balled and burlapped trees lose a significant portion of their root system when dug at the nursery. As a result, trees commonly exhibit what is known as “transplant shock.” Transplant shock is a state of slowed growth and reduced vitality following transplanting. Container trees may also experience transplant shock, particularly if they have circling or kinked roots that must be cut. Proper site preparation, careful handling to prevent further root damage, and good follow-up care reduces transplant shock and promotes faster recovery.

Carefully follow the nine simple steps below to help your tree establish quickly in its new location. **Note: Before you begin planting your tree, be sure you have located all underground utilities prior to digging.**



- 1. Identify the trunk flare.** The trunk flare is where the trunk expands at the base of the tree. This point should be partially visible after the tree has been planted (see diagram). Remove excess soil from the top of the root ball prior to planting if the root flare is not visible.
- 2. Dig a shallow, broad planting hole.** Holes should be 2 to 3 times wider than the root ball, but only as deep as the root ball. Digging a broad planting pit breaks up the surrounding soil and provides newly emerging tree roots room to expand.
- 3. Remove the containers or cut away the wire basket.** Inspect container tree root balls for circling roots. Straighten, cut, or remove them. Expose the trunk flare, if necessary.
- 4. Place the tree at the proper height.** Take care to dig the hole to the proper depth — and no more. The majority of a tree's roots develop in the top 12 inches (30 cm) of soil. If the tree is planted too deep, new roots will have difficulty developing because of a lack of oxygen. In poorly drained or heavily clayed soils, trees can be planted with the base of the trunk flare 2 to 3 inches (5 to 7.5 cm) above grade. When placing the tree in the hole, lift it by the root ball, not the trunk.

5. **Straighten the tree in the hole.** Before backfilling, have someone view the tree from several directions to confirm it is straight. Once planted, it is difficult to reposition the tree.

6. **Fill the hole gently, but firmly.** Pack soil around the base of the root ball to stabilize it. If the root ball is wrapped, carefully cut



and remove any fabric, plastic, string, and/or wire from around the trunk and root ball to prevent girdling and to facilitate root growth (see diagram). Fill the remainder of the hole, firmly packing the soil to eliminate air pockets that may dry out roots. Further reduce air pockets by watering periodically while backfilling. Avoid fertilization at the time of planting.

7. **Stake the tree, if necessary.** Studies have shown that trees establish more quickly and develop stronger trunk and root systems if they are not staked at the time of planting. Staking may be required, however, when planting bare root stock or planting on windy sites. Stakes may also offer protection against lawn mower

damage and vandalism. One or two stakes used in conjunction with a wide, flexible tie material on the lower half of the tree will hold the tree upright and minimize injury to the trunk (see diagram), yet still allow movement. Remove support staking and ties after the first year of growth.

8. **Mulch the base of the tree.** Mulch is organic matter spread around the base of a tree to hold moisture, moderate soil temperature extremes, and reduce grass and weed competition. Common mulches include leaf litter, pine straw, shredded bark, peat moss, or composted wood chips. A 2- to 4-inch (5- to 10-cm) layer is ideal. More than 4 inches (10 cm) may cause a problem with oxygen and moisture levels. Piling mulch right up against the trunk of a tree may cause decay of the living bark. A mulch-free area, 1 to 2 inches (2.5 to 5 cm) wide at the base of the tree, reduces moist bark conditions and prevents decay.

9. **Provide follow-up care.** Keep the soil moist, but not waterlogged. Water trees at least once a week, barring rain, and more frequently during hot, windy weather. When the soil is dry below the surface of the mulch, it is time to water. Continue until mid-fall, tapering off as lower temperatures require less-frequent watering.

Other follow-up care may include minor pruning of branches damaged during the planting process. Prune sparingly after planting and delay necessary corrective pruning until a full season of growth in the new location has occurred.

Completing these nine simple steps will maximize the likelihood that your new tree will grow and thrive in its new home. When questions arise regarding your tree, be sure to consult your local ISA Certified Arborist or a tree care or garden center professional for assistance.

This brochure is one in a series published by the International Society of Arboriculture as part of its Consumer Information Program. You may have additional interest in the following titles currently in the series:

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