

Best Management Practices for Planting

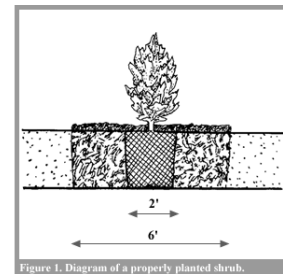
By L. Ted Szczawinski, NJ Licensed Tree Expert #340

Planting sites - are essential for health and longevity of all woody plant material; matching the environmental (soil) and climatic factors (light, wind, temperature, humidity and precipitation) of the site and the plant are the foundation of proper planting.

Plant Selection - prior to planting ensures the highest quality stock and most aesthetically pleasing plants are chosen; seek out cultivars or varieties that are pest and disease resistant, inspect plants prior to purchase, do not accept poor quality plants (*reject or send back unhealthy plants that get delivered*) **remember buyer beware!**

Transportation from nursery to site - selecting the plant is half the battle; Do not transport plants without protecting stems and foliage from desiccation injury (wind damage) even a short ride at slow speeds will damage plants, properly load, secure and wrap plants with breathable protective covering. Do not fracture soil balls on B&B stock by dropping during loading or unloading.

The planting excavation - methods for excavating vary (hand or mechanical) however width and depth must be adjusted for each type of plant, Width should be 2x to 3x (times the diameter of the root zone of the stock selected). Depth should be judiciously selected by inspecting the current height of the trunk flare (point where roots meet stem).



Backfill - should not be excessively amended (peat moss, compost or manure, lime, sulfur or fertilizer) and should never be replaced with a soil of different texture than that found at the site. Backfill with soil and tamp firmly (excessive force will compact soil pore space for water and oxygen). Water can be applied and any settling can be filled in. A temporary saucer of soil can be shaped to aid in retaining water if chosen.

Staking and trunk wrapping - should be applied judiciously, Bare-root plants and exposed sites are always staked (high winds, areas where vandalism is an issue, or to ensure added protection). The guying material should be 1-3 inches wide (based on stem diameter) and flexible. Plants should be able to move and not be completely rigid, this allows plants roots to adapt and support movement of stem/trunk. Stakes should be removed, usually no later than the completion of one full growing season. Trunk wrapping materials can be used to protect smooth bark trees from mechanical injury (string trimmers, animal rubbing and rodent feeding) however their use is most beneficial when extreme environmental / climatic conditions exist, so use judiciously.

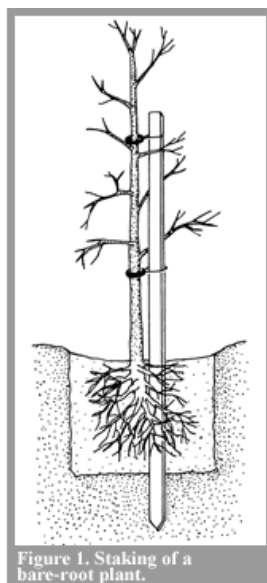
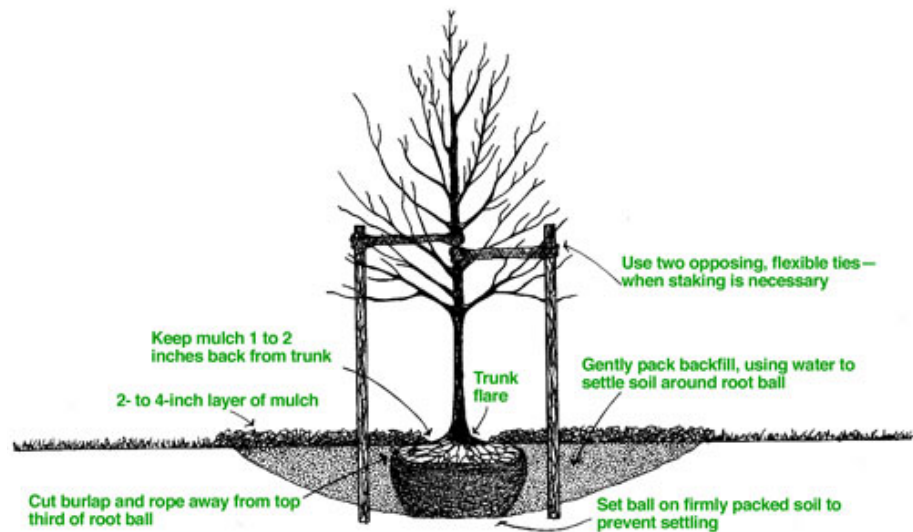


Figure 1. Staking of a bare-root plant.



Mulching - regardless of your taste in mulch, providing a layer 2-4 inches thick can provide protection to the plants roots and soil, mulch should be applied across the backfilled area and tapered off to the soil at the base of the stem (*mulch should not be touching the stem of the plant*)

Containerized plants - can technically be planted at anytime during the growing or dormant season; however, care will vary based on spring, summer and fall weather. The container protects from root loss usually associated with plants that are sold as B&B or Bare-root, however the roots will need to be teased and separated after the container is removed prior to backfilling. Roots can be separated by scoring the sides and bottom of the root zone then spreading them out in the hole prior to backfilling.

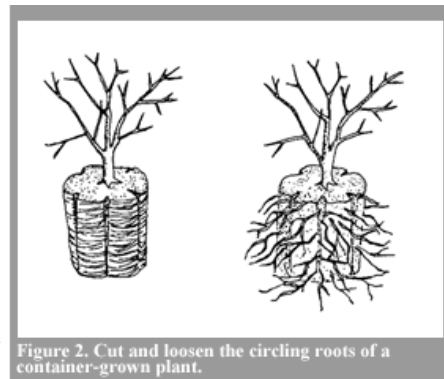


Figure 2. Cut and loosen the circling roots of a container-grown plant.

Bare-Root plants - are economical and relatively easy to handle without soil, this also provides easy inspection of root system. Provide adequate moisture to roots during storage and soak well (minimum 1 hour) prior to planting. Inspect the root system to determine how the planting hole should be formed some bare root stock may need a cone shaped mound to rest on and some may need room for a tap-root structure. The trunk should be supported during the backfill and staking process.

Balled & Burlapped - root loss may be substantial during harvesting and a large ball of soil can be extremely heavy. Determine whether natural or synthetic materials are supporting the ball, if the materials are determined to be synthetic they must be removed once the plant is placed in the planting hole. The bottom of the excavation must have firm soil to prevent the plant from settling. Natural materials that can be easily removed can be taken from the hole and the burlap

should be pulled off the top of the root ball to allow water to penetrate easily. Wire baskets found around the root ball are used to transport plants long distance while preventing damage to the roots and soil, experts vary on the long-term effects of removing vs. not removing wire baskets when it comes to plant growth and mortality, my experience tells me they have no place in the planting hole. The removal of a wire basket can be accomplished by removing the base of the basket on structurally sound root balls prior to placing it into the hole, then cutting down one side of the basket and removing it from the hole (as demonstrated in the lecture).

Additional Best Management Practices:

Pruning - prior to installation judiciously prune broken and rubbing limbs prior to placing the plant in the excavation. Once upright you can prune any injured or girdling roots that can be addressed at this time. If you skip the pruning of the crown prior to installation you may need additional equipment (ladders or extension pole pruners).

Plant Size - makes a difference, smaller plants are vigorous growers and can acclimate to the site and establish much faster than their larger counterparts. Root loss and transplant shock is minimized with the purchase of younger or smaller plants.

Soil Drainage - provide good drainage for plants if planting soil or poor drainage plagues your site remediate by installing a viable drainage system prior to installation of plant material. Water should be applied regularly throughout the establishment, it should be applied after checking soil to avoid under or over watering.

Sanitation of Tools - disinfect all planting and pruning tools prior to installation, soil pathogens like phytophthora can be spread by moving soil from one planting to another, if you removed any diseased plant material with your shovels or pruning tools clean and disinfect them with a solution of 1-part bleach to 10 parts water and rinse thoroughly prior to installing plants.

Helpful hints - inspect root ball size and shape, stem and branch structure and crown symmetry. Upon placing the plant in the excavation, face the plant for its best appearance, this can also help to minimize future pruning. Assemble friends to assist with planting, form a group that will reciprocate with each other, this will add fun into a mundane task. Place excavated soil on tarps for easy clean up, place soil in a wheel barrow to loosen and remove debris prior to use as backfill. Monitor growth and progress, inspect plantings regularly and provide proper cultural practices (watering, mulching, fertilizing, pruning, aeration and maintaining a visible trunk flare) from spring through fall. Expand the mulch ring as the plant grows larger.