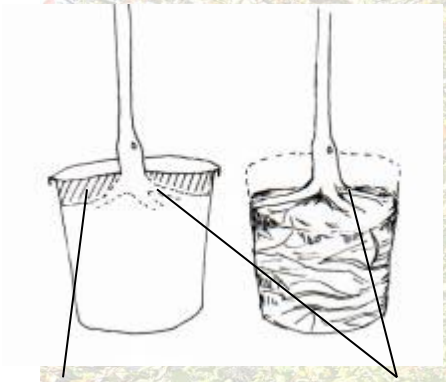
Planting and Maintaining a Healthy Tree

PLANTING

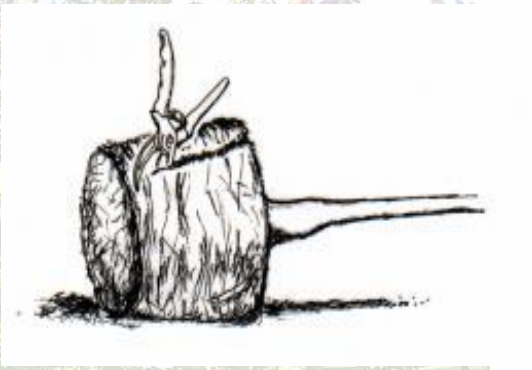
Use a shovel to dig your hole. Augers should be avoided, if possible, as they compact soil and typically dig too deeply. When handling your tree, take care to hold it by the root mass rather than the trunk or branches.

1. Dig your hole in a bowl shape, 2-3 times the width of the root mass. **Dig ONLY deep enough to ensure that the root flare, the location where the trunk widens and meets the roots, is in line with the ground when planted.** Pile the soil next to the hole to use for backfilling later, and discard clumps of grass or sod so they aren't put back into the hole.

2. Carefully remove the tree from its container. If the tree is in a root bag, remove the bag completely using scissors or a handsaw, making sure not to damage the root system. Pull away and set aside any excess soil and mulch from the top of the root mass until you reach the root flare (this soil and mulch can be saved for later use in backfilling/mulching). Correct roots that wrap around, or encircle, the outside of the root mass by pulling them apart and straightening them with your fingers. If roots won't straighten by hand, use pruners and/or a handsaw to slice off a SMALL (¼ - ½") ring of the entire outside portion of the root mass. If necessary, pull apart or make a thin slice to the roots on the bottom of the mass to loosen and straighten them as well. **Roots should extend straight out from the trunk when the tree is planted.**



Excess soil above root system Root flare



Encircling roots requiring correction

3. Place the tree in the middle of the hole and hold it as straight as possible (it may be necessary to have another person hold it for you). Lay your shovel handle across the hole with the blade turned upside down. If the root flare is below the handle, remove the tree and add soil to the bottom of the hole. If the root flare is above the handle, remove soil from the hole. Compact the soil at the bottom of the hole by stomping on it so that the tree doesn't sink after planting. **Continue to add, remove, and/or compact soil until the root flare is aligned with the shovel handle at ground level, keeping in mind that, if absolutely necessary, <u>it is better to plant the tree too shallow than too deep</u>!**

4. When the root flare is at ground level, scoop or push the piled-up soil back into the hole, breaking up larger chunks as much as possible and removing any remaining grass and sod pieces, until the roots are covered and the hole is filled to ground level. **Gently step on the soil all the way around the tree to ensure that it is firm, but DO NOT compact it by stomping on it.** Continue to add and lightly tamp soil until the hole is filled to ground level.

5. Carefully remove all tags, wraps, and poles. **Stake the tree ONLY if it will not stand up straight on its own.** If staking, make sure to use support materials that will not damage the bark, such as pieces of cloth or hose.

MULCHING

Apply wood mulch **2-4" thick** in a circle extending to the dripline, the leaves furthest from the trunk. **DO NOT pile mulch against the trunk like a volcano**, as doing so will draw moisture into the trunk and may cause the tree to rot and die prematurely (this is a VERY common mistake!). Instead, apply an even layer of mulch in a donut shape around the trunk, taking care to leave a small (1-3") gap between the trunk and the mulch in order to avoid drawing in moisture.

Continue to add mulch as necessary, maintaining a 2-4" layer to the dripline, for as many years as possible. Doing so will promote soil health, insulate roots from heat and cold, and aid in moisture retention.

WATERING

Supplemental watering is critical for AT LEAST the first two years after your tree is planted. If watering manually, apply water evenly across the mulch surface to ensure that the entire root system receives moisture.

Immediately after planting and mulching – 5-15 gallons, depending on container size
Week 1 – 2 gallons of water per diameter inch of trunk **daily**
Week 2 – 2 gallons per diameter inch **4-5 days per week**
Week 3 – 2 gallons per diameter inch **2-3 days per week**
Week 4 and thereafter – 2 gallons per diameter inch **once per week**

- Increase watering to 2 or more times per week during periods of high heat/drought.
- It is not necessary to water during weeks in which at least 1" of rainfall occurs.
- Discontinue watering in late autumn when the ground freezes; resume watering in spring when the ground thaws.

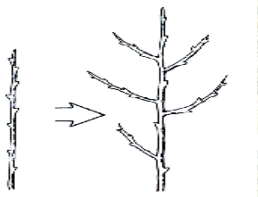
PRUNING

Pruning your tree at the appropriate times during its life cycle is essential for its form, growth, health, and longevity. There are a few basic rules to follow:

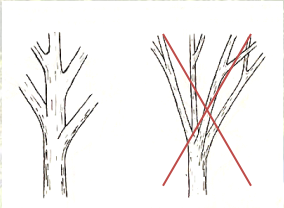
1. **Prune to maintain a strong central leader free from competition for dominance from nearby branches**. This will ensure that the tree develops a solid trunk, a stable crown, and healthy branching structure. If your tree has multiple leaders, maintain the strongest, largest, and/or straightest one and remove the others.

2. **Main branches should be well-spaced radially along, and vertically around, the trunk, resulting in the appropriate amount of symmetry and balance for the species.** Remove cross branches or branches with tight angles relative to the trunk. Such angles can lead to the development of included bark, which significantly weakens branches.

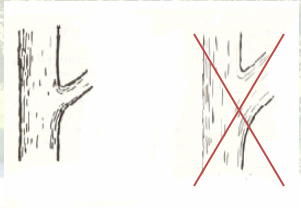
3. **Remove any branch that is more than 2/3 of the diameter of the trunk measured 1" above that branch.** Branches that are too large relative to the trunk may eventually break off, causing severe damage to the tree.



Ideal central leader form (left) and appropriate central leader with good lateral branching (right)



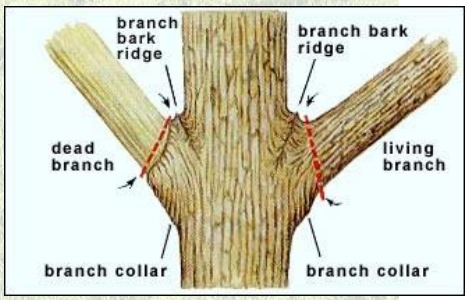
Ideal branch spacing (left) and spacing that is too tight and without a central leader (right)



Appropriate branch diameter relative to trunk (left) and a branch that is too thick and may eventually break off (right)

Appropriate angle between branch and trunk (left) and an angle that is too tight and may lead to included bark (right)

While multiple leaders, crossed branches, and dead or damaged branches should be corrected immediately, **removal of most branches should be delayed until they are at least 1" in diameter, and completed by the time they reach 2" in diameter.** Maintaining these branches while the tree is young will help it develop a strong trunk and good overall form. To ensure wounds heal properly, make ALL of your cuts above the branch-bark ridge and branch collar, and make sure not to damage these areas or leave behind any extra stub. Finally, due to the threat of mortality from oak wilt, **OAK TREES MUST ONLY BE PRUNED DURING THE DORMANT SEASON (November-March)!!!**



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