

## SELECTING AND PLANTING QUALITY TREES

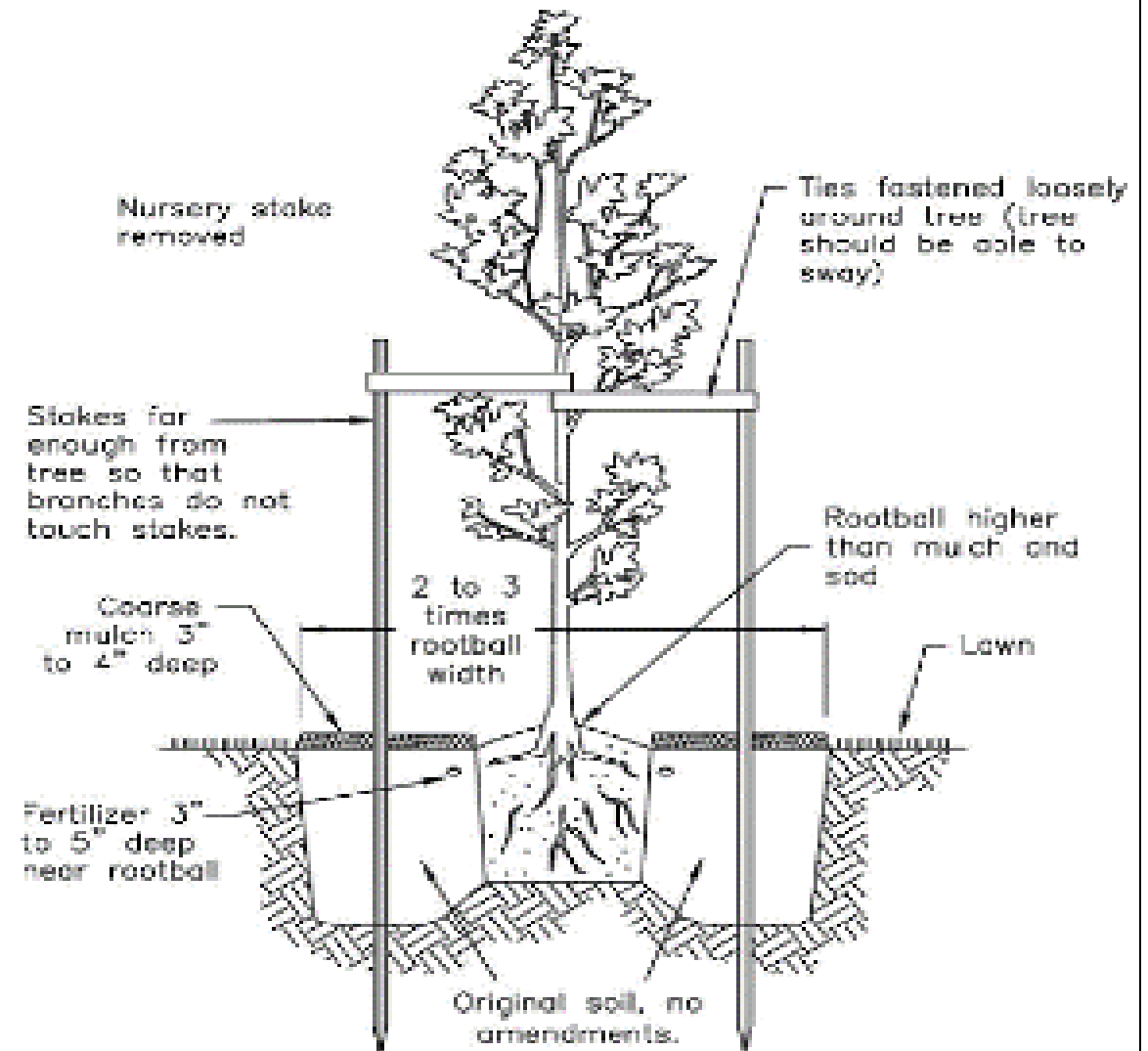
Good trees start in the nursery with high quality plants. Basic problems such as root circling, poor branch spacing or poor trunk taper begin here and can be difficult or impossible to correct. Be sure the tree is labeled individually and is true to form. Never buy a tree that is too large for its container. In general, smaller trees adapt more quickly, have fewer defects and will catch up to a larger size after just a few years.

There are 3 primary attributes when it comes to choosing a high quality tree:

- ✓ Tree Health
  - Free of pests and diseases, including roots
  - Free of injuries to the trunk or branches
  - Foliage is not misshapen or discolored
  - Shoot growth is typical and vigorous
- ✓ Tree Structure
  - Strong central leader, no competing leaders
  - Good vertical and radial spacing between branches
  - Foliage is distributed over the upper two thirds of the trunk
  - Branches not larger than 1/3 of the trunk or parent branch diameter
  - Wide angle of attachment of branches
  - Trunk tapers from bottom to top
- ✓ Root crown and Roots
  - Trunk flare is visible at soil level
  - No kinked, circling or girdling roots around the trunk collar
  - No circling or bottom-matted roots at root ball periphery
  - Tree is well rooted but not tight and root ball holds together when carefully lifted
  - Root ball is moist throughout

An excellent guide is available at [www.urbantree.org](http://www.urbantree.org)

## TREE PLANTING DETAIL

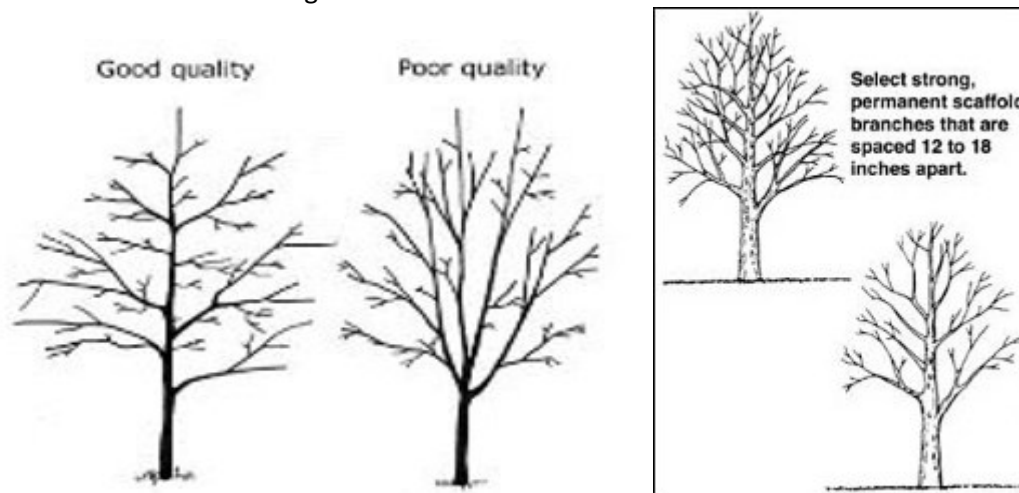


## TREE ESTABLISHMENT AND EARLY CARE

With a few exceptions, trees are generally stronger and easier to care for when trained to a strong central leader. Narrowly attached, upright branches and stems can compete with the central leader and can become weakly attached. When planting, select a strong central leader or train a strong lateral branch and use a splint to establish one, then remove or shorten competing stems to an outward lateral branch to keep the selected central leader dominant.

Remember that most of the existing branches on a young tree are temporary. Allowing them to remain as long as possible retains foliage that helps the tree remain healthy and vigorous. As the tree grows, select the lowest branch in what will be the permanent crown. Select the actual height, as the branch will remain at that height and will not move upward as the tree grows. Do not allow any branch below this point to grow to more than half the diameter of the trunk by removing it or subduing it by shortening to a lateral. Space main branches as evenly as possible along the central leader. Stake the tree if it is unable to stiffly stand upright on its own.

Damage to the root crown or lower trunk by mowers, string trimmers or other means is a common and often serious injury to a tree. Avoid damage to the root crown and lower portion of the trunk of the tree by maintaining a clear area around the root crown and installing a tree guard. A short section (6-8 inches or so) of flexible corrugated drain pipe slit lengthwise on one side and slipped around the trunk is an easy way to fashion a trunk guard. Remember to remove it when the tree outgrows it.



## Tree Notes

### Soil

Many soils in the Sacramento area do not need amendments. However, there are certain soils that will benefit by adding amendments, particularly organic matter, including very sandy soils or clay-like soils. In these cases mixing a generous amount of compost into the soils allows water to infiltrate more easily, helps the soil retain nutrients and allows roots to establish more quickly. A simple soil test by a reputable soils lab will help decide how much compost or other nutrients to add if necessary.

### Water

Proper irrigation is essential for young trees. Thoroughly irrigate the entire root zone 2 or 3 times weekly for the first summer, adjusting as necessary for fall, winter and spring. Water deeply and infrequently. The root zone soil should feel just moist, not saturated. A 3 inch layer of mulch such as wood chips or compost will help keep roots cool, control weeds, conserve moisture and add nutrients. As the tree matures, water less often and more thoroughly. In landscapes, place the tree with plants with the same irrigation requirements. Keep competing vegetation, such as turf or groundcovers, well away from the trunk. In all cases wet the entire root zone. If micro-irrigation is used, be sure to increase the amount of emitters as the tree grows. 1 inch of water penetrates a sandy soil to 12 inches deep, loamy soil to 7 inches and clay soil to 3-5 inches. Try not to apply irrigation any more quickly than the soil is able to absorb it.

### Pests and Diseases

Trees that are in poor health are much more likely to struggle with pests or diseases. Keeping your tree healthy is the best way to avoid problems. Many plant problems are cultural rather than biotic, and many are an aesthetic problem more than a health problem. Where pests or diseases require intervention, always consult with an arborist or other expert to be sure you are targeting the right pest with minimal collateral effects.

### Keeping your Tree Healthy

Roots and foliage are how trees absorb air, water, and nutrients. Keeping roots and foliage healthy promotes strong growth and resistance to plant problems. Most roots are located in the top 12-24 inches of soil and extend well beyond the edge of the tree's crown. Avoid compaction or disturbance of soil in this area. The trunk and branches are the transportation system of the tree and are particularly vulnerable to mechanical wounding by shovels, mowers, etc. Seemingly small wounds are potential entry points for pathogens that can eventually be fatal. Be sure to protect the tree during activities such as construction or landscaping to avoid damage. **The key to tree health is prevention, because we have a limited ability to cure problems.**

