Proper Tree Planting

GA State Wide Arbor Day

Feb 12th, 2020

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Georgia Forestry Commission

Why Do We Often Plant?

- **Beautification**
- **Aesthetics**
- **Because it “feels good”**
- **It’s “just what you do”**

Why Should We Plant?

- **Replacement of lost canopy**
- **Ecosystem services**
- **Mitigation of impervious surfaces issues**
- **Sociological and socioeconomic benefits**
- ***PLANT WITH A PURPOSE!!***

Site Selection

- What comes first—species or site selection?
- If you need a tree for a specific site, then you select a species that matches the site
- If you want to plant a certain species, you must find a site that matches the species' requirements
- Consider the following when selecting a species/site
  - Available space
  - Soil conditions including soil moisture
  - Light conditions
  - Future development plans

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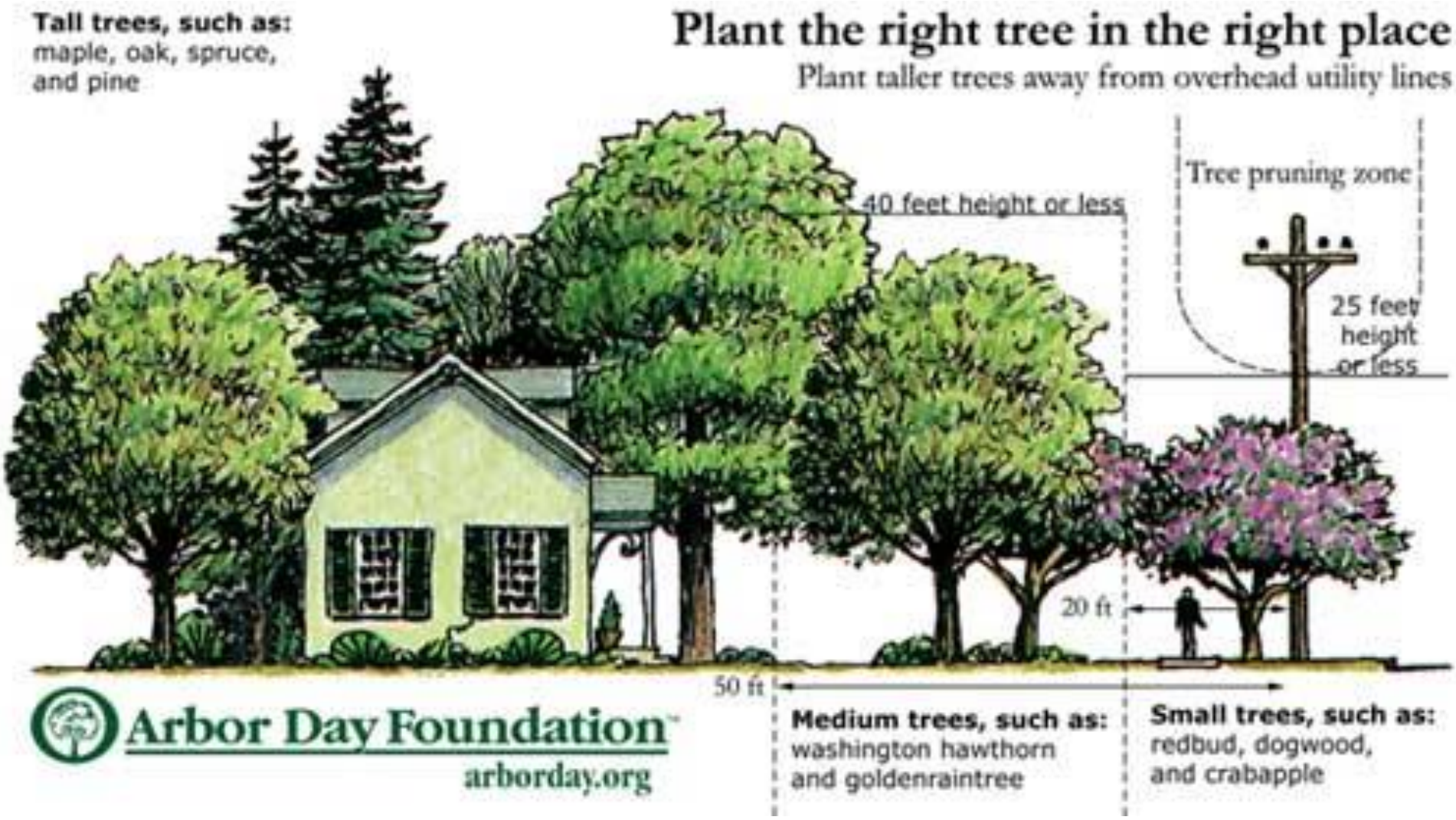
Site Selection



Available Space

- **Consider**
  - **Presence of overhead and underground utilities**
  - **Presence of hardscape**
  - **Amount of soil volume/area available**
    - **640 Sq Ft for Large, 400 for medium, 200 for small**
  - **Pedestrian traffic**
  - **Vehicular traffic**
- **DO NOT PLANT ANYTHING BUT A SMALL MATURING TREE BENEATH OVERHEAD UTILITY LINES**

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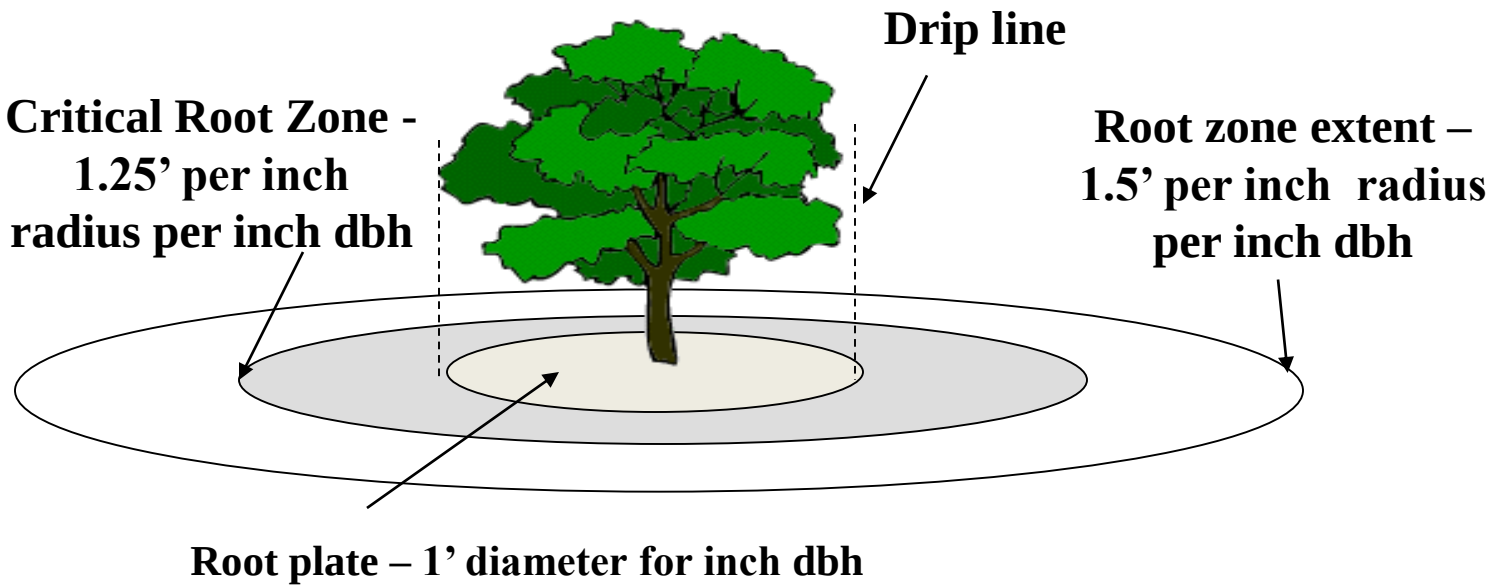
Plant Right Tree Right Place!

Available Space

- **What does it take to make a tree sustainable**
  - **Overstory tree: 960 cubic feet of soil volume with 640 sq.ft of open soil surface area per sq. ft. of basal area**
  - **Midstory tree: 600 cubic feet of soil volume with 400 sq.ft of open soil surface area per sq. ft. of basal area**
  - **Understory: 300 cubic feet of soil volume with 200 sq.ft of open soil surface area per sq. ft. of basal area.**

Available Space

- **Map out mature root zone areas**



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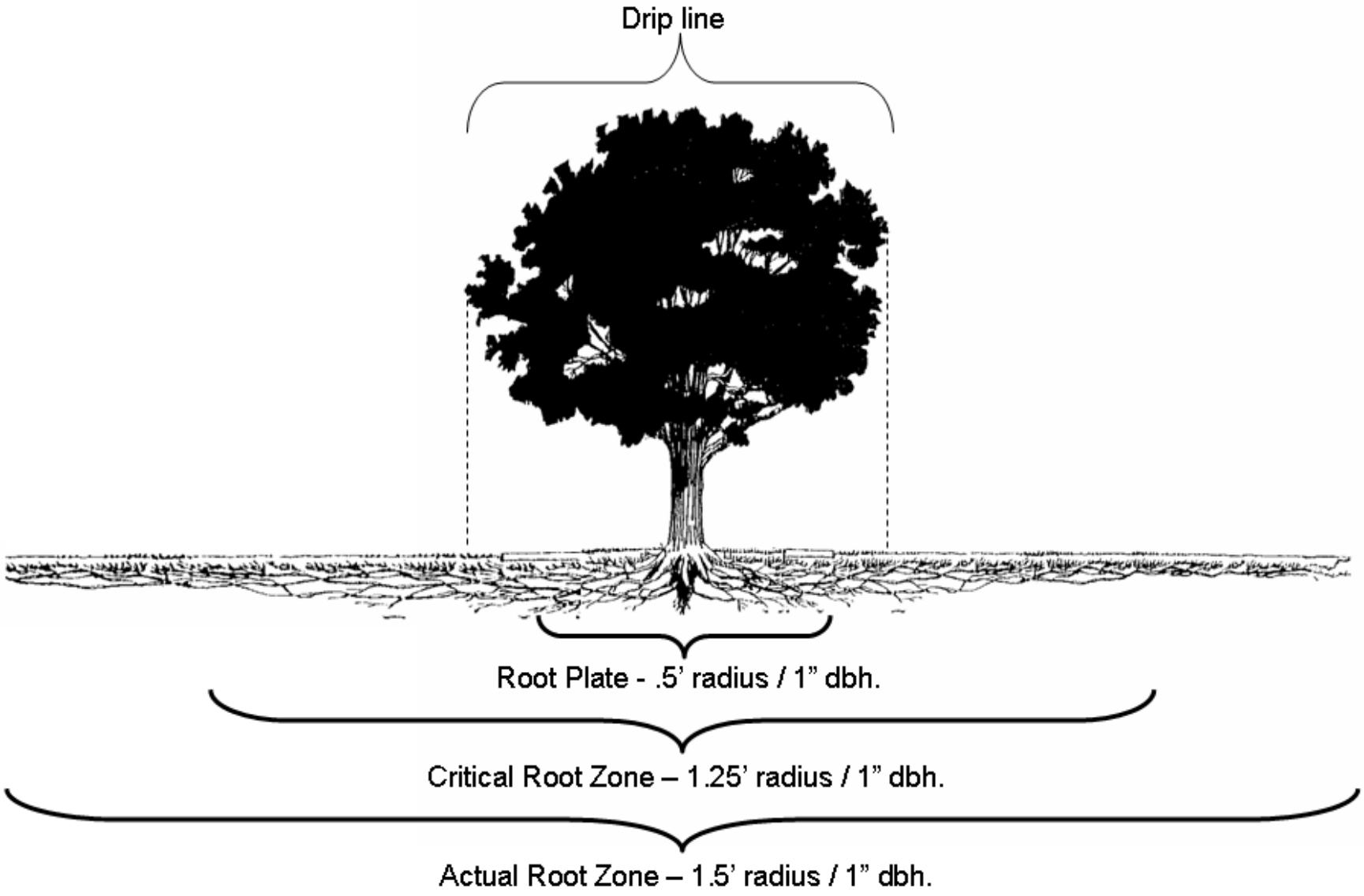
Available Space



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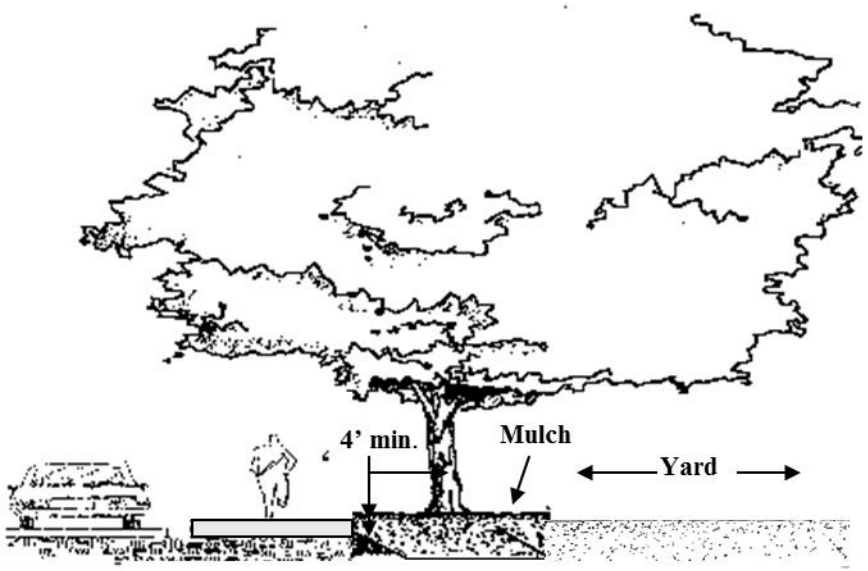
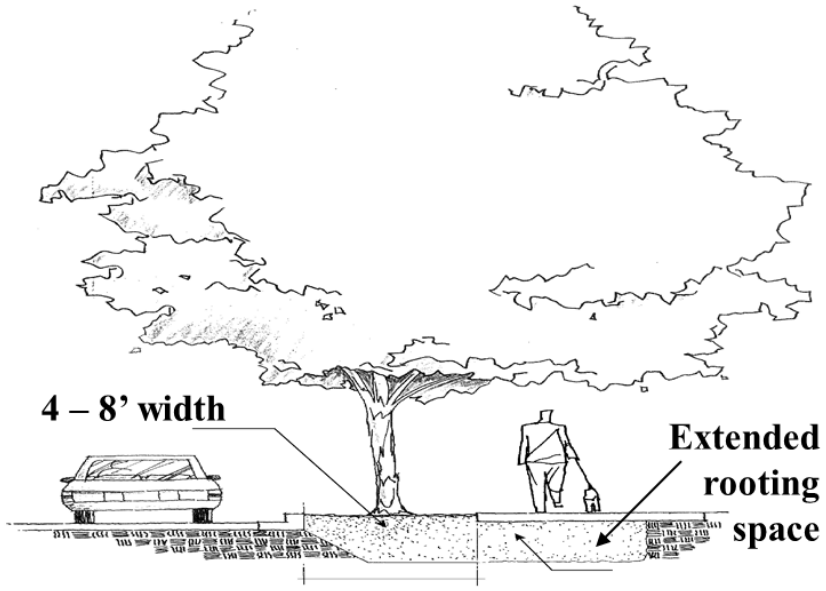


Best Practice – tree on property side of sidewalk



Compromised practice – narrow tree lawn

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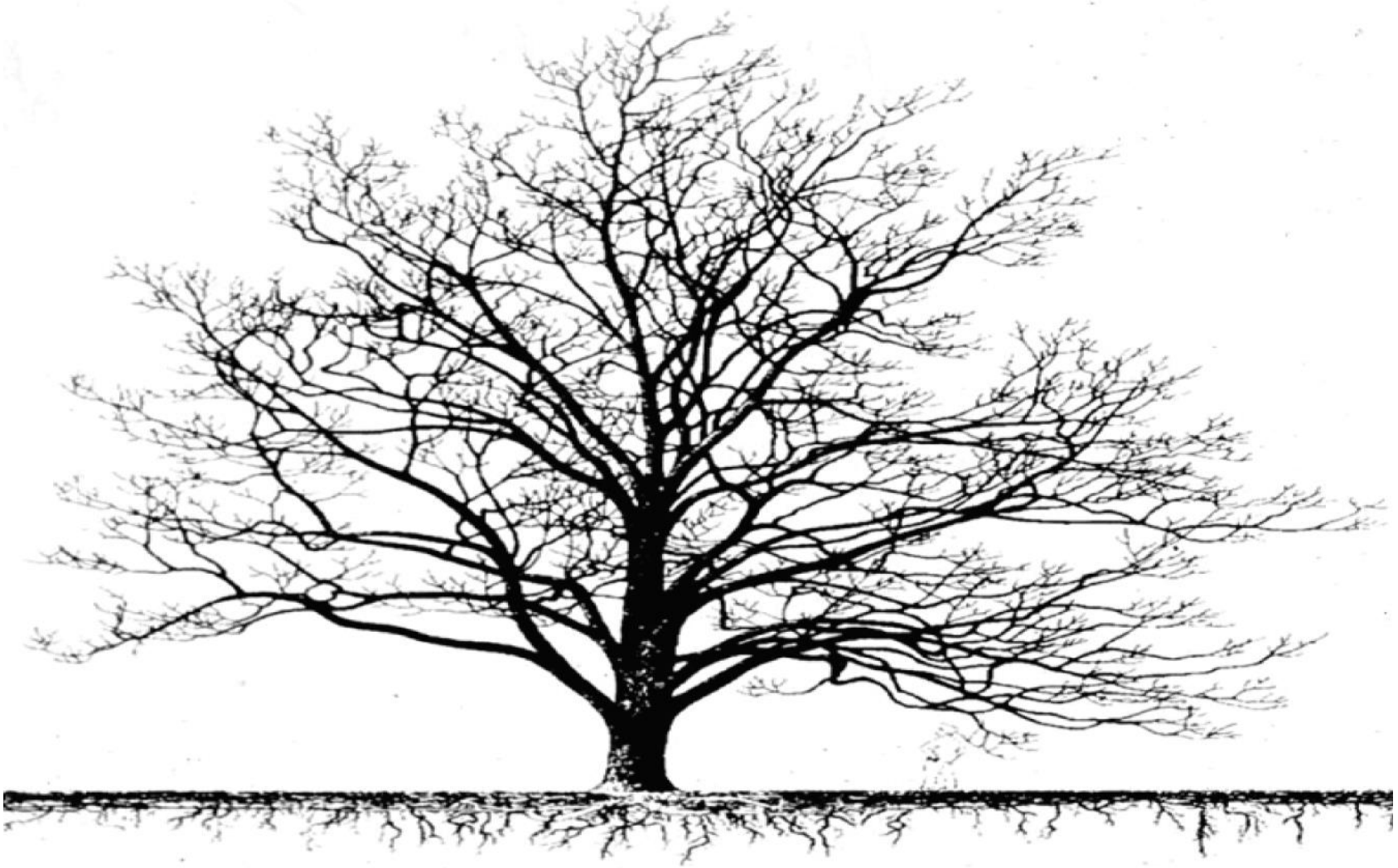
Radial Root Growth



Species Selection

- Sunlight and shade tolerance
- Drainage requirements
  - While some trees can grow in inundated conditions, most prefer well-drained soils
- Soil fertility
  - Get a soil test, especially for large-scale plantings
  - Fertilization should be done carefully in intervals, fertilization usually not needed during early establishment period

Specimen Selection

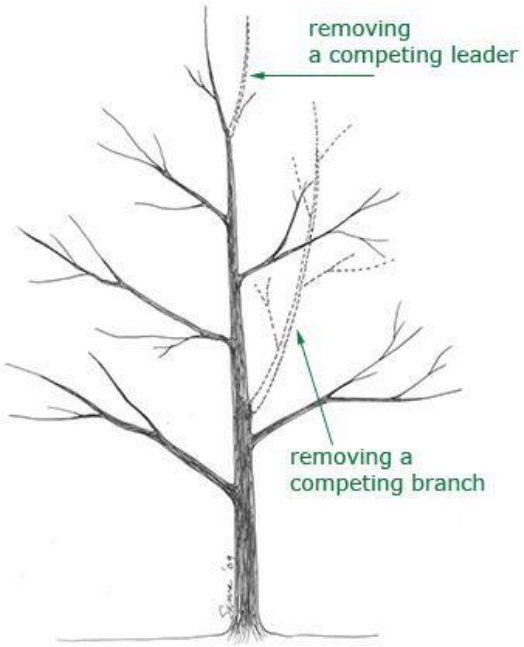
- ANSI Nursery Stock Standards
- Do not pick a tree that has been topped or had the central leader cut back
- Do not select a tree with damaged bark or old wounds on the trunk or branches
- Choose a containerized tree that is not pot-bound or has girdling roots.
  - Remove the container and inspect the root system, if possible

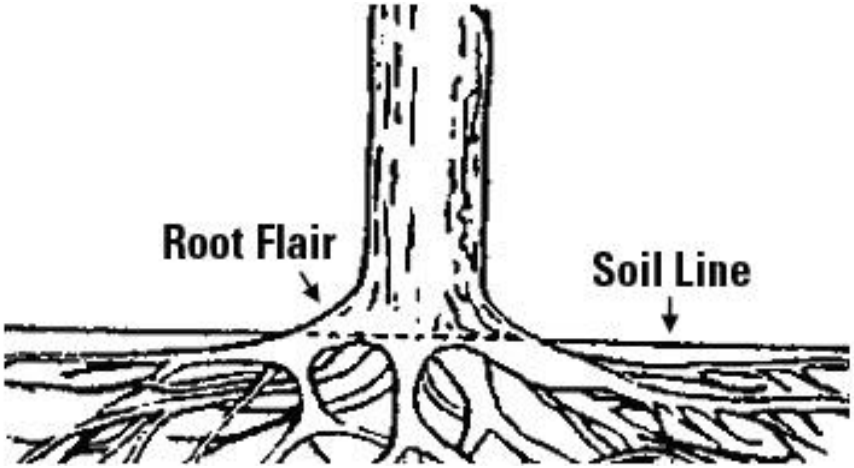
Specimen Selection

- Pick a tree that has not been planted too deeply in its container or root ball (trunk root flare should be obvious).
- Don’t pick a tree that has too small of a root ball for the diameter of its trunk.
- Root ball diameter should be 10 to 12 inches for every inch of trunk
  - diameter measured at six inches above the soil (tree caliper).

Specimen Selection

- Don’t choose a tree with broken branches, diseased or discolored leaves or cracked bark
- Know your audience/volunteers and what they can handle
- Don’t select a tree just because it is a bargain
- Don’t expect a substandard tree to do well in the landscape!





Site Preparation

- Check out compaction level
  - The more compact, the wider the planting hole
- Do a basic “perc test”
  - If soil is poorly drained, consider another location
- Soil Test
- Call 811
  - Ideally plant large trees >15 - 20 feet from underground utilities, small trees >10 feet

Unloading and Handling

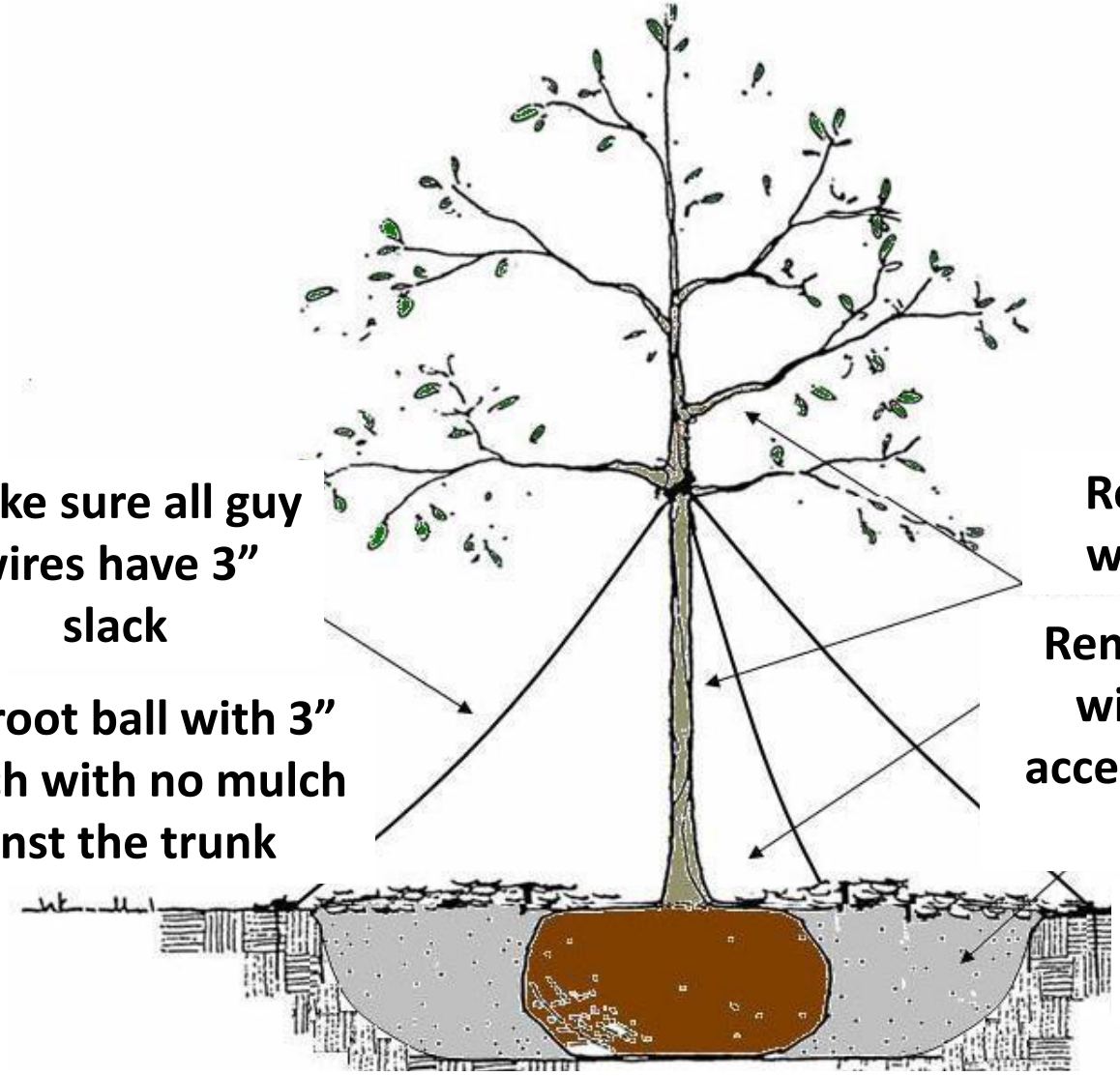
- **This is where a lot of preventable issues arise for trees**
  - **Wind burn – wrap trees, especially when leaf on**
  - **Proper unloading techniques – NEVER lift trees by trunk – all weight should be lifted by root ball**
  - **Adequate equipment and experienced operator**
  - **If unloading and storing, leave trees sitting up straight**
  - **<u>PROTECT TERMINAL BUDS!!</u>**

Unloading and Handling

This is where a good relationship with the nursery is so important

Do not accept delivery of mishandled trees!

Planting B&B



Make sure all guy wires have 3” slack

Cover root ball with 3” of mulch with no mulch against the trunk

Remove trunk wrap and tags

Remove top 2/3rds of wire basket and all accessible burlap, rope, and twine

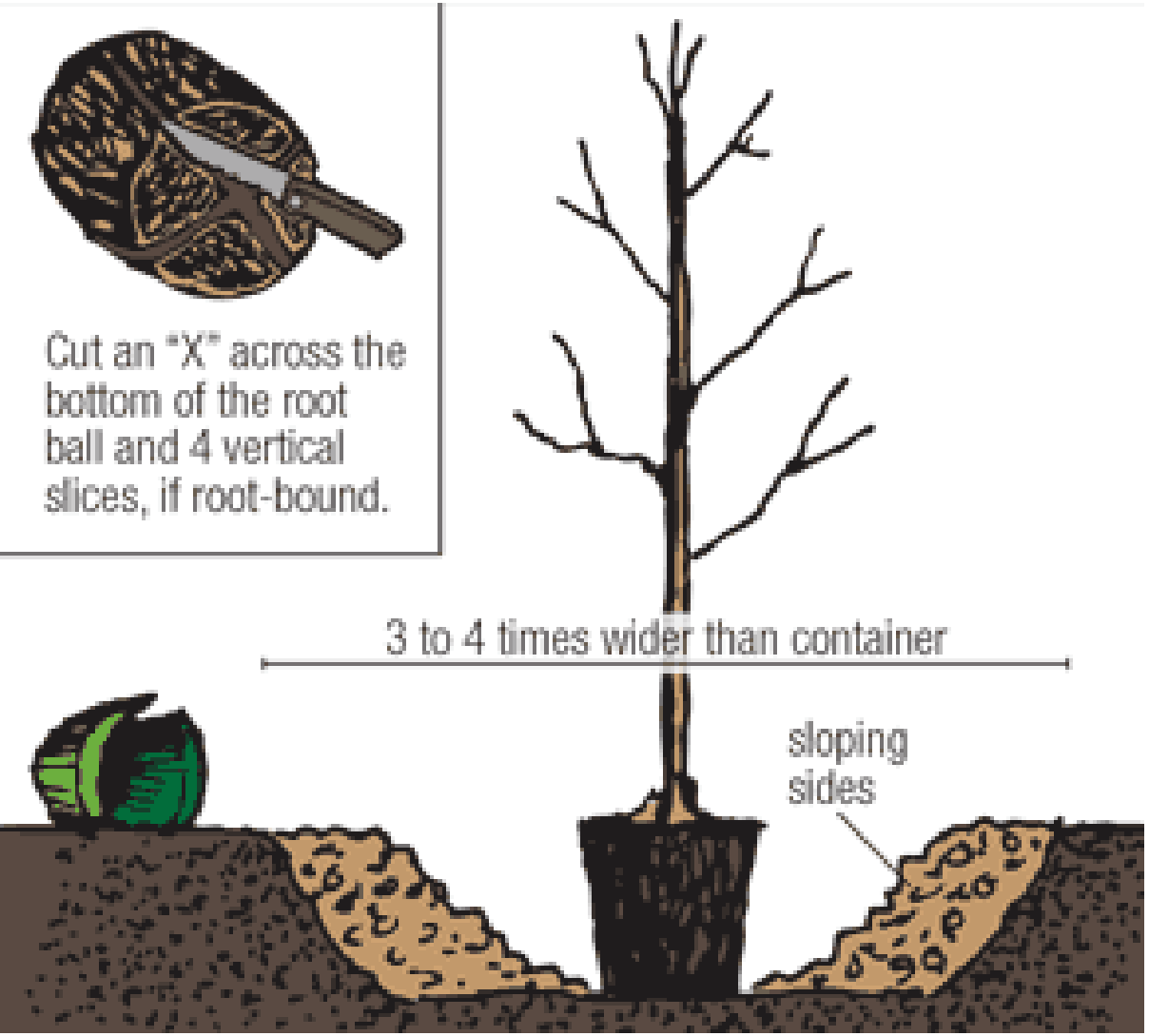
Backfill hole with native soil

Hole 3 times diameter of root ball, even wider in heavy clay soils

Planting B&B

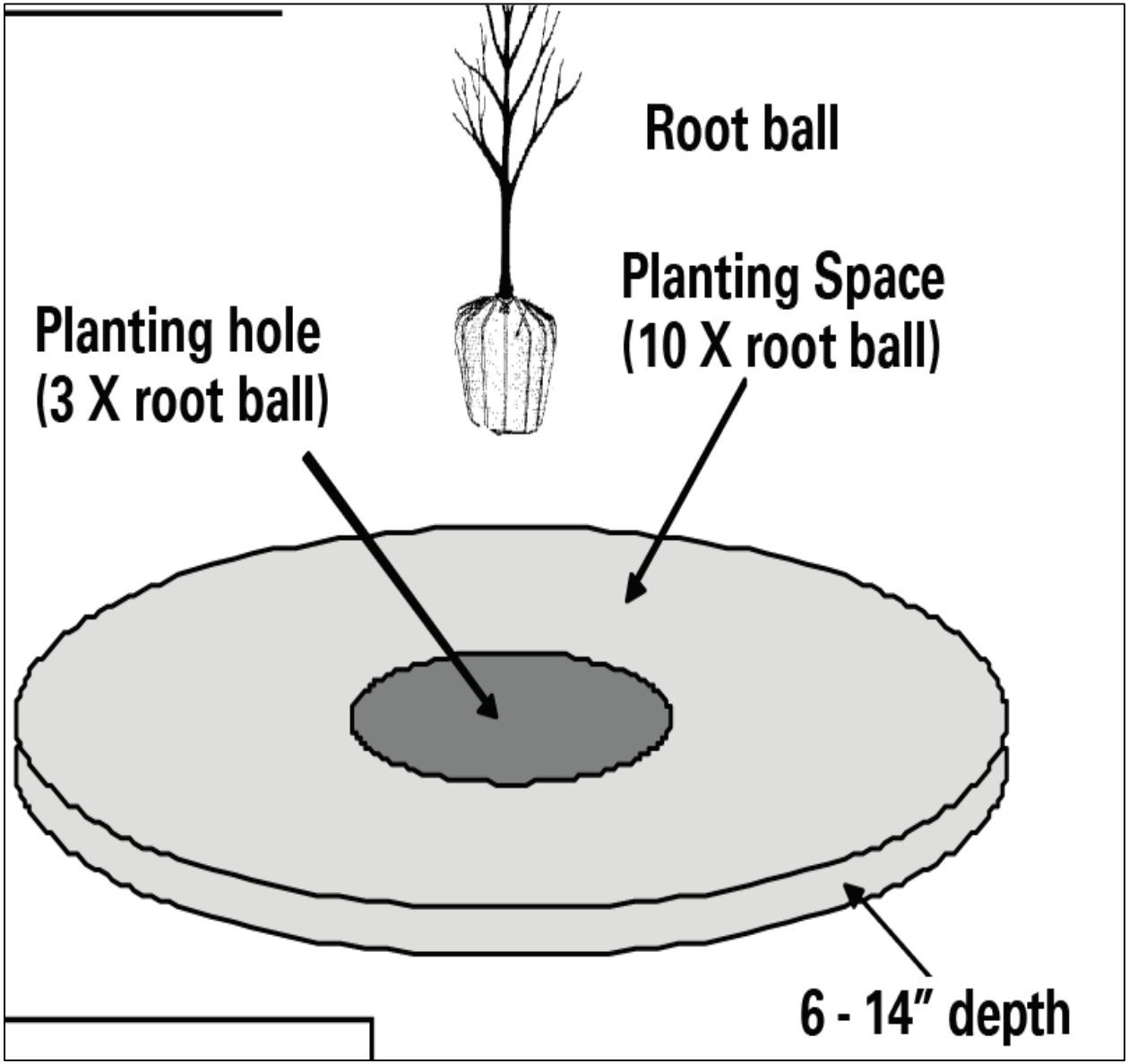
- Hole should be at least 3 times as wide as root ball
  - If possible, till area 10 times diameter of root ball to at least 10-14 inches
- Dig no deeper than needed for root flare to be 1-2 inches above soil grade
- Backfill with native soil removed from hole
- Sloped sides of hole

Planting Container



- **Same principles as B&B, just extra focus on the root ball**

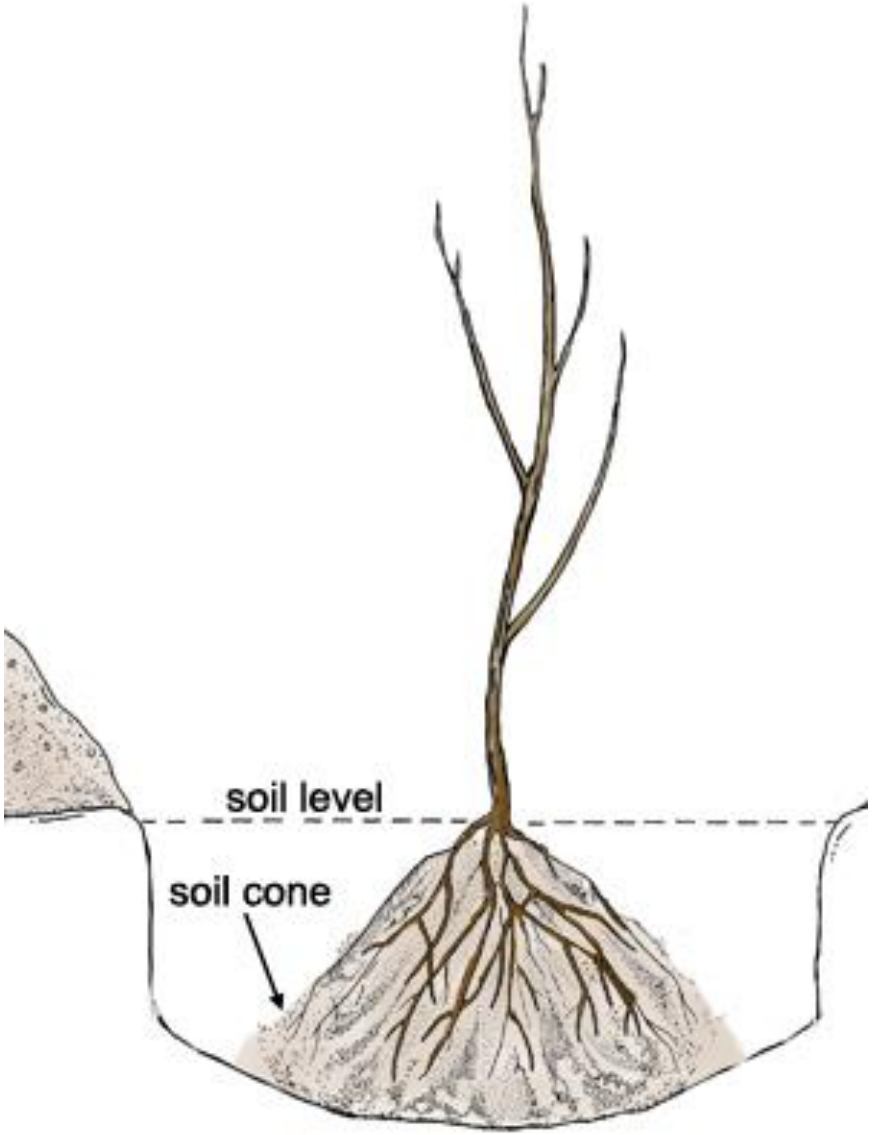
Planting B&B (or Container)



- Biggest and most common tree planting mistakes
  - Too Deep
  - Hole/Prep area not wide enough

Planting Bare Root

- **Typically smaller stock, but great root systems**
- **Great for volunteers, but sometimes fragile to urban stressors**
- **All the same principles apply, make sure root flare is at/above grade, hole is 2-3 times as wide as root system**
  - **<u>REMOVE GRASS AROUND</u>**
- **More commonly needs staking**



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Watering

Watering New Trees is Critical!

- Determine how you will water
- Regular watering begins on the day of planting
- Continue watering throughout the growing season, until leaf fall (late October)
- Water weekly in the absence of sufficient rain (1 inch per week)
- Water should penetrate to a depth of 8 inches
- Do not keep the soil saturated

Watering Aids

Treegators, Ooze Tubes, Tree Diapers, or buckets with a small hole in the bottom can be used to water trees slowly without runoff.

Remove after the first growing season as feeder roots have grown outside of watering aid zone.

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Mulching

The Purpose of Mulch

- Recreate natural growing conditions
- Retain moisture
- Suppress weeds
- Maintain cooler soil temperatures during the hot months
- Improve soil texture
- Increase soil fertility
- Reduce soil compaction over time

Mulch!!!

- Mulch in the early spring and late fall.
- Use organic materials, such as pine straw, wood chips, compost or the tree's own leaves
- Remove or break up old mulch
- Replace with 2 to 3 inches of new mulch.
- Mulch out to the dripline
- Keep mulch at least 6" away from trunk
- Expand mulch ring every year
- Combine mulch rings into a mulch bed

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Volcano Mulch

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"Mulch volcanoes" cause many problems for trees.

NO

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YES

Stake Trees Only When Necessary

Remove stakes, guy wires and straps if trees were staked.

All strapping materials should be removed after the first year.

Avoidable Problems

- Trunk wounding
- Mowing equipment
- Root damage
- Improper pruning
- Chemicals, fertilizers

Avoidable Problems

2/3rd of wire baskets, strapping, twine, and burlap should be removed from root balls during planting.

Make sure root flare is exposed by removing excessive dirt around trunk

Check for Girdling Roots

- **Cut girdling roots when they are small**

Check for Girdling Roots

- **Plant at proper level (not too deep) and do not over-mulch**

Check for Girdling Roots

- **Girdling roots can result in tree decline, or worse…**

Survival

- A newly planted tree will usually need at least as many years of “coaching” as caliper inches at planting before it makes “varsity”, and is ready to begin its long life on its own
  - Watering, training/structural pruning, protection from weed eaters and mowing

- Diligence in observation is important in order to evaluate why a planting was successful or not…

“Take Aways”

- We are planting something that wants to be in the woods not in the woods
  - Try our best to recreate a natural growing environment – depth, moisture, mulch, time

- Urban stressors and development dictate that the odds are stacked against us in terms of long-term survival, but we cannot give up on such a worthy mission!

Questions?

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Gatrees.org

Gatreecouncil.org