

TreeKeepers

Planting

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Introduction

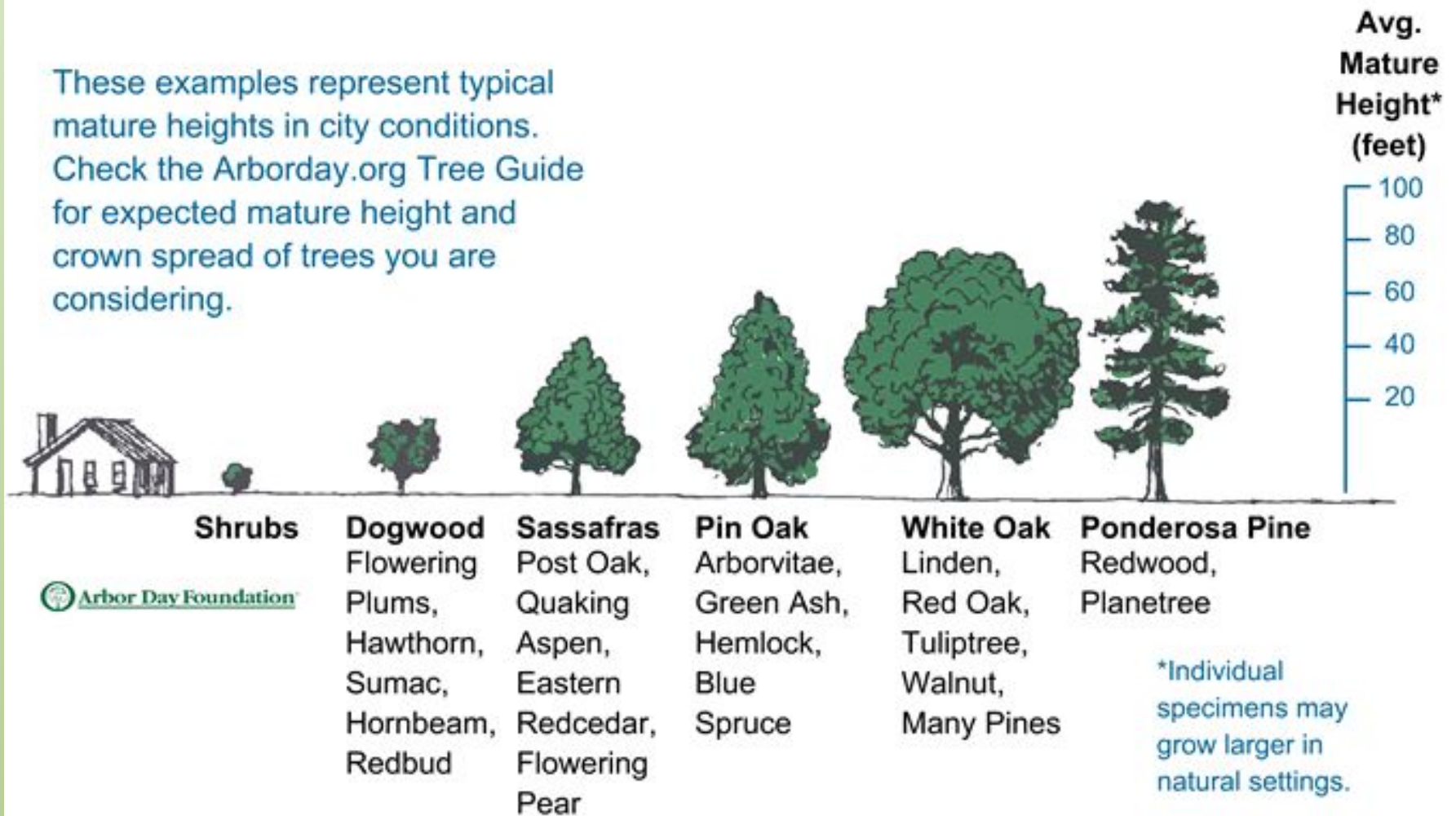
- **Tree Selection and Placement**
- **Types of Root Stock (problems and correction techniques)**
- **Planting Techniques**
- **Maintenance**
- **Potential Problems**

Tree Selection and Placement

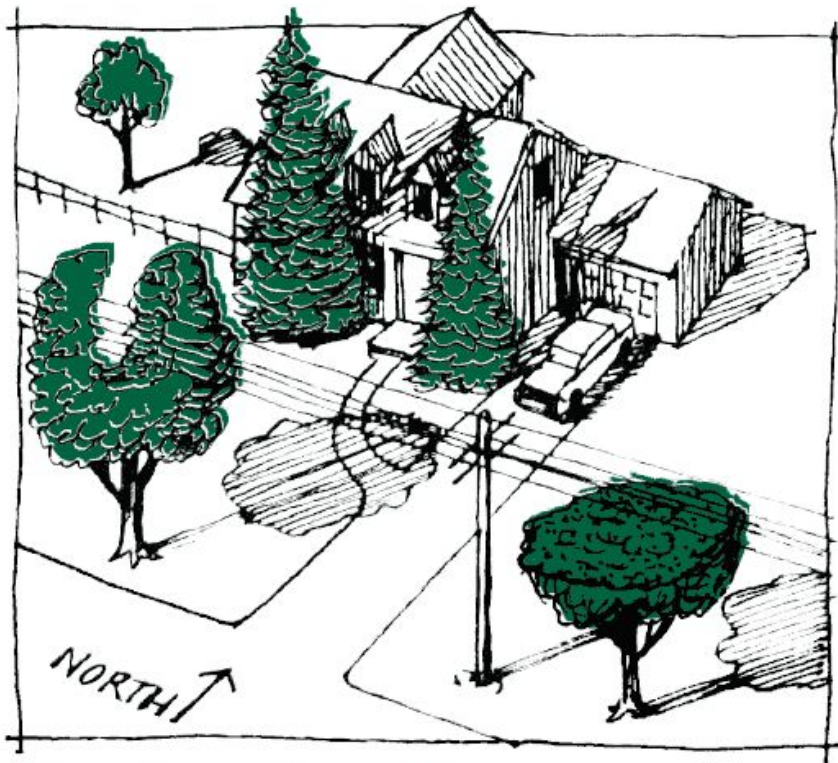
- **Mature tree size classes (species selection)**
- **Right tree right place (location selection)**
 - Light, growing space, water and soil characteristics
- **How we benefit from tree's**

Mature size classes

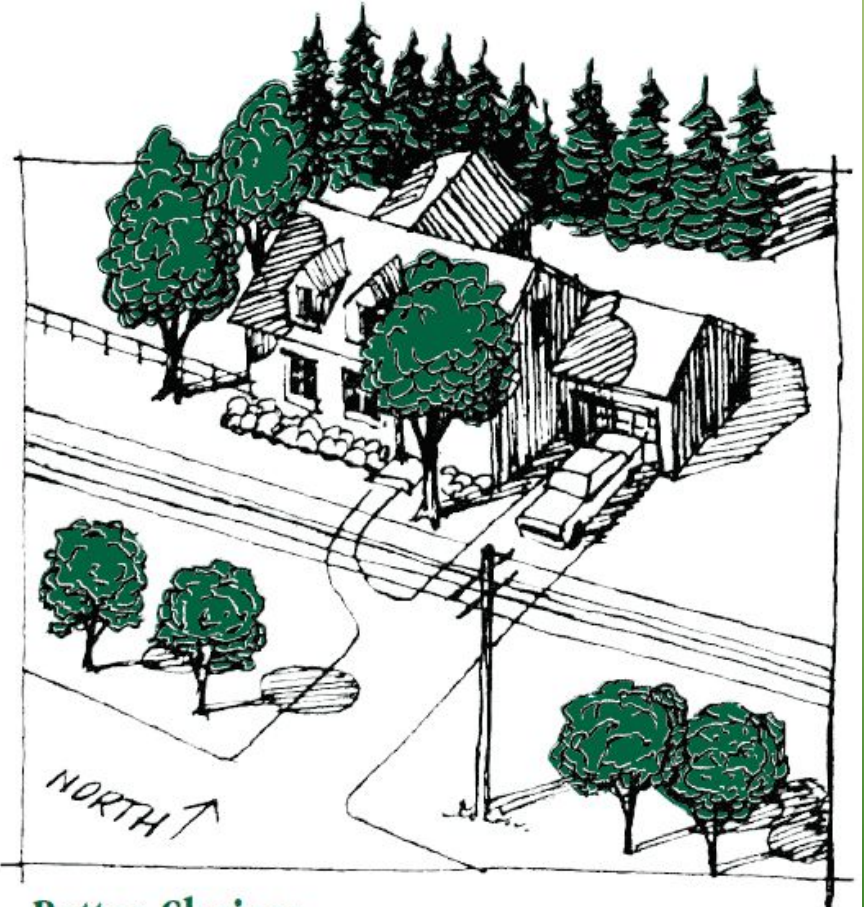
These examples represent typical mature heights in city conditions. Check the Arborday.org Tree Guide for expected mature height and crown spread of trees you are considering.



Right Tree Right Place



Wrong Trees, Wrong Places



Better Choices

City of Columbia Utility Code's

- City ordinance article V. Sec. 24-92 (b)
 - No tree can be planted within 4 ft of underground utilities.
- Article V. Sec. 24-92 (e)
 - Any tree planted under utility line must have a mature height clearance minimum of 5 ft between the top of the canopy to the lowest utility line.
 - Missouri one call

Wrong Tree Wrong Place

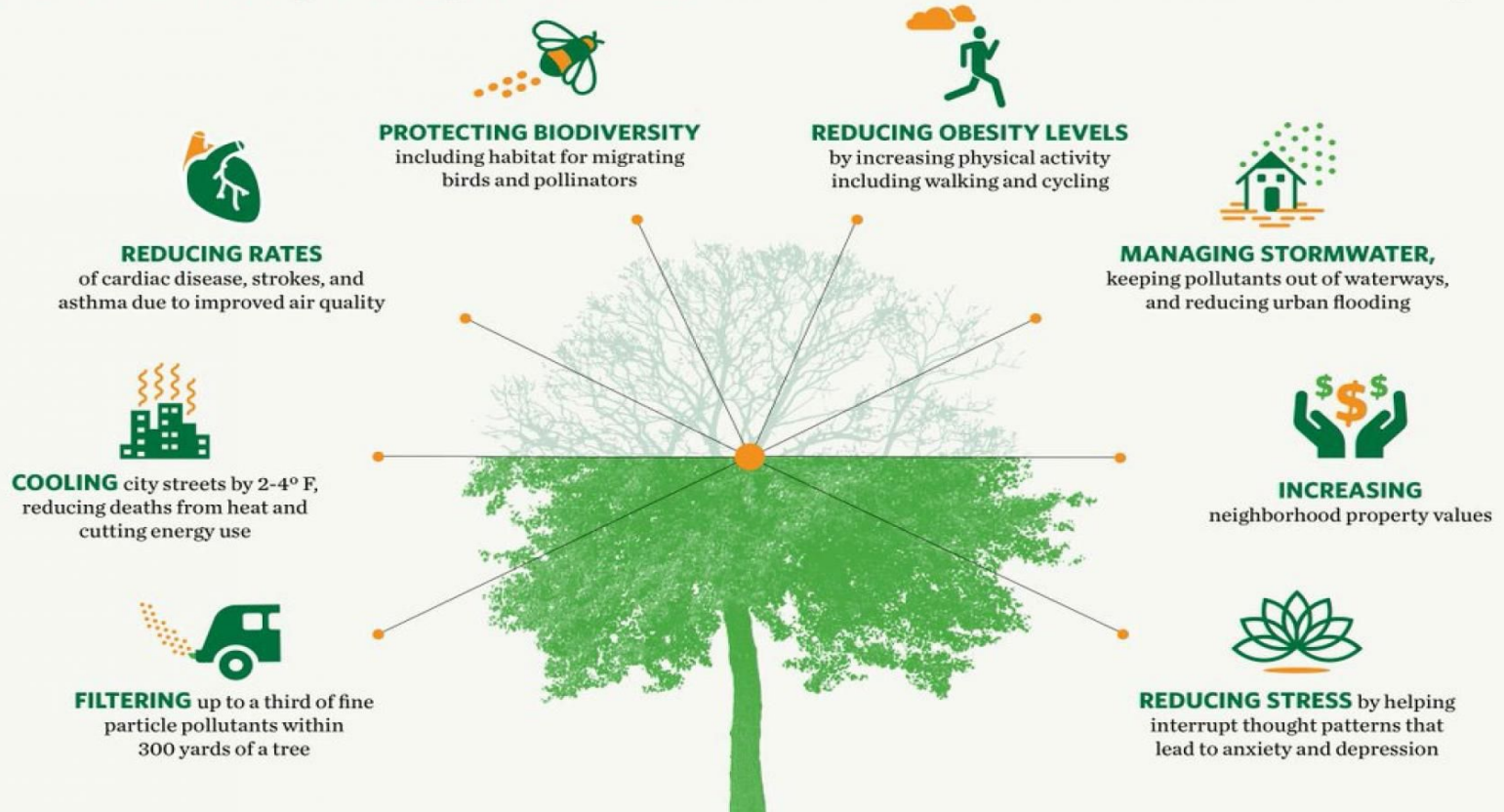


How We Benefit from Tree's

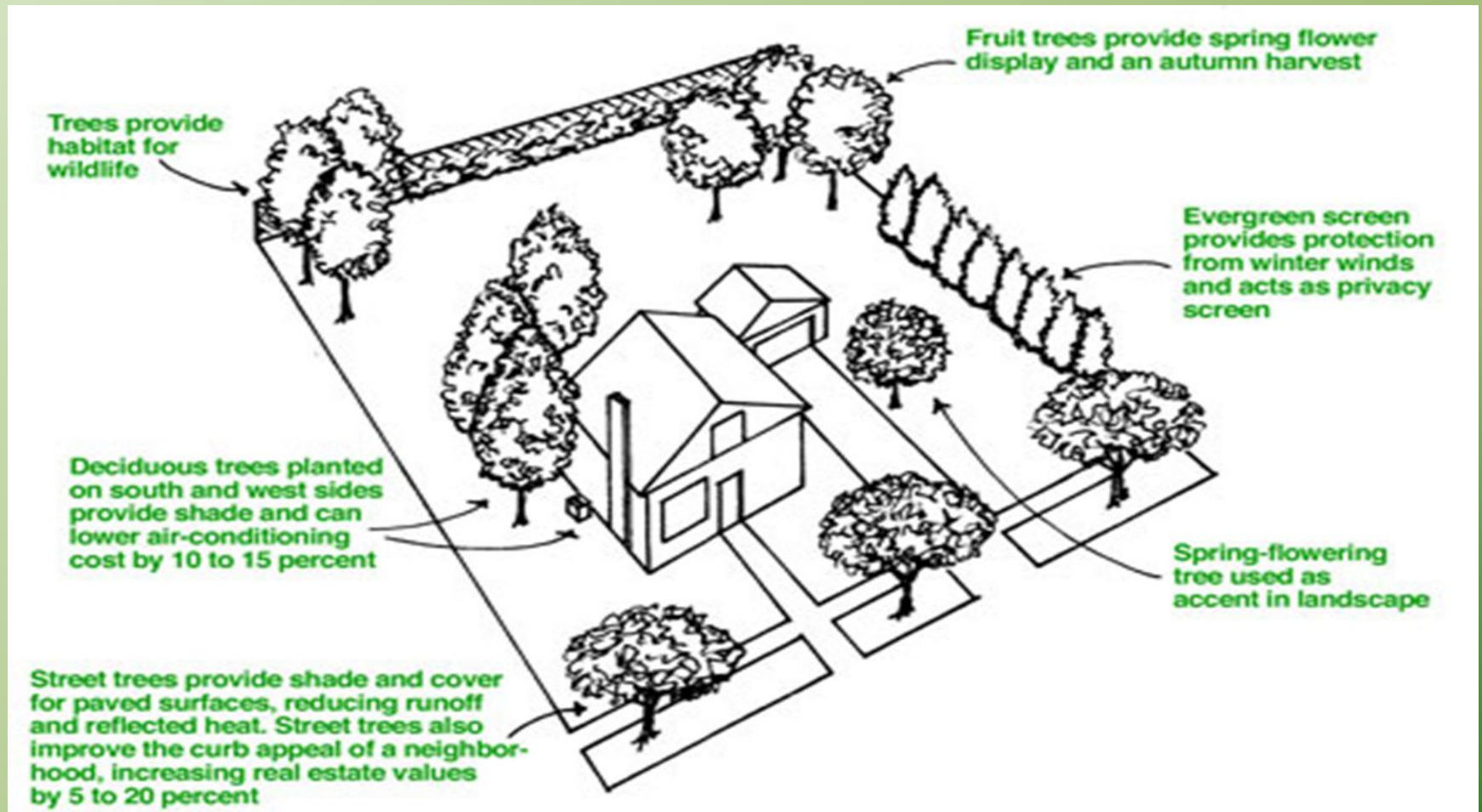
Benefits of Urban Trees

Research has linked the presence of urban trees to...

The Nature Conservancy 



More Benefits



Benefits of Tree's

Environmental Benefits

- Shade!
- Reduce storm water run off
- Filter air pollution
- Reduce noise levels
- Wildlife habitat
- Biological diversity
- Carbon sink

Types of Root Stock



Bare Root



- Pros

- Easy to plant
- Lightweight, easy to move
- Lower cost

- Cons

- Roots must be kept moist
- Incorrect planting can lead to dehydration of roots
- May require staking

Container



- Pros
 - Common at nurseries
 - Somewhat easy to move
 - Larger than bare root
- Cons
 - Often have circling roots
 - Sometimes have girdling roots

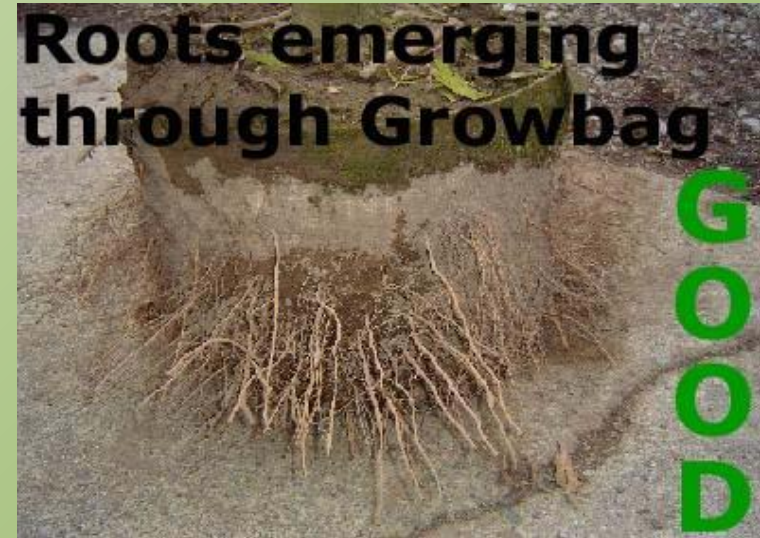


Ball and Burlap



- Pros
 - Tree starts out larger
 - larger root system
- Cons
 - Hard to plant and move
 - More expensive
 - Greater transplant stress

Grow Bag



- Pros
 - Better soil aeration, temperature control, and drainage.
 - Stronger, healthier root systems increase probability of survival.
 - Grow bags promote air pruning and development of more robust root systems.
- Cons
 - Harder to keep from drying out if not planted right away
 - Can't upsize the container
 - Little more expensive than container trees
 - Can still be too deep in bag

Problems with nursery stock

- **Poor Branching**

- Codominant branching
- Included bark

- **Incorrect planting depth**

- Leads to root problems

- **Encircling roots**

- Leads to girdling roots

- **Girdling Roots**

- Can severely stress tree leading to death

Included bark/Codominant stems



Incorrect planting depth



Encircling roots



Girdling roots



Planting Techniques

- **Tools**
- **Site prep**
- **Planting**
- **Planting Completion**

Planting Tools

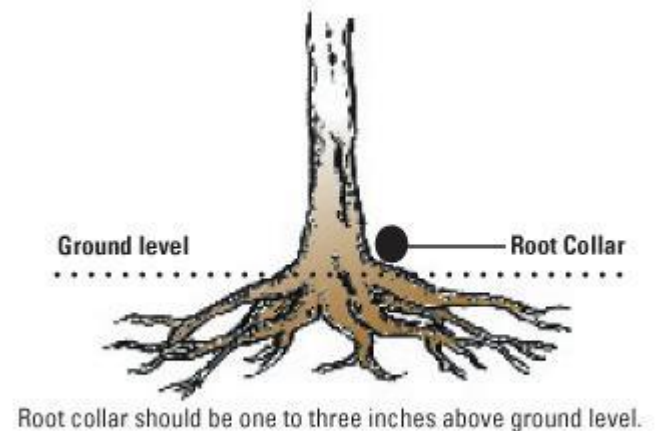
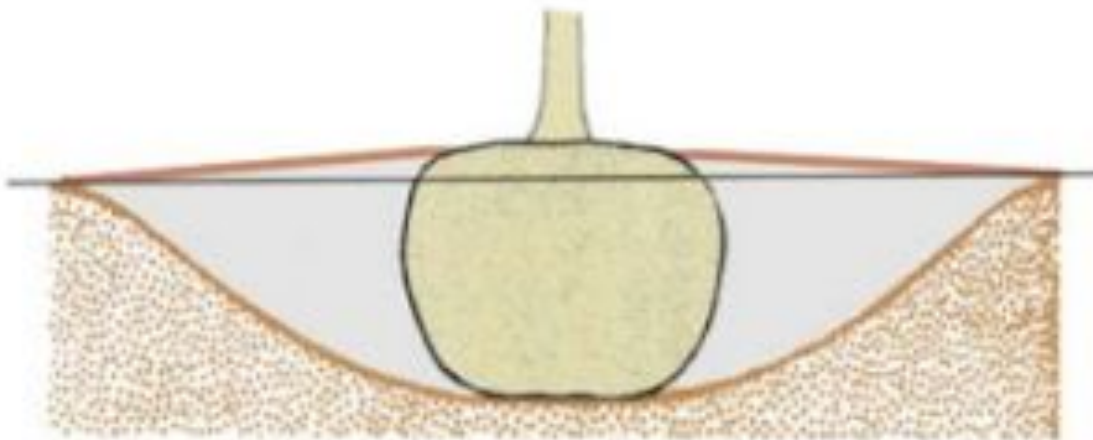


Site Preparation



Planting

- Dig hole wider than root system
 - Wider holes encourage fine root growth
- Find the root collar/flair, for planting depth
 - If poor drainage tree can be planted a few inches high
 - Trees planted too deep tend to develop girdling roots
 - Trees planted too deep will have under developed taper



Planting



Planting



Maintenance

- **Watering**
- **Mulching**
- **Fertilization**
- **Staking and protection**

Planting completion - mulching



- 2-4 inch depth
- Mulch circle can be as wide as allowable
- Do not pile mulch at base of tree
- Mulch reduces water loss due to evaporation
- Increases organic matter
- Reduces compaction
- Reduces weeding/pesticide needs

Mulching



Mulching



Planting completion - Staking

- Not always necessary
- Remove after a year
- Do not stake too tight



Planting completion - Protection



Watering



- Deep infrequent watering is better for deep root growth
- 10 gal. of water per inch of trunk diameter
- Aim water on the root zone not the trunk or leaves
- Water in morning or evening
- Water in tree immediately after planting

Watering



Potential Problems

■ Fertilizing

- Not always necessary to fertilize after planting
- Can lead to excess salts buildup as well as fertilizer burn
- If used slow release is recommended

■ Over watering/poor drainage

- Clay sites will drain slower

■ Site conditions

Questions



References

- **Arbor Day Foundation-** www.arborday.org
- **MDC-** www.mdc.gov
- **Trees work-** www.treeswork.org
- **Missouri Community Forestry Council**
www.mocommunitytrees.com
- **Missouri One Call (Dig-Rite)-** www.mo1call.com or dial 811
- www.nature.org