

Pruning

William M. Fountain, Extension Professor

- I. Challenges to Agents
 - A. Fear of clients to do it themselves
 - 1. Don't know what to cut and what to leave
 - 2. Once a cut is made it can't be put back on
 - 3. Inability to visualize growth into the future (10-20 years)
 - B. "Professionals" who do it wrong
 - 1. Topping & sheering
 - 2. Safe work practices
- II. Why trees need to be pruned
 - A. Cladogenesis: natural shedding of branches in a forest environment due to reduced light
 - 1. Trees are of the forest (evolved to grow in groups)
 - 2. Nursery-grown trees are in full light, abundant water & on fertile soils
 - B. Human safety
 - C. Aesthetics
- III. How to prune (where the cut is made, a.k.a. Natural Target Pruning) is most important
 - A. Avoid cutting into the collar (swollen area where the branch joins the trunk or larger branch.)
 - B. Avoid damaging the branch bark ridge (line above the collar that goes toward the center of the trunk.)
- IV. Pruning Objectives
 - A. Identify the Lowest Permanent Branch (branch that will always be part of the tree)
 - 1. May not exist on young trees
 - 2. Generally, 4-6 feet high for landscape trees (want a trunk to make it look like a tree instead of a large bush & to make mowing under the tree possible [if not mulched])
 - 3. 7-8 feet high for branches over sidewalks
 - 4. 12 to 14 feet above streets (passage of trucks) often set by municipal ordinance
 - B. At Planting: Leave as many branches on trunk as possible (only remove problem branches) Branches will:
 - 1. Increase trunk caliper (diameter)
 - 2. Suppress excessive height increase (danger of blow-over)
 - 3. Increase root development
 - 4. Branches to be removed at a later time can be subordinated (shortened)

- C. Branches to be removed at planting
 - 1. Co-dominant leaders
 - All species will eventually become decurrent (multiple leaders) even those that start out as excurrent (single leader, like a pine tree). If a co-dominant leader develops low in the tree, it will reach the mature height of the tree but will not be vertical, will probably have a poor attachment to the trunk, and significantly more weight than if it developed high in the tree.
 - 2. Dead, broken, or severely damaged branches
 - 3. Branches that may have cankers or other diseases
- D. Branches to be removed in future years
 - 1. Begin removing branches that have been subordinated
 - 2. Begin removing branches that are growing into the center of the tree and crossing branches
 - 3. Avoid removing multiple branches that are closely spaced at the same time
 - 4. Rule of Thumb: Do not remove more than 25% of the leaf volume in a single year. This may drop to 5-10% for mature trees.
- V. Pruning Equipment
 - A. Clippers:
 - 1. Anvil type
 - a) Blade comes down to a flat surface
 - b) Good for floral work but crush the bottom of woody stems
 - 2. Scissors type:
 - a) Two blades
 - b) Cut from the top and bottom
 - 3. Quality check: handles should not wiggle
 - B. Saws:
 - 1. Pruning saws
 - a) Fixed blade or Folding blade
 - c) Cut on the pull (carpenter's saw cuts on the push)
 - d) Coarse, very sharp teeth
 - e) Thin blade for working in tight spots
 - 2. Chainsaws
 - a) Most dangerous piece of equipment a consumer can buy without being trained in how to use it.
 - b) Professionals (for hire) **MUST** wear protective clothing (i.e. chaps), hearing protection, gloves, & hardhat when using a chainsaw on the ground

- VI. Time-of-Year to prune (most commonly asked question)
- A. Avoid Periods of low carbohydrate reserves
 - 1. Leafout
 - 2. Leaf drop
 - 3. Drought, etc.
 - B. Flight time of borers
 - C. Bleeders:
 - 1) Major: maple, elm, birch, yellowwood, grape, resinous conifers
 - 2) and also: linden, dogwood, hornbeam, magnolia, poplar (*Populus*), willow, honey locust
 - 3) Plants will not bleed themselves to death (no devitalization)
 - 4) Reduced sap flow (bleeding) by avoiding pruning between February 1 & June 1
 - 5) Best time for wound closure: High reserves (mid-May through June)

Additional Information:

Gilman, Edward F. *An Illustrated Guide to Pruning* (3rd ed). © 2012 Delmar Publishing.

Fountain, et al. *Mulch Myths* HO-106