

Structural Pruning for Young Trees

“Proper pruning is one of the best things that can be done for a tree; improper pruning is one of the worst things that can be done to a tree.” –Dr. Alex Shigo

Once your tree is established in the landscape, it helps to perform proper pruning for a number of reasons given below. If you want to do this yourself, do your tree a favor and learn when, why, where, and how to prune. Otherwise, contact a certified arborist to do this for you and your tree.

Pruning Objectives

- Reduce risk of failure
- Provide clearance
- Maintain health
- Influence flower or fruit
- Improve a view
- Enhance form

Features of Strong Structure

- A single, dominant leader
- Trunk and branch taper
- Branch aspect ratio 50% or less
- Branches spaced along and around trunk
- Bark not included in branch attachments

Components of Structural Pruning

- Develop or maintain a dominant leader
- Identify lowest branches in the permanent canopy
- Prevent branches below the permanent canopy from growing too large
- Keep branches less than 50% of the trunk diameter
- Space main branches along and around one dominant trunk
- Suppress growth on branches with included bark

Refer to pages 4-7 in *Developing a Preventive Pruning Program: Young Trees* by Bisson and Gilman.

Specific Steps for Pruning

1. Remove 5Ds: dead, dying, diseased, damaged, defective branches. Remove sprouts and suckers.
2. Select a leader, when possible, then remove or reduce competing leaders (co-dominant stems)
3. Select and establish the lowest permanent branch.
4. Select scaffold branches then reduce or remove competing branches.
5. Select temporary branches (left to build trunk taper) below the lowest permanent branch.

Timing and Dose for Pruning

- Generally, late winter until bud break (best time) and late spring after leaves harden are the times to prune.
- One needs a good reason to remove more than 25% of live branches on young trees; 10% for mature trees.
- Dead branches may be removed anytime.
- Light pruning may be done on small-diameter branches any time except when the tree has just leafed out and low on energy reserves, the tree is stressed, the soil is excessively dry or flooded, or the tree is vulnerable to certain inflections (e.g., oak wilt)

Pruning Tools

- Hand pruners (e.g., Felco F2)
- Hand saw (e.g., Silky Zubat)
- Pole pruner (e.g., Fiskars Pruning Stick)
- Disinfectant (e.g., Lysol, not bleach)
- Don't use of loppers on final cuts.
- Don't wound dressings (except to prevent oak wilt on cuts/damage March--November).

Select Resources

- Bedker, Peter; O'Brien, Joseph; Mielke, Manfred. *How to Prune Trees* (USDA and Forest Service, 2012). PDF available at <https://www.fs.usda.gov/treearch/pubs/12602>.
- Bisson, Amanda and Gilman, Edward. *Developing a Preventative Pruning Program: Young Trees* (University of Florida, 2018). PDF available at <http://edis.ifas.ufl.edu/pdf/EP/EP31500.pdf>.
- Gilman, Edward. *An Illustrated Guide to Pruning*, 3rd edition by (Delmar, 2012).
- Gilman, Edward. *Pruning Shade Trees in Landscapes* pruning resources (University of Florida website: hort.ifas.ufl.edu/woody/pruning.shtml).
- Gilman, Edward, Kempf, Brian; Matheny, Nelda; Clark, Jim. *Structural Pruning: A Guide for the Green Industry* (Urban Tree Foundation, 2013).
- International Society of Arboriculture. *Best Management Practices: Tree Pruning* (ISA, 2019).
- Luley, Christopher and Pleninger, Andrew. *The ABCs Field Guide to Young and Small Tree Pruning* (Urban Forestry, 2012).
- United States Department of Agriculture and U.S. Forest Service. *Tree Owner's Manual for the Northeastern and Midwestern United States*. PDF available at www.treeownersmanual.info.
- *Training Young Trees for Structure and Form*. University of California. Video available at www.youtube.com/watch?v=IHNv0AstLK4.

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