

Missouri Chapter News

Walnut Council: Growing Walnut and Other Fine Hardwoods



Hardwood Tree Pruning Guide

Pruning Fundamentals in Growing Veneer Quality Logs

Key Topics & Helpful References

Overview -

1. Pruning – Why do we need to prune?
 - A. Pruning is all about **“managing the competition”**.
 - B. Removing lower limbs that may be interfering with routine maintenance & travel
 - C. Plantation grown trees versus natural regeneration trees
 - D. Improves quality and value of butt logs to possible A grade veneer quality; may improve value of second log within your target pruning height.
 - * **Know your veneer market specifications!**
 - * Target log lengths: 8’6”; 12’6”, 14’6”, 21’ 6”;
 - * **Be sure to allow for stump height & trim allowance when determining total log length.**
 - * Limbs & knots are main reasons most trees do not yield A grade veneer.
 - * Secondary defects: small diameters, wire, lightning, bird peck, wind throw
2. Fine Hardwood Species to Prune
 - A. Black Walnut
 - B. White Oak species
 - C. All hardwoods that have a veneer or stave market potential

Pruning Basics -

1. Timing – When to Prune?
 - A. Black Walnut – prefer **dormant season** (winter months – November - February)
 - * Trees you may not revisit soon should be pruned when you are there! i.e. pruning is more critical than timing.
 - * Sap bleeding is not an issue alone; possible fungal infections is a greater concern.
 - B. White Oak – dormant season
 - C. Red Oak – mid-November to mid-February
 - * Do NOT prune red oak when leaves are growing to prevent fungal spores entering wounds
 - D. Avoid pruning hardwood trees when the sap is flowing heavily
 - * End of February to mid-April is the worst time to prune
 - * Winter and very early spring are best
 - # Sap flow is minimal.
 - # Limit summer pruning to July/August
 - # lower fungal activity
 - E. **Avoid pruning the end of August to early September** to allow the tree time to cover over pruning wounds before dormancy
 - F. Avoid pruning while leaves are forming
 - G. Potential diseases from pruning during sap flow
 - * Ambrosia beetles are attracted to sap flow; they carry fusarium wilt that can kill black walnut trees.
 - * Nectri canker disease is more common when trees are injured such as pruning operations.

H. Isopropyl alcohol (rubbing alcohol) with a concentration of at least 70% alcohol can be used for disinfecting pruning tools between trees, and possibly between making branch cuts **IF diseases ARE PRESENT.**

2. Tools & Supplies Needed

- A. Hand pruners
- B. Folding, hand-held pruning saw or fixed pruning saw
- C. Loppers
- D. Pole pruning saw (manual and/or power); pole saw pruning shears needed
- E. Small chain saw
- F. Bright color tape (duct tape (small roll) or electrical tape)
- G. Knife to cut electrical tape

3. Utilize “*tree-to-tree competition*”

- A. Initially, retain ash, boxwood and some faster growing species like maples and sycamores, but top all species growing faster than black walnut; can use brush and briars (if present) to “train” walnut trees.
- B. Remove very fast growing cottonwoods, soft maples, basswood and Tree-of-Heaven which are too competitive and can outgrow and overtop the walnuts.
- C. Cut back leaders of *canopy competing trees* and brush at **75% of the crop tree height** once those trees begin to interfere with the growth of the crop trees. In situations where the “trainer brush” is very dense, you may need to cut off the most aggressive stems and apply approved herbicides to the stumps. Basal spraying is preferred by many for thinning thick competition. **Note:** Never use *Pathway* for cut stump or girdling treatments to “thin” crop trees.

Target Pruning –

1. Techniques of “*Target Pruning*”

- A. Locate central leader and prune top down (refer to pruning handouts)
- B. Prune lateral branches just outside their branch collars to minimize size of the pruning wound.
 - * **See pruning diagram below.**
 - * Branch collars compartmentalize off the branch wood from the stem wood shielding the tree from fungal spores.
- C. Ideally, remove no more that 25% of the tree canopy in one growing season (may be only one limb)
- D. Shaping the central leader – or “*within tree competition*”
 - * Use tape and/or splints forcing the selected leader into straight, vertical position
 - * Select the leader with a lateral branch underneath that will apply upward competitive pressure to keep the selected leader straight
 - * Prune off competing leaders retaining one or possibly two central leaders

2. Pruned Limbs and Cut Trees – what to do with them?

- A. Remove them entirely from the plantation
- B. Pile them within rows
- C. Allow them to stay where they fall and degrade over time.

3. Coppicing (cutting of misshapen or damaged stems that are beyond corrective pruning)

- A. Why Coppice?
 - * To remove an unsightly, misshapen stem
 - * To remove diseased trees
 - * New sprout will reach the height of original tree in 2-3 seasons **AND** will likely have much better shape.

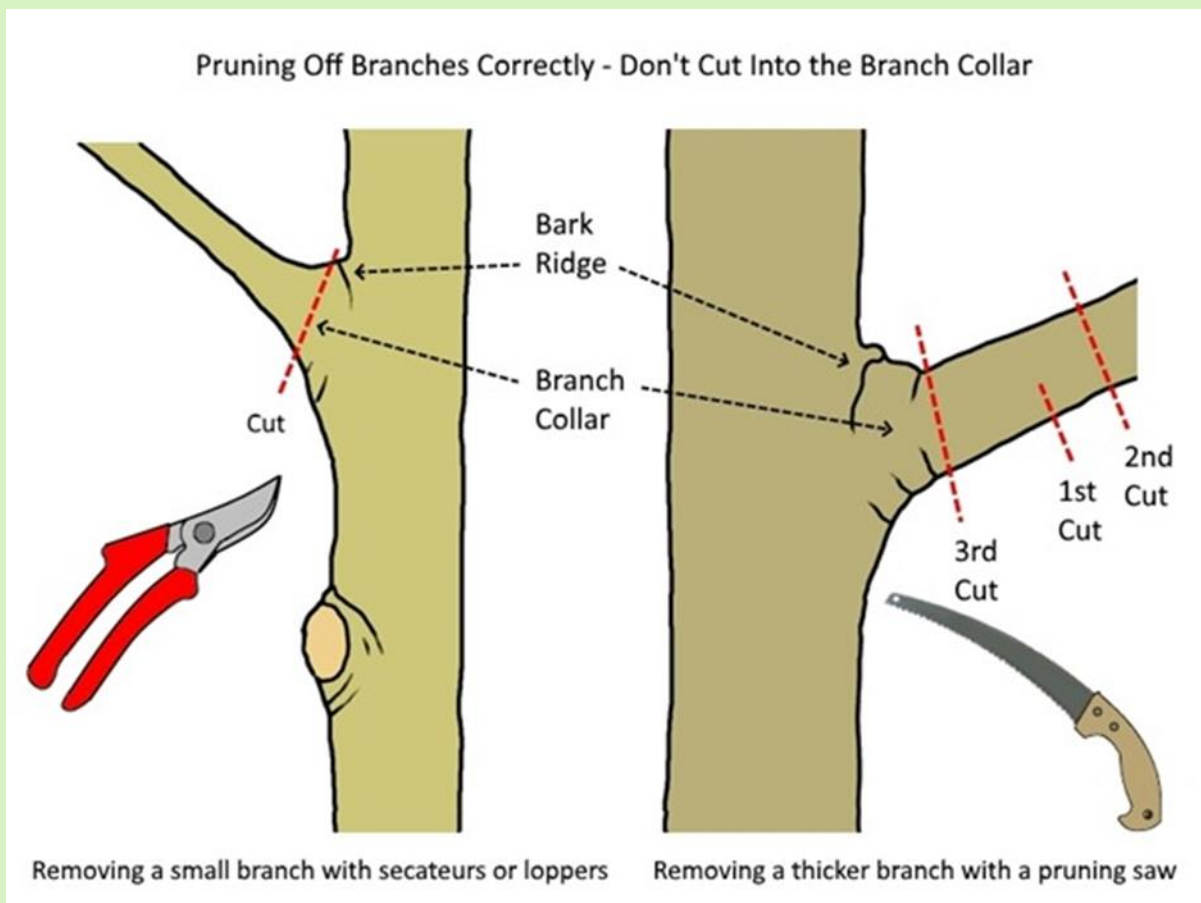
4. How to Coppice:

- A. First, look all the way around the base of the tree looking for defects.
 - * Avoid coppicing trees with damage at trunk collar
- A. Cut tree stem at a slight angle about 1" above ground surface
- B. Once sprouts emerge, remove all but one or two sprouts, so eventually only the best sprout remains

Safety Procedures –

- A. Inform others about where you will be working and when you will return.
- B. Follow accepted safety procedures when using very sharp pruning tools.
- C. Wear an approved hardhat, eye coverings and leather gloves.
- D. Have a fresh, fully stocked First Aid kit nearby.
- E. Have a cell phone with a good service connection on your person with pre-set emergency phone numbers.
- F. Have water available to hydrant yourself in case of severe wound.

Pruning Diagram -



Key Points -

- ⇒ Begin to identify "*crop trees*" early in the life of the plantation and *only prune "crop trees"*.
- ⇒ Revisit your non-crop trees over time because, surprisingly, they may begin to look better!
- ⇒ Thin non-crop trees once *canopy closure competition* begins.

Pruning References -

Many of the following technical articles are posted at the Missouri Chapter, Walnut Council website: <http://walnutcouncil.org/state-chapters/missouri/>:

- ◆ **“Pruning Guide for Walnut and Other Valuable Hardwoods”**, <http://walnutcouncil.org/wp-content/uploads/2019/01/PruningguideMODec2015special-1.pdf>
- ◆ **“To Prune or Not to Prune”**, <http://walnutcouncil.org/wp-content/uploads/2019/01/TopruneornotMOApr15special-1.pdf>
- ◆ **“Pruning Central Hardwoods”**, Central Hardwood Notes, Schlesinger and Shigo, Northeast Forest Experiment Station, USDA Forest Service, Carbondale, Illinois.
- ◆ **“Corrective Pruning of Black Walnut for Timber Form”**, Walter F. Beineke, FNR-76 Woodland Management, Cooperative Extension Service, Purdue University, West Lafayette, Indiana, 47907, <https://www.extension.purdue.edu/extmedia/FNR/FNR-76.html>
- ◆ **“Pruning Timber Trees for Form and Function”**, Jay C. Hayek, Extension Forestry Specialist, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana- Champaign.
- ◆ **“Corrective Pruning of Black Walnut Seedlings Injured by a Late Spring Frost”**, F.W. Von Althen, Great Lakes Forest Research Centre, Sault Ste. Marie, Ontario, Report O-X-265, Canadian Forest Service, Department of Fisheries and the Environment, June 1977.
- ◆ **“Cleaning Pruning Tools”**, https://ipm.missouri.edu/MEG/2018/1/cleaning_pruning_tools/
- ◆ **“How To Sterilize and Disinfect Pruning Tools”**, <https://deepgreenpermaculture.com/2021/03/14/how-to-sterilize-and-disinfect-pruning-tools/>
- ◆ **“Time Pruning to Avoid Disease”**, Jerry VanSambeek, Member, Missouri Chapter Walnut Council,
- ◆ **“Preparing to Prune”**, Bob Ball, Member, Missouri Chapter Walnut Council, November 2019.
- ◆ **“Disinfecting Pruning Tools”**, Dusty Walter, President, Missouri Chapter Walnut Council, November 2021.
- ◆ **“Target Pruning and Compartmentalization”**, Dusty Walter, President, Missouri Chapter Walnut Council, Jerry VanSambeek, and Mark Coggeshall, Members, Missouri Chapter Walnut Council.