

MARYLAND WALNUT GUIDELINES

PRODUCED BY THE MARYLAND CHAPTER OF THE WALNUT COUNCIL

Pruning Young Hardwood Trees

The primary reason that young black walnut and other hardwood trees are pruned is to produce quality timber – straight, free of limbs, knots, decay, and other defects. Secondary reasons include access for mowing, spraying, thinning, vine removal, etc., to reduce the likelihood of trunk or branch splits and breaks, to reduce the likelihood of decay from large dead limbs or breakage, and to remove the “ladder” for vines & briars that may climb and damage the trees.

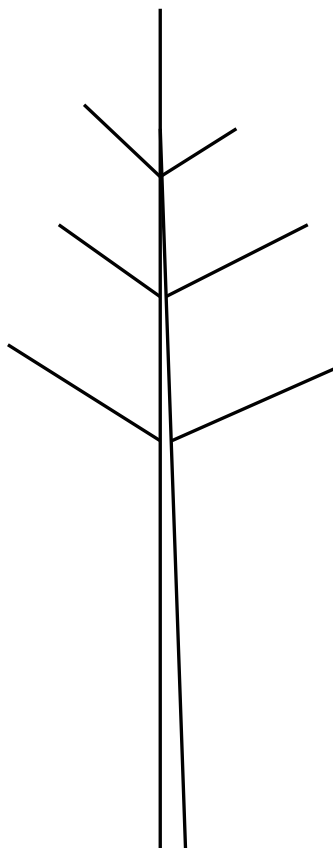
This pruning can be characterized as two basic types, though there is a certain amount of overlap between them: Corrective Pruning – to promote the growth of one straight central stem; and Limb Removal or Side Pruning – to promote the growth of a clear, knot-free trunk by removal of branches along the central stem.

Below are some “rules of thumb”. Keep in mind that there may be situations where these rules conflict with each other, in which case the worker needs to exercise judgment to do what is best for the tree. How much to prune and how much to leave is a balancing act - the more leaf-bearing branches the faster the tree will grow and the faster it can recover from injuries and minimize decay; while the fewer branches the fewer the knots.

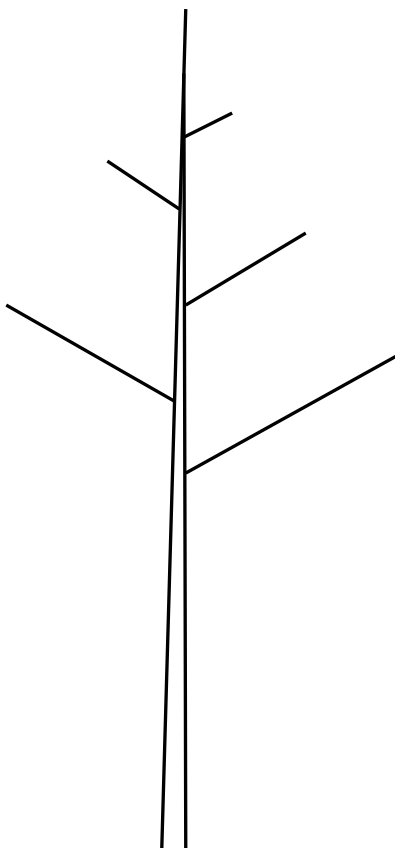
- Visit and individually inspect each tree each year, and prune if needed. It is better to prune a little each year than to prune heavily at longer intervals.
- Pruning is usually best done in winter or early spring (December 1st – April 1st). Minor pruning or removal of dead limbs can be done year-round.
- Don't worry about the “bleeding” of sap from wounds that often occurs in late winter and early spring, it does no harm as long as the pruning is otherwise properly done.
- Begin corrective pruning (if needed) while the tree is still small, less than 4 feet tall, and repeat each year until a straight section at least 17 feet tall is achieved.
- Top Priority - If there is more than one terminal shoot, select the best (largest, straightest) and remove the others. If not influenced by another shoot near it, the terminal shoot will usually straighten up.
- Terminal shoots and upper branches generally tend to push each other away when growing. This is one reason why it is important to remove (or shorten) all but one terminal shoot. You can also use this tendency to straighten up a leaning terminal by temporarily leaving a branch just below it.
- Taping together opposing forks or splinting very crooked terminals can be used if needed, but most terminals will straighten well without this.
- Minimize removal of the lower branches on sapling-sized trees to one or two each year. Removing too much will force excessive growth onto the top of the tree, causing it to lean, fall over, or break.

- Where there are several shoots in the top whorl, and the top of the tree is still fairly easy to reach (and you are prepared to prune again in subsequent years) one or more of the extra shoots can be shortened rather than removed. This allows the retention of more leaf bearing branches, and may reduce forcing extra leaf growth (and weight) onto the terminal the following season.
- When shortening a branch or terminal shoot, always cut back to another branch or bud, preferably one pointed away from the terminal.
- Remove acutely upward-angled side branches (less than 45 degrees) each time you prune; retain right-angled branches (near 90 degrees) for a longer period of time.
- Remove suckers or sprouts that emerge from the base of the tree or around wounds from prior pruning or injury.
- Don't remove more than 1/3 of the leaf-bearing branch area in one year.
- Remove dead or broken branches each time you prune.
- Cut lower limbs that interfere with maintenance such as mowing, spraying or vine removal. Often limbs that reach out between the rows are removed sooner than limbs that are oriented within the row.
- Cut limbs before they reach 1½ inch in diameter, though smaller is better. Larger limbs can be cut if necessary, but a larger wound will result. Over 3 inches diameter, it is probably better to leave a live healthy branch than to remove it and create a large wound that will likely result in decay. "Better a live knot than dead rot."
- Trees that are grown at a close spacing will tend to grow straighter and need less pruning, especially in mixed species plantings, particularly if the hardwoods are mixed in with conifers such as white pine.
- Keep about half the total height of the tree in live leaf-bearing branches. This proportion may gradually be reduced to one-third as the tree grows toward sawtimber size. Removing more will reduce diameter growth, and may force too much weighty growth onto the top of the tree, causing the top to bend over or break.
- Remove all the side branches where the trunk is about 4 inches in diameter or greater.
- Try to space out the branches left after pruning, both in height and circumference.
- Where there are whorls or clusters of side branches, remove a few each year - spacing them apart around the circumference of the trunk – to avoid later having to remove them all at one time.
- Don't remove too many branches from one side. This could unbalance the tree, or disrupt too much of the vascular system on that side of the tree.
- When removing a branch or shoot, cut back to the trunk. Don't leave a stub. Also, do not cut the branch off flush with the trunk if there is a branch collar or raised area around the base of the branch. Keep the pruning wounds small. A "good" pruning wound is nearly round rather than oblong.

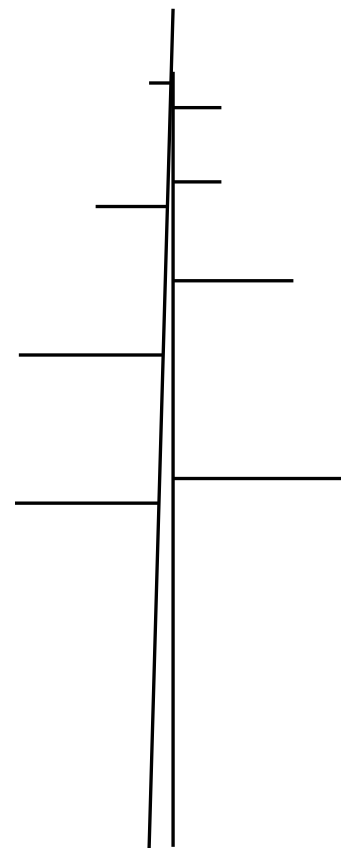
- Be particularly careful not to allow the bark to tear down the trunk when the limb is cut off. On larger live limbs first removing most of the limb to remove the weight and/or slightly under-cutting the limb at the proper location, and then making the final cut close to the trunk can prevent this. Small and dead limbs can usually safely be removed in one cut.
- Do not paint or put tree wound compound on any pruning wounds.
- Limit most pruning to the lower 17 feet of the trunk (yielding a 16 ft. log). The higher you prune the greater the difficulty and less the economic benefit. Above 17 ft., if it can be accomplished without danger or difficulty, remove forks when small, and dead or broken branches of any size.
- As soon as future crop trees can be selected, stop pruning the others except as needed for access or to help keep climbing vines out of the tree canopy. Concentrate efforts on the crop trees.
- Be sure to maintain vigor by controlling weed competition, and thinning when needed. Vigorous, fast-growing trees “heal” over wounds faster and better with less potential for internal defect and decay, as well as reaching ecological and economic goals sooner.



ash, maple
opposite branching

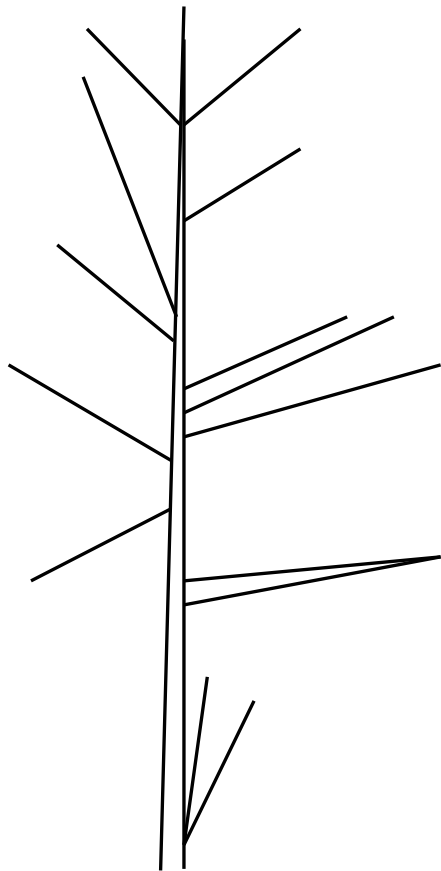


walnut, oak, tulip-poplar
alternate branching

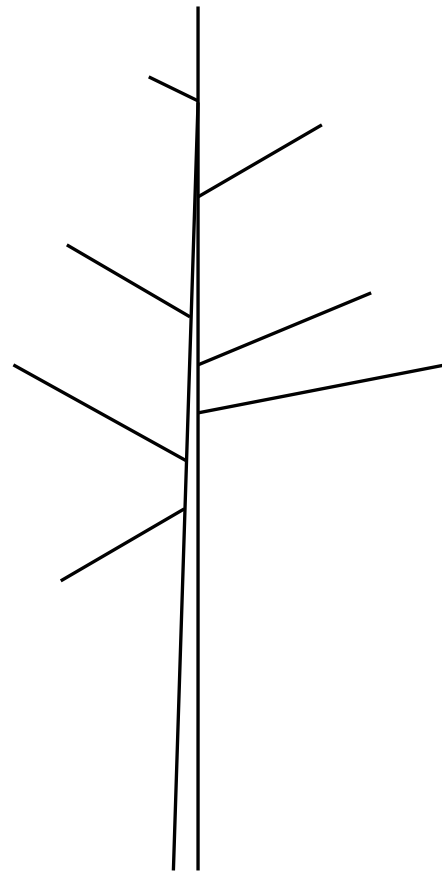


pin oak, gum
right-angled branching

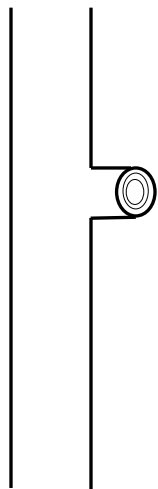
Typical Desirable Form of Several Species
Trees should look similar to this after pruning



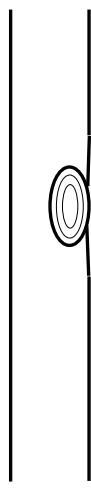
Before Pruning



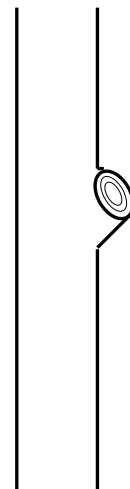
After Pruning



NO



NO



YES