



The tree marked with red paint is the crop tree; the author's hand rests on the tree to be girdled.

Crop Tree Release in Pre-Commercial Hardwood Stands

Part II of a Two-Part Article

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After the best sites and trees are found and your equipment is ready, you can begin releasing crop trees from unwanted competition. You'll need to locate those crop trees with good future growth potential. Availability of sunlight is the leading limiting factor of tree growth. When crowns of adjacent trees

touch each other, growth rates are reduced. Thus, by deadening unwanted trees whose crowns are touching the crown of your crop tree, more space is created for expansion.

Releasing Crop Trees

Condition your eye to locate trees needing release, not trees needing to be

deadened. In other words, first find the crop tree, then ask, "Deadening which trees will improve my crop tree's growing condition?"

When selecting crop trees look for the following qualities:

- Healthy trees -- those with potential for further development

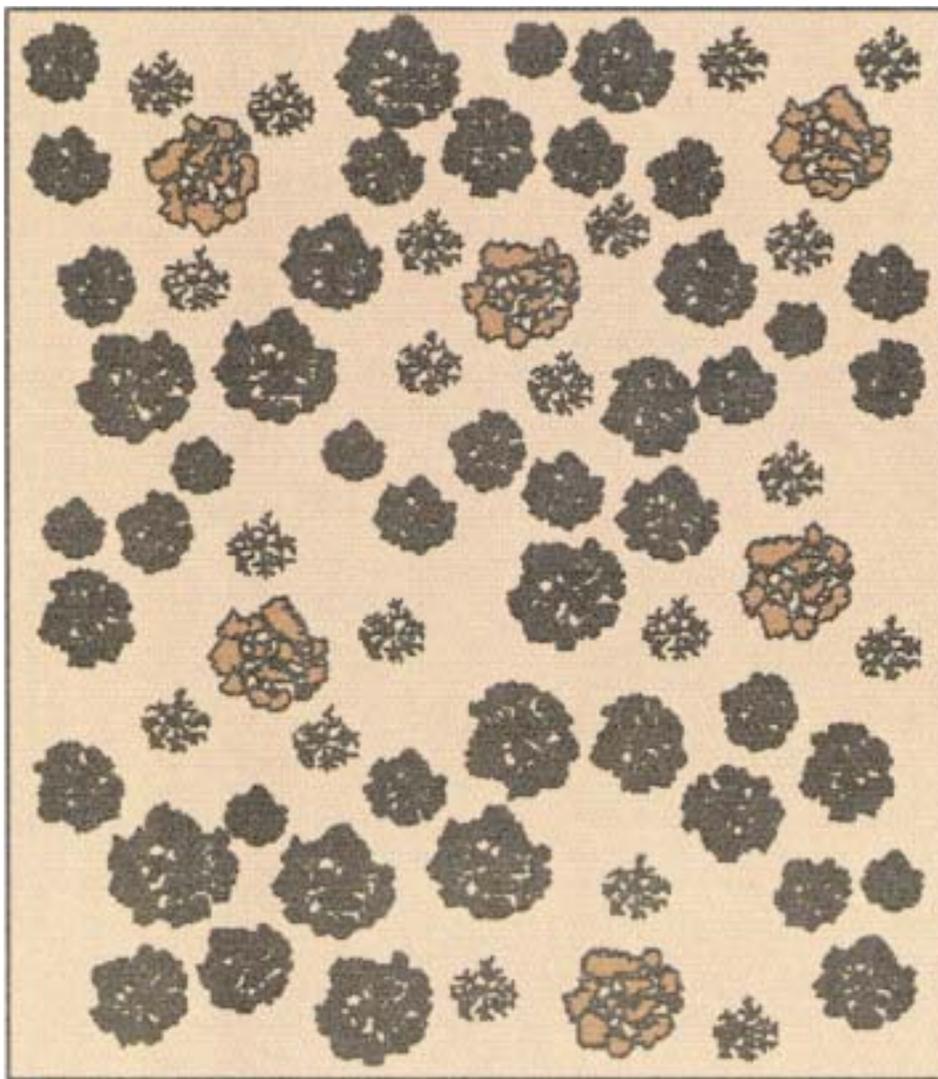
- Trees with good form -- relatively straight and with few forks
- Better-grade trees -- those with few knots
- Trees whose average age is between 15-30 years old -- stands that are too young won't have reached proper height, and older stands might not successfully respond to the release
- Trees in the upper levels of the forest canopy

The target is to release no more than 36 crop trees per acre. This equates to crop trees with an average spacing of 35 feet between each other. Spacing can be

increased or decreased according to the stand conditions. For example, some 35-foot cells may not contain an acceptable crop tree, and that cell should be left. As a general guide, at least one-half of the 35-foot cells per acre should contain crop trees for the project to be justifiable.

Locate trees needing release, not trees needing to be deadened.

You should deaden all trees whose crowns touch the crown of the crop tree on three to four sides. Special note:



Crop Tree



Deadened Tree

Simulated aerial view of released crop trees.

deaden only those trees whose crowns are affecting your crop trees. Those in-between or below and not affecting the crop trees should remain. The leftover trees help to protect crop trees from wind damage and epicormic branching (unwanted branching on the lower bowl often caused by sudden increases in sunlight.)

Procedure for Girdling Trees

Determine the trees to deaden. Using a chainsaw, turn the saw sideways and cut a complete girdle (ring) around the tree at a comfortable height (usually around three feet). Use proper safety procedures, as outlined in your saw safety manual. Then, cut another girdle at least six inches above or below the first one. Each girdle should be cut completely through the bark and into the live wood at least 3/4 inch. Make sure that each girdle meets at both ends so the vascular flow of water is completely severed.

Wildlife Benefits from CTR

Trees may take up to a year to die, but once dead, limbs fall off creating "snags." Standing dead trees provide food (decomposing insects), as well as sites for nesting, roosting, denning, and perching for many species of birds and mammals. Standing dead trees further benefit wildlife by allowing sunlight to reach the forest floor, increasing forage for deer and nesting cover for wild turkeys and many species of songbirds. Increased sunlight in the stand also allows the crowns of crop trees to expand, which increases mast production (e.g. acorns, beechnuts, and cherries), further benefiting wildlife.

Why Deaden Trees If They Could Be Sold?

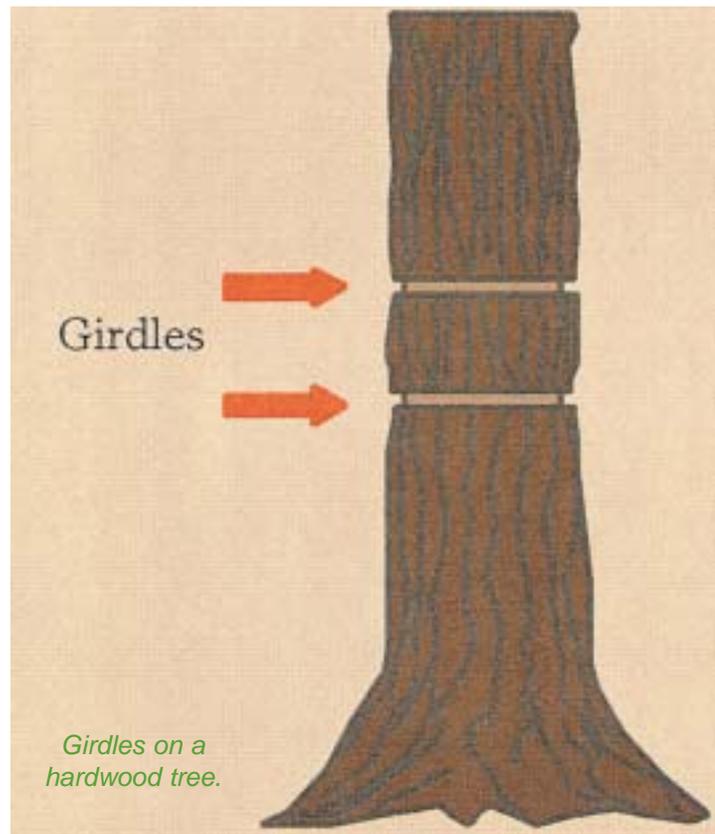
Younger stands of pine trees are commonly thinned by logging, thereby generating an income rather than an expense. Why can't the same early thinning be applied to hardwoods as well? In some circumstances it can be feasible, particularly where markets allow and conscientious loggers are available; but in many cases, it's not feasible. Several characteristics unique to pine stands lend well to early thinning:

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- In the South, the price for pine pulpwood is generally greater than for hardwood pulpwood. Normally, loggers are more willing to purchase small pine trees for profitability.
- Pine plantations are usually in straight rows and on level terrain. Logging equipment can maneuver through pine stands easily, which keeps the logging production rate high and profitable. Hardwood stands, normally having grown up naturally (not planted), are mixed species with variable spacing and are often found on steeper terrain, making logging slow, difficult, and expensive.
- Pine trees have flexible branches with conical-shaped crowns and can be felled and logged easily without causing excessive damage to residual trees. In contrast, logging younger hardwood stands often results in damage to the tops and bases of the very trees you are attempting to protect and release. For these reasons, manual CTR, rather than logging, should be considered in releasing your younger hardwood stands.



Conclusion

Private landowners are beginning to view their hardwood forests as a vital part of their farm assets. Demand for fine-quality hardwood products such as cabinets, flooring, furniture, and veneer has increased and is expected to continue increasing for the foreseeable future. As a result, prices have escalated, causing astute landowners to consider an active rather than an incidental approach to managing their hardwood crops.

The slow growth rates of hardwood trees have long been viewed as an obstacle to forest management. Through minimal investment, CTR is a way to energize your forest. Growth rate is enhanced, forest composition is improved, harvest rotation is shortened, and revived enthusiasm for your forest investment results. 🌲

