



"How To" Accomplish Your Timber Stand Improvement



Cutting

Cut the trees if the work will pay for itself by producing posts, firewood, or other useful products. Cutting large wolf trees or cull trees is rarely feasible; it often results in damage to remaining nearby trees and can be dangerous to the sawyer. These trees should be girdled or frilled.

It is a good practice to kill the stumps of smaller trees by, chemical means to prevent sprouting. Small stumps of desirable species, such as oak, ash, and tulip tree should be cut low to the ground and left untreated since sprouts from these stumps may become a crop tree in the next stand.

Girdling

Girdling is the removal of a section of bark and cambium layer all around the tree with either an axe or chainsaw. The ring must connect at both ends, for any uncut portion will continue to supply nutrients to the tree and the tree might survive. Girdling can be effective if a cut is carefully made completely around the tree and deeply enough to get into the wood. Chainsaw girdles are more effective if two cuts are made around the tree about 6" apart and 3/4" deep. Axe girdles can be made by cutting a 4" wide ring of bark and cambium. Killing the tree and leaving it standing allows the tree to deteriorate gradually, therefore doing little damage to the surrounding trees as it breaks up. The best time to girdle is in late summer or early fall, although it can be done during other seasons. Applying an appropriate herbicide into one of the girdles will ensure an effective kill. Be sure to apply the herbicide into the girdle cut completely around the tree.

The disadvantages of girdling without herbicides are that unwanted sprouting may occur, and girdling is usually not effective on trees with stump wounds or seams where ingrown bark occurs.

(CAUTION: Small diameter, hollow and defective trees can snap when using chainsaws in girdling. Large, hollow beech trees are also potential hazards. When a tree appears hollow, use an axe for girdling.)

Frilling

This is the best method to kill trees over 4" in diameter. A frill girdle is made by cutting around the trunk with an axe at a downward angle, creating a "frilly" appearance, or by making a single chainsaw cut around the tree. Frilling forms pockets where herbicide can be easily applied. If the tree has wounds or seams involving ingrown bark, the frills should be made above the defect. A herbicide appropriate for use with frilling is applied to the freshly cut frill until all surfaces are wet.

Basal Spraying

Basal spraying may be used to effectively kill a tree less than 4" in diameter. The herbicide appropriate for this use should be directed at the base of the trunk or stem to saturate the area from the ground line up to about 2'. Thorough coverage of the area, using enough material to saturate the bark to the point of runoff, is essential. Backpack sprayers with a pressure of 50 to 100 pounds and nozzles producing a solid cone spray work best. Hold the nozzle close to the trunk to avoid waste. Re-spraying may be necessary to complete the kill in the case of sassafras, sumac, elm, and other hard-to-kill species.

Note on Chemical Usage:

Before purchasing any herbicide, read the label to be sure it is intended for the use you have in mind. Make sure the method you are going to use to apply the herbicide is covered on the herbicide label. Disregard recommendations made by store clerks or sales-people if the label does not cover the intended use.

Be sure to use eye protection and rubber gloves when applying herbicide. Follow the manufacturer's recommendations and precautions when using chemicals, and avoid mixing chemicals in amounts greater than what can be used in one day. It is recommended that anyone working with herbicides carry a bottle of eyewash in case of emergencies.

Pruning

Most desirable timber species, such as tulip poplar, lose their branches naturally when grown in well-stocked stands. Limit pruning to young, well-formed, valuable trees such as black walnut, black cherry, ash and oak. Not all trees in a plantation or forest need to be pruned, because not all trees live to maturity. Branches should be pruned before they reach 2" in diameter. Do not prune limbs larger than 4" in diameter. The larger the branch stub, the longer it takes to heal. In addition, larger wounds are more open to disease and insect pest infestation.

The ultimate goal of pruning is to produce a knot-free log at least 16' long. Normally, additional pruning will be necessary after the initial pruning. As a guideline, do not remove more than one-third of the live crown in pruning at any one time. With young trees less than 40' tall, maintain half the tree height in live crown.

Regeneration Openings

When a harvest is done in stands where trees are mature, over mature, or contain inferior species, any remaining, scattered trees may not develop into merchantable stock. Many are damaged, hollow or of low value. In this case, openings created by the harvest should be completed before the next growing season. Waiting too long means undesirable regeneration will become well established. Forest improvement efforts made after this time may be ineffective.

Most tree species with high timber value are sun-loving species. These species include white and red oaks, black walnut, white and green ash, black cherry and tulip tree. The seeds and sprouts of these species usually require direct sunlight. Openings in the upper level of leaves, or canopy, will allow direct sunlight to reach the forest floor.

The diameter of these openings should equal at least two times the height of the surrounding trees. For example, if surrounding trees are 80' tall, the woods opening should be at least 160' in diameter. This allows adequate light to reach the forest floor. In such openings, deaden all trees at least two inches in diameter and/or more than 10' tall. Large trees may be harvested for timber and firewood. Treat stumps of undesirable species with herbicide to stop sprouting. Do not treat stumps of desirable species with herbicide. These stumps may sprout new stems that might become future crop trees.