

## Select trees for wildlife, aesthetics, and products

### In Your Backyard Woods

#### What does it mean to favor preferred trees?

Favoring preferred trees means selecting those with the greatest potential to accomplish your objectives for your backyard woods and giving them special treatment by removing the competition from adjacent trees. Trees with tops (crowns) touching are competing with each other. Roots for most tree species extend twice as wide as the crown, and most of the tree roots are in the top 18 inches of the soil. Tree crowns compete for sunlight and roots compete for moisture and nutrients.

Eliminating competition from other trees increases the light, moisture, and nutrients available to a preferred tree so it will be healthier and grow faster. The forest canopy will be more open after employing this technique and preferred trees will have more growth space. Favoring individual trees is analogous to a gardener tending a row of carrots. The goal is to produce carrots that

are large enough to eat. When the seeds are sown, many carrots germinate and become crowded and unable to grow rapidly. The gardener thins the carrots to provide ample light, moisture, and nutrients to the “keeper” carrots, so they will grow large.

#### Why would I want to favor individual trees?

Favoring individual trees can help you accomplish multiple uses of your backyard woods, because individual trees can be selected to meet different objectives, such as protecting wildlife, enhancing the beauty of your woods, and producing income from the sale of wood or special forest products. A sugar maple provides attractive fall foliage, valuable wood products, and sap for maple syrup. An oak tree produces food for wildlife and boards for woodworking projects.

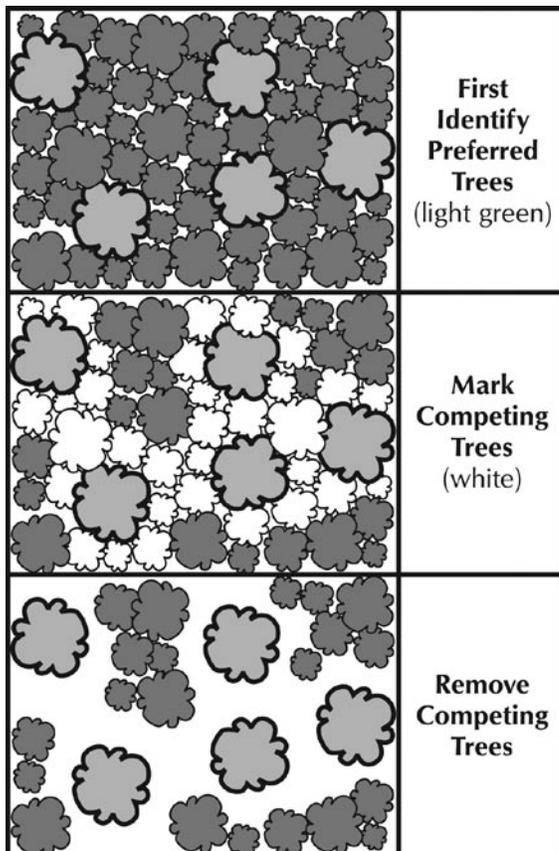
#### Is my backyard woods suited to this technique?

If most trees are at least 25 feet tall, then your woods is probably a candidate for this technique. Usually when trees are this tall their crowns are touching. Often, this occurs in broadleaf trees when they are about 4 inches in diameter at a point 4.5 feet above the ground.

While this technique has been used mostly with broadleaf trees such as oak, maple, and ash, it also may be used with needleleaf trees such as pine, spruce, and fir. The variety of trees available in your woods will vary depending on your geographic location, available moisture and nutrients, and the actions of any previous landowners.

#### How many preferred trees should I have?

The number of potential preferred trees depends on the climate, soil, species of trees, previous management activities, and—most importantly—the age of your woods. A woods with younger trees has many small trees, therefore more preferred trees can be selected than an older woods with fewer trees. The actual number of preferred trees to select depends on your objectives. Each preferred tree selected should help you reach at least one of your objectives.



Remove competing trees to give your preferred trees room to grow.

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The number of preferred trees also will impact the density of your woods. The more preferred trees you select the more competing trees you will cut. The amount of sunlight reaching the ground also increases with the number of trees cut, and the ground vegetation will grow faster. The combination of stems and branches from the cut trees and the increased growth of ground vegetation may make it harder to walk through a woods with many preferred trees.



All preferred trees should have healthy crowns.

To help you visualize how your woods will look after you remove competing trees, use brightly colored flagging to mark all preferred trees, and a different colored flagging to mark all the trees to be cut. Walk around to get an impression of how the area will look without the competing trees. Will this number of preferred trees meet your objectives?

If you decide that too many competing trees were marked, then you need to reduce the number of preferred trees you selected – don't just reduce the number of trees to be removed. This will ensure that the crowns of all preferred trees will be free from competition.

### **How do I select preferred trees?**

Criteria to guide your selection of preferred trees will depend on your objectives. (See the Backyard Woods

Tip Sheet on Make a Master Plan for more information.) Generally, you will be selecting preferred trees that are taller than or as tall as the competing trees and have healthy crowns. Species diversity should be considered in your criteria. Selecting only one or two tree species may make your woods more susceptible to pest outbreaks. (See the Backyard Woods Tip Sheet on Keep Your Woods Healthy for more information.) Also favoring species that are best adapted to the site should be considered. (Consult the USDA Forest Service Silvics Manual, available online at [www.na.fs.fed.us/spfo/pubs/silvics\\_manual/table\\_of\\_contents.htm](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm).) Frequently conflicts among the criteria will occur when selecting between two potential trees, but you need to make these tough decisions when selecting your preferred trees.

The decisions that you make will impact the next generation of trees in your woods. The trees that you keep will be the seed source for the next woods, and the density of the remaining trees will influence which seedlings will be able to survive to form the next woods.

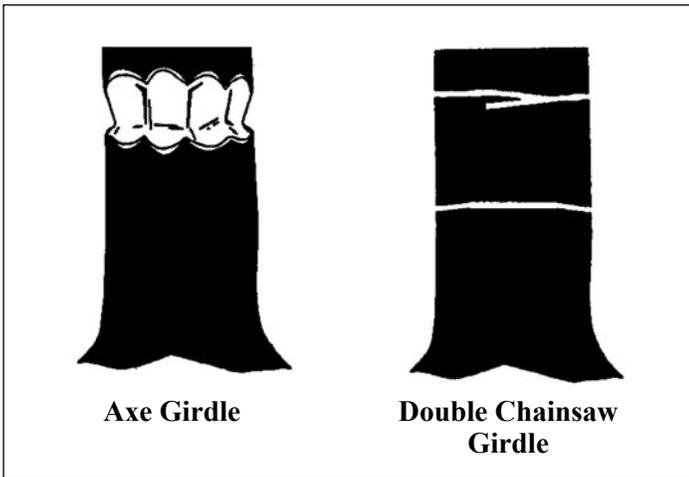
### **How do I increase the value of wood products from my woods?**

In your backyard woods, even favoring just a few trees that have the potential for producing high-value products can be profitable. Eliminating competing trees can double the annual diameter growth of the preferred tree. The most valuable portion of the tree is the first 9 feet of the trunk. Select trees with no branches on at least the first 9 feet of the trunk, or prune these branches. (See the Backyard Woods Tip Sheet on Prune Your Trees for more information.) Form and lack of defects are important criteria to produce high-value wood products for the future. (See the Backyard Woods Tip Sheet on Generate Wood Products for more information.)

Besides the traditional timber products, you may consider managing for other forest products in your selection of preferred trees. Preferred trees may be selected for their fruit and nut production. Other trees may be favored for their bark, such as paper birch, that can be used for crafts. Other woodland plants can be encouraged to grow that can yield special products. (See the Backyard Woods Tip Sheets on Grow and Collect Special Forest Products for more information.)

### **How do I select trees to attract wildlife?**

Select trees that will produce food and shelter for the wildlife you desire. Open the canopy around these preferred trees to increase sunlight to the crowns. This will



Axe and double chain saw girdling techniques

increase production of flowers, fruits, and nuts. One large crown produces more food than two or three small crowns on trees of the same species.

Dead and dying trees provide food and shelter to many different types of animals. These trees can be any size and any type. They don't need to have competing trees removed from near their crowns, but they need to be left standing. They need to be in a place where they will not cause damage when they fall. (See the Backyard Woods Tip Sheet on Identify and Manage Hazardous Defects in Your Trees for more information.) If you don't have any wildlife trees in your woods, you can create them by girdling some of the competing trees around preferred trees.

Wildlife trees near water are especially valuable. (See the Backyard Woods Tip Sheet on Attract Wildlife for more information.) Areas near streams and other water bodies contain different types of trees and more of them than other areas in your woods. Trees next to a stream improve the habitat for fish. Favor a mixture of tree types and ages. Retain large branchy trees near a stream. (See the Backyard Woods Tip Sheet on Protect Clean Water for more information.)

#### **How do I enhance the aesthetic appeal of my woods?**

Selecting trees that you find interesting and beautiful will enhance the appearance of your woods. Often the focus is on trees with attractive fall foliage or spring blossoms. When competing trees are removed, preferred trees are able to expand their crowns and produce additional leaves in the fall or blossoms in the spring



This tree does not need space to grow; it only needs to be retained.

Other trees may be desirable because of their unique size, shape, or form. For example, an unusually large, open-grown, branchy tree may be a preferred tree for aesthetics. Special treatment may not be needed; they simply need to be retained.

#### **What do I do with competing trees?**

What you do with the competing trees depends on their value, size, and number. If the competing trees have a market, you may sell them. Even a few trees can be sold to local woodcrafters or other niche markets. (See the Backyard Woods Tip Sheet on Grow and Collect Special Forest Products for more information.) You may use less marketable trees for firewood. (See the Backyard Woods Tip Sheet on Generate Wood Products for more information.) If you lack a market or another use for these competing trees, they can be killed by girdling and left standing to provide wildlife habitat, or felled to the ground to hasten their decomposition and nutrient recycling.

#### **If I want to proceed, what do I do?**

First, identify preferred trees based on your objectives and mark each trunk with plastic flagging. For each preferred tree, identify all trees touching the crown and mark these competing trees with another color of flagging. If you have any doubt about whether an adjacent tree is competing with a preferred tree, mark it because it soon will be. Healthy crowns of young trees without competition can expand 1 foot per year. Two preferred trees close together with adjoining crowns can be considered as one crown, and all adjacent trees around their joint crown should be removed. Only the trees that are in direct competition with the preferred trees are removed; all others are left.

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Based on your objectives, decide which competing trees to cut and which to girdle. If you have chain saw training, you may want to do this work (see the Backyard Woods Tip Sheet on Work Safely with a Chain Saw for more information) or find someone with the skills. This project does not need to be completed in a single year. You can accomplish a portion each year as time permits and whenever products from cut trees are needed.

If you desire additional assistance to accomplish your objectives, contact your local Cooperative Extension Service for appropriate educational opportunities available in your area. If you desire personal assistance, ask for references for qualified consulting foresters. They will talk with you to gain an understanding of your objectives, and then evaluate your backyard woods and assist you in meeting your objectives. As the landowner, however, you ultimately determine what you want to see accomplished in your woods.

Additional information on selecting preferred trees and forest management may be found at your local library, County Extension Service, and the Backyard Woods Web site ([www.arboday.org/backyardwoods](http://www.arboday.org/backyardwoods)).

## In the Forest

Public and private forests have management plans that guide decisions on which trees to favor for various uses. Foresters manage the species composition, stand density, stand age, harvests, and regeneration of each stand.

Silvicultural methods, such as clearcutting, seed tree, shelterwood, group selection, and single-tree selection, are implemented to manage a stand. Frequently, these forests are intended to produce income, but many of them are managed to enhance wildlife and aesthetic benefits with no anticipated financial return. Management of these large forests attempts to provide the multiple uses and products that are desired. However, the primary focus should be on long-term forest health. Forests need to be diverse, resilient, and sustainable for future generations.

## Bibliography

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