

# Tree Shelters

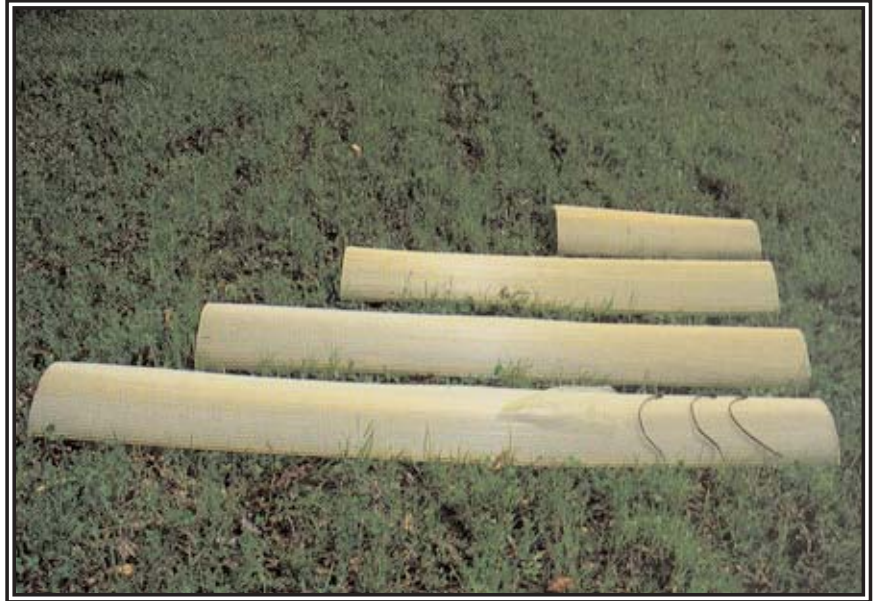
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NATIONAL WILD  
TURKEY FEDERATION

**T**ree shelters are a tool that has become available to landowners and managers recently to enhance seedling growth and survival. Tree shelters are long, tubular devices made of polyethylene or polypropylene, that are placed around seedlings for the first three to five years after planting.



Tree shelters are available in sizes from 8 inches to 6 feet.

PHOTO BY JAV LANGSTON

## ADVANTAGES OF USING TREE SHELTERS:

### 1. Protect seedlings from browsing or girdling

Browsing by white-tailed deer and other large browsing animals can be a serious threat to planted tree and shrub seedlings. Newly planted seedlings that have come out of a nursery, where they are heavily fertilized, are very palatable and browsing can virtually destroy your entire planting. Rabbits and other small rodents can also browse or girdle seedlings.

Tree shelters provide physical protection of the seedlings until they are large enough that these animals cannot harm them.

### 2. Help locate seedlings

Have you ever planted a small seedling, come back to check on it and you could not find it because of the other competing vegetation growing there? Tree shelters solve this problem by allowing you to easily locate the seedlings to check on their growth, or apply herbicides or fertilizer.

### 3. Simplify herbicide applications

Weed competition can be a problem, even when using tree shelters, and the use of herbicides may be necessary. Tree shelters make it easier to apply herbicides because the shelter shields the seedling from the herbicide allowing you to treat quickly and without harming the seedling.

### 4. Improved survival

The added cost of tree shelters can sometimes keep landowners from using them. Increased survival when using shelters, however, means that fewer seedlings need to be purchased and planted or replanted.

Several studies have demonstrated improved survival with the use of tree shelters. In a study conducted by Trenton Marty, Wisconsin Department of Natural Resources, he found 98 percent survival of oak seedlings in shelters compared to 64 percent without shelters, after three growing seasons. A study by the Pennsylvania Bureau of Forestry,

## INSTALLATION:



PHOTO BY JAY LANGSTON

1. Place the heavy duty ties through the pre-punched holes and fasten loosely, forming the shelter into a circle.

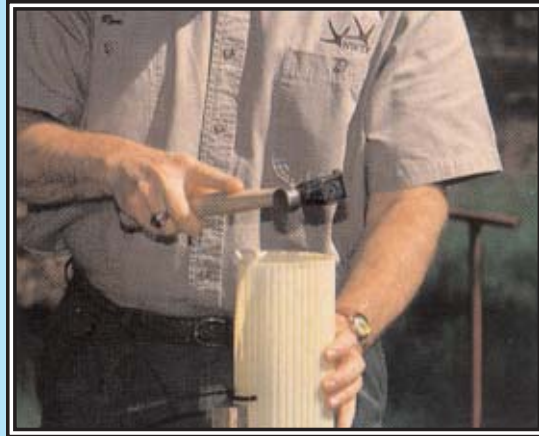


PHOTO BY JAY LANGSTON

4. Tap lightly on top of the shelter to seat the bottom of the shelter 1/2 to 1 inch into the ground.



PHOTO BY JAY LANGSTON

2. Drive a stake into the ground next to the seedling.



PHOTO BY JAY LANGSTON

5. Tighten the ties around the stake.



PHOTO BY JAY LANGSTON

3. Slide the ties over the stake as you place the shelter over the seedling.

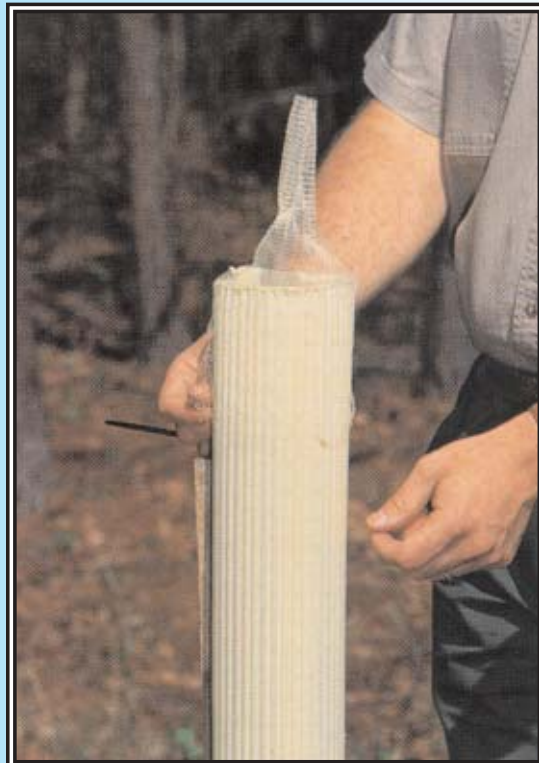


PHOTO BY JAY LANGSTON

6. Place a net over the top of the shelter to prevent bluebirds from nesting inside.

evaluating direct seeding of red oak acorns, resulted in 98 percent survival of seedlings after two growing seasons inside tree shelters.

### 5. Improved growth

Tree shelters create a mini-greenhouse effect around the seedling that enhances growth. The shelter has a moderating effect on temperature extremes, causing earlier growth in the spring, protection from damaging late spring frosts, keeps the seedling cooler on hot days and warmer during cool nights, and extends the growing season in the fall.

It is important to seal off the bottom of the shelter by seating in into the ground. This allows the shelter to trap moisture and carbon dioxide which enhances growth, helping the seedling survive and continue to grow during dry conditions.

These combined effects result in some rather impressive seedling growth. It is not uncommon for a 1-year-old bareroot seedling to grow out of the top of a four foot shelter in one growing season.

In the Pennsylvania Bureau of Forestry study red oak seedlings, after three growing seasons, were significantly taller inside shelters than outside. (See Figure 1)

Trenton Marty's study in Wisconsin similarly found that red oak seedlings inside shelters averaged 51.2 inches tall after three growing seasons and 30.3 inches without shelters.

What this means to a landowner planting seedlings for wildlife is a larger, healthier tree or shrub that will produce food for



*A staghorn sumac seedling, two growing seasons after being planted as a 10 inch seedling.*

PHOTO BY RON BRENNEMAN

wildlife at an earlier age.

### WHAT SIZE TREE SHELTER TO USE:

The size of tree shelter to use is determined by the species of tree or shrub seedling you are planting, the desirability for rapid growth, and what kinds of animals pose the greatest threat. Tree shelters come in various sizes from 8 inches to 72 inches (6 feet) in height. Most hardwood trees and shrubs do well in 48 inch shelters. If you use shelters that are shorter than 48

inches the seedling may only get the full benefits of the shelter for a couple of months, and then it will have grown out of the top. If you have a problem with deer browsing the 60 inch or 72 inch shelter is better and will provide extra protection from browsing.

It is alright to put a tall (i.e. 48") shelter around a 6- or 8-inch seedling. This will provide benefits to the seedling until it grows out of the top, which may not be very long.

The smaller shelters are used

**Figure 1. Pennsylvania Study  
Red Oak Seedling Height (inches)  
After Three Growing Seasons**

	Shelter	No Shelter
Michaux site	54.7	34.6
Tuscarora site	72.8	40.0

primarily for protection from small animals like rabbits and mice and on some low growing shrubs.

### **HOW LONG TO KEEP THE SHELTER AROUND THE SEEDLING:**

Shelters should not be removed until the seedling is at least well out of the top of it. We recommend that you keep the shelter in place for at least one growing season after the seedling has grown out of the top of the shelter. This allows the seedling to develop some stem diameter which will support it once the shelter is removed. On the average you will keep shelters on most seedlings for 3-5 years.

### **CAN SHELTERS BE REUSED?:**

The type of tree shelters available from the National Wild Turkey Federation can be reused after removing them from a

seedling. Shelters will last from 5-7 years before they begin to break down from the ultraviolet light.

### **BLUEBIRD NETTING:**

Each tree shelter comes with a bluebird netting to cover the top of the shelter. Without the netting bluebirds will try to nest inside.

### **NWTF TREE SHELTERS:**

The NWTF offers three types of tree protectors.

Tree Pro Tree Protectors are the only tree protectors on the market made from 100-percent recycled plastic. Polyethylene tree protectors create a mini-greenhouse environment around individual seedlings, improve growth and survival and provide protection from browsing and girdling by mammals. Growth rates for some species are 4-5 times greater than those grown without protectors. It is best to purchase protectors that

are at least two feet taller than the seedlings. The Tree Pro design allows protectors to be removed from seedlings or placed on existing seedlings. The protectors provide protection for 4-5 years before beginning to break down naturally. Complete instructions, bluebird nests and zipties are included. Some assembly is required.

The Miracle Tube Tree Protectors offer the same benefits as the Tree Pro Tree Protectors, but are shipped as tubes for quick and easy installation with no assembly required.

The Vented Miracle Tube Tree Protectors are the same as the Miracle Tube Tree Protectors, but are permanently vented. This eliminates dieback due to dormancy delay, excess moisture or dry heat. Use with walnut, oak and chestnut trees.

For ordering information, you can download a Project HELP catalog by clicking [here](#) or call 1-800-THE-NWTF.