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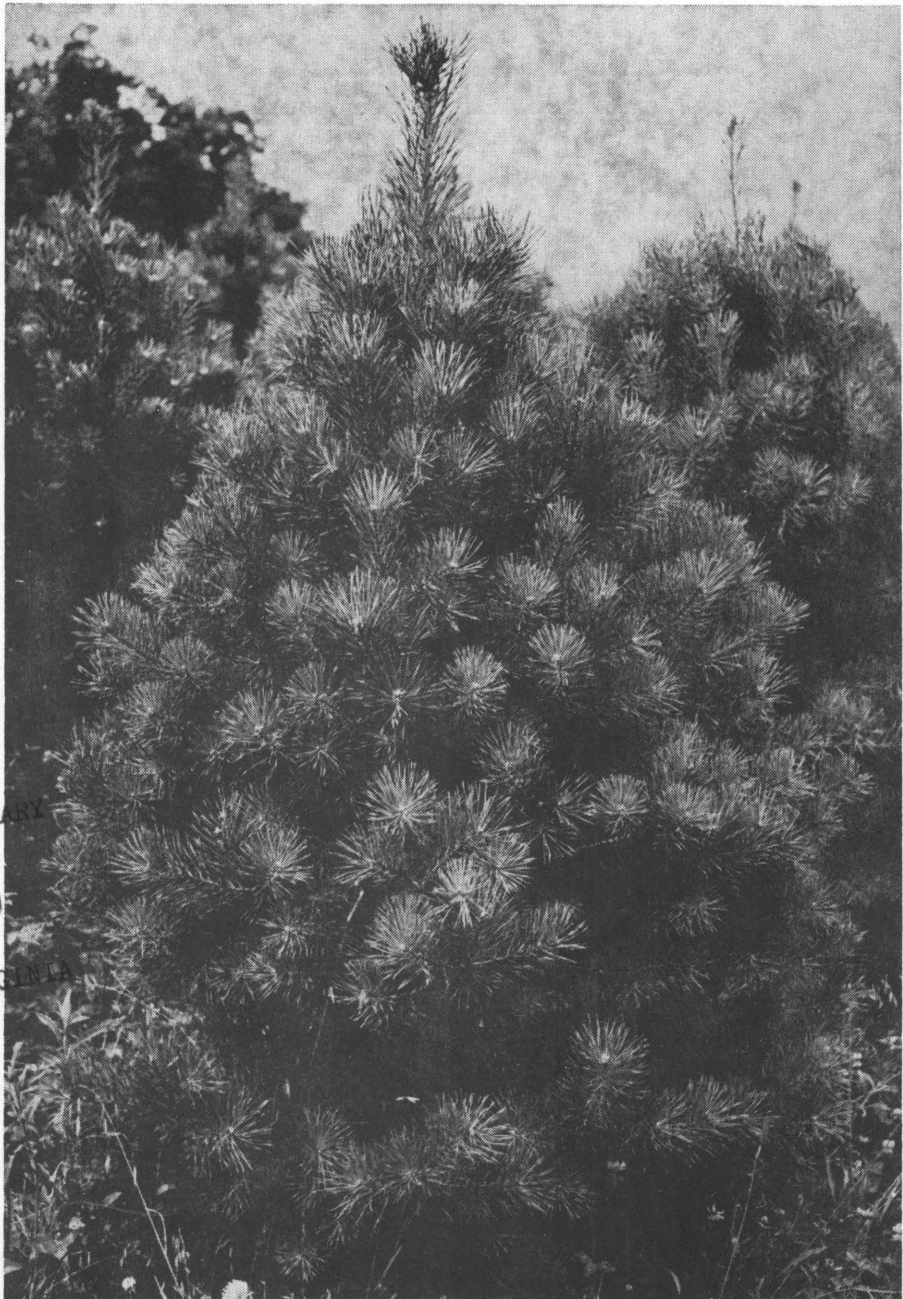
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Extension Division  
Virginia Polytechnic Institute  
and State University

4-H Project and Record Book

# FOREST ESTABLISHMENT III

Christmas Tree  
Planting



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BLACKSBURG, VIRGINIA

Name \_\_\_\_\_ County \_\_\_\_\_

Club \_\_\_\_\_ Project Year \_\_\_\_\_

Record Book 61

Reprint April 1980

## IMPORTANCE OF FOREST ESTABLISHMENT PROJECTS

Virginia is a timber producing state and because of this we have a large number of wood product industries. These industries use large amounts of wood from our forests each year. As our population increases we will need more and more wood for the many products manufactured from it. With more timber available, more wood-using industries will move into Virginia.

Unfortunately, most of our woodlands are not producing the right kind of trees, the best quality of timber, or as much per acre as they could. The result is that timberland owners are not getting nearly as much income from their forest land as they do from their crops and pastures.

In order to improve income from forest products, to bring more industries into our state, and to make jobs for our people we must improve our forests and plant our idle land to trees. You can help do this and benefit by doing it, because many of you will be the landowners of tomorrow.

Each forest establishment project will teach you how to start a forest. If you plant on your own land, you may get an income from the trees while you are still young. A Christmas tree project could pay your way through college.

## DESCRIPTION OF FOREST ESTABLISHMENT PROJECT

Forest Establishment I - "Open Land or Spot Planting," Extension Record Book #25, revised. In this project you will learn how to order trees, care for them until they are planted, and how to plant them. You will take this project if you are planting open land. If you are spot planting on forest land from which you have removed inferior trees or brush, this project may be taken with Forest Management II - "Timber Stand Improvement," Extension Record Book #58.

Forest Establishment III - "Christmas Tree Planting," Record Book #61. This project will help you choose the site, select the correct species, and properly plant the seedlings to begin your 4-H Christmas tree plantation. You need not own the land on which you plant, but permission must be granted to grow and care for the trees until harvest. This project may be taken with Forest Management I - "Plantation Care," Record Book.

## FOREST ESTABLISHMENT III

### "Christmas Tree Planting"

by

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#### Objective of Project

This project sets you up in a small business that will start returning income or money when you are in high school or possibly after graduation. At that time it may provide the extra cash for setting up a bigger business or meeting your higher educational expenses. The task of growing Christmas trees needs more time and work than is usually realized.

If seedlings are poorly planted many will die; and if not cared for, less than 10% will be worth cutting as Christmas trees. The project's objective is to outline the basic steps you should follow in establishing a Christmas tree plantation and a small business.

The project may be taken by any 4-H club boy or girl who obtains permission to make plantings on his parents' or other nearby land. Also, it may be conducted as a 4-H club fund-raising project. Along with this project you may take Forest Management I - "Plantation Care", which could begin the spring the tree seedlings are planted.

#### Suggested Procedure

1. Review the rest of this record book so you might better plan your project.
2. With the help of your parents and/or 4-H project leaders, decide where to plant your seedlings. Carry out any site preparation needed to prepare or protect the area selected.
3. Decide what species are suited for your area, then plan when and where to order them.
4. Determine the number of seedlings to plant this year. Record your planting site by drawing a simple map.
5. Plant your trees as soon as possible after receiving them.
6. Maintain your inspection and planting records.
7. Compute your planting costs.

## Introduction to Growing Christmas Trees

To make this project a success, the club member must know how to start and to care for the trees. There is a high demand for quality Christmas trees, but little, if any, sale for poor ones.

### What is a Quality Christmas Tree?

The tree should have a single, straight main stem. It should be cone-shaped with a rather dense crown. The needles should have a pleasing, dark green color and these should remain on the tree during the Christmas season.

### Site Selection and Preparation

Choose an open area for planting from 100 or 200 trees where additional trees may be planted in following years. The soil should be average, not too rich or too poor. Care should be taken in choosing the site so you can easily remove the harvested trees in 7 to 8 years. You may select an area large enough to plant 1,000 to 2,000 trees over a period of 7 to 8 years so that 100 or more trees could be harvested and then replanted each year after the first block is cut and sold.

Weeds and grasses rob seedlings of water, soil nutrients, and space. If the planting site has heavy plant growth, mow the area before planting. For heavy sod, prepare the site by disking the area or by removing a foot to a foot and a half square of sod for each seedling. Broadleafed vines, shrubs, or tree sprouts may also be controlled by chemicals.

### Selection of Species To Plant

The proper species depends on local climate and soil conditions as well as the kinds of trees that sell best. Seedlings most often planted in Virginia are:

1. White pine is a fast growing tree that may be planted throughout the state. It has good color and holds needles well. This species grows best on moist, well drained, sandy loams which slope to the northeast, east, or southeast. Six to 8 years are required to produce a quality tree. One hundred to 500 seedlings may be ordered through your Extension Agent.
2. Scotch pine, a European species, has become the leading American Christmas tree. It is fast growing and hardy on most sites. Special varieties suitable for Christmas trees may be ordered through commercial nurseries. From 6 to 8 years growth after planting produces a quality Christmas tree.
3. Fraser fir grows naturally in Virginia over the 4,000 foot elevation. At lower elevations the planting sites should be carefully selected.

It is only recommended for the mountain counties at higher elevations on north to northeast slopes in areas of high rainfall. The soil should be acid, hold water fairly well, and have decayed plant matter mixed in. The species has excellent color, needle holding ability, and a pleasing smell. On good sites Fraiser fir should reach a height of 7 feet in 8 to 10 years.

Other native and introduced pines, spruces, and cedars are sometimes used locally for Christmas trees but are not recommended for plantation growth because they may have poor color, shape, needle holding ability, or present a fire hazard.

#### Care of Trees After Planting

Weeds and grass must be controlled. Usually 2 or 3 mowings per year will be adequate. For your small plantation a rotary lawn mower on the highest setting may be used. Use extreme care when mowing in high grass for hidden objects and uneven ground. The trees must be protected from grazing animals and fire. Careful watch must be kept for attacks by insects and disease. Control methods for both insects and diseases should be started when their presence is first noticed. Insects become active in March for eastern Virginia and somewhat later in the western part of the state.

#### Pruning and Shearing

Nearly all trees need pruning if they are to grow into quality Christmas trees. Pruning controls the amount of growth of the central stem and the side branches along with shaping of the tree. Pruning promotes dense foilage.

Start pruning as soon as needed. Often some shaping is needed during the first year. It should be continued until the trees are harvested.

The time of year to prune differs for some species. Pruning or shearing of pines should be done in late spring and early summer when the new growth is still soft but after it has slowed down or stopped. Spruce or fir can be pruned any time of the year, but best results will be obtained if the work is done while the trees are dormant. This will be from about October to March.

#### References

1. Growing Christmas Trees in Virginia, Extension Bulletin 296
2. Shaping Christmas Trees for Quality -- Pines, Extension Leaflet 286
3. Insecticide Recommendations -- Insects of Growing Christmas Trees, CS 124
4. Herbicide Recommendations -- Weed Control in Christmas Tree Planting, CS 52
5. Forestry in Virginia, Extension Publication 50
6. Forests from Idle Land -- A Planting Guide, VDF 73
7. Successful Tree Planting, VDF 70

Note: All of these publications may be secured through your Extension Agent.

Activities

Activity No. 1: Carefully read through this project so you will learn how to make the best better by planting and caring for your Christmas trees.

Activity No. 2: The following forms should be filled out to record your site preparation activities if they were needed.

1. General site description, present use, type soil, etc., and why selected.

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2. Date and method of mowing or other means to remove cover that would hinder planting or compete with new seedlings.

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3. Date and method of removing competing vegetation in first year:

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4. Measures taken to control livestock; if no control tell why:

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Activity No. 3: Describe and tell why you selected the species you are planting.

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Activity No. 4: How many seedlings? Your Map!

Draw a simple map showing the location of your planting in relation to your home, a crossroad, or some other local landmark. Keep north at the top of the page.

The minimum number of trees to plant for this project is 100. The maximum number you may get free through your Extension Agent from the Virginia Division of Forestry is 500. Order them through your 4-H club leader.

MAP OF MY PLANTING LOCATION



Activity No. 5: Plant your trees as soon as possible after you have received them.

Tree seedlings should be planted soon after they are received. Directions for planting are packed with each bundle of seedlings from the Virginia Division of Forestry. You should study the leaflet, "Successful Tree Planting," before it is time to plant your trees so that you will understand planting methods. About the time the seedlings will be received, your 4-H leader could hold a demonstration on planting procedures.

Your trees will not be shipped until it is time for them to be planted. If, however, the ground should be frozen or very wet when your seedlings arrive, they may be kept in a cool place where they will not freeze as long as 2 weeks without watering. Seedlings taken out of the bundle must be packed in wet moss or wrapped in wet burlap to keep mud-dipped roots from drying while planting. No water should be added to seedlings carried in a bucket while planting, as water washes away the nursery's protective mud-cover.

Seedlings from sources other than the Virginia Division of Forestry may not be mud-dipped for their protection. Seedlings that have not been mud-dipped should be watered while stored by tipping the bundle and pouring water in the end. When keeping these seedlings over two weeks, open the bundle and place smaller bundles of 20 or 25 along one side of a trench deep enough for the roots to be completely covered. Water well and cover the roots with soil, then water again. The trench should be located in a shaded spot that is protected from drying winds and extreme cold. These undipped seedlings should be carried in a bucket of water or mud while planting since exposed seedlings roots dry and die in a matter of minutes. For your plantation the trees should be set out on a 5' x 5' spacing which allows 1,740 to be planted per acre. A 6' x 6' spacing may be better for mowing with a tractor-mounted front-end cutter bar or rotary mower.

Plantations should be protected against fire, and grazing, if livestock are present. White pine plantations must be protected against blister rust. If you are planting white pine, read U.S.D.A. Leaflet 265, "Control of White Pine Blister Rust."

Activity No. 6: Maintain your planting record.

### Forest Planting Record

#### Area Description

Size of planting area - acres or fraction of acre \_\_\_\_\_

Soil - light (sandy), medium, heavy (clay) \_\_\_\_\_

Topography - level, rolling, steep \_\_\_\_\_

Previous land use - crop, pasture, forest, etc. \_\_\_\_\_



Planting Record

Date trees received \_\_\_\_\_ Number received \_\_\_\_\_

Date planted \_\_\_\_\_ Date of first rain after planting \_\_\_\_\_

Method used (mattock, planting bar, shovel) \_\_\_\_\_

Spacing in feet \_\_\_\_\_

Soil conditions when trees were planted \_\_\_\_\_  
(wet, moist, dry)

What was done to protect plantation? \_\_\_\_\_

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Inspection Record

Survival of quality trees is of prime importance. If you only plant 100 or 200 trees in the total plantation, a total count of all seedlings can be made to determine the survival percent. Determining the yearly survival until harvest for larger plantings is a relatively simple matter if plans are included when trees are planted. A 10% sample may be figured as follows: Select 10 trees in a row for each 100 trees planted. The percent of survival may be determined by counting the living trees and multiplying by 100 for this project and the Plantation Care project. Mark the 10 selected trees by placing a locust, osage orange, or a preservative-treated stake near tree #1 and tree #10 in the row. These durable stakes will clearly mark your check spots for counting each year.

Percent of live trees June 1 \_\_\_\_\_

Percent of live trees Sept. 1 \_\_\_\_\_

Average height in feet on September 1, \_\_\_\_\_

If survival was less than 90%, what do you think caused the trees to die?

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Activity No. 7: Compute the planting cost.

Fill in the table to determine your plantation cost. If you paid for your seedlings, enter the cost in the proper space. Even if they were free their calculated cost should be entered in your records. Your Extension Agent or club leader can give you the present "Cost of trees" to enter in that space. Figure your time and anyone's time that helped you establish your 4-H Christmas tree planting at \$1.50/hr. The planting cost should also be entered in your Plantation Care Record Book.

Number of Trees planted	_____
Hours required to plant trees	_____
Expenses	
Cost of trees	_____
Cost of labor	_____
Total cost of planting	_____
Size of area planted	_____
Cost of planting per acre	_____
Cost of planting each tree	_____

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Additional Personal Development

You will have increased your knowledge and skill about Christmas trees in this 4-H project. You can and will learn even more by seeking opportunities to give demonstrations regarding some phase of this 4-H project. You might start your performances in front of your parents and then your fellow 4-H members in Club, County district and state programs. Illustrated talks also are quite popular among 4-H'ers conducting this project. Many demonstrations or illustrated talks are presented on T.V. and in front of large groups. Make a personal plan. Your 4-H project leader will be interested in helping you.

Conservation Pledge

I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country--its soil and minerals, its forests, waters, and wildlife.

