

# 4- H FORESTRY MANUAL



*Circular 522*



# 4-H Forestry Manual

By

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## ON THE COVER:

These 4-H members and their leader are planting trees in their school yard as part of their 4-H forestry project.

## Outline of 4-H Forestry Work

### OBJECTS

The objectives of 4-H forestry work are:

To develop understanding of the need and value of conserving our forests, planted or native.

To study the value of forests to the community welfare.

To appreciate the importance of the farm woodland as a source of income and as a source of raw material for the industries of the state.

To acquire facts and understanding of good forestry practices and skill in handling timber land.

To learn how to manage a woodland for regular harvest of forest crops.

To understand the value of keeping Oklahoma green by preventing woods fires.

To develop leadership in forestry by demonstrating, to others, better ways in growing, protecting and using farm timber.

To promote the conservation and use of otherwise idle or waste land through a program of tree planting.

To teach the relationship of farm forestry to a balanced farm program.

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### ACKNOWLEDGEMENT

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## GOALS

The goals of 4-H forestry work are the same as for farm forestry in general. They are:

A complete program of land conservation and use.

An adequate and regular supply of wood products for farm use and sale.

An increased use for forest tree plantings to assist other farm programs and better family living.

A satisfactory fitting of farm forestry into balanced agriculture.

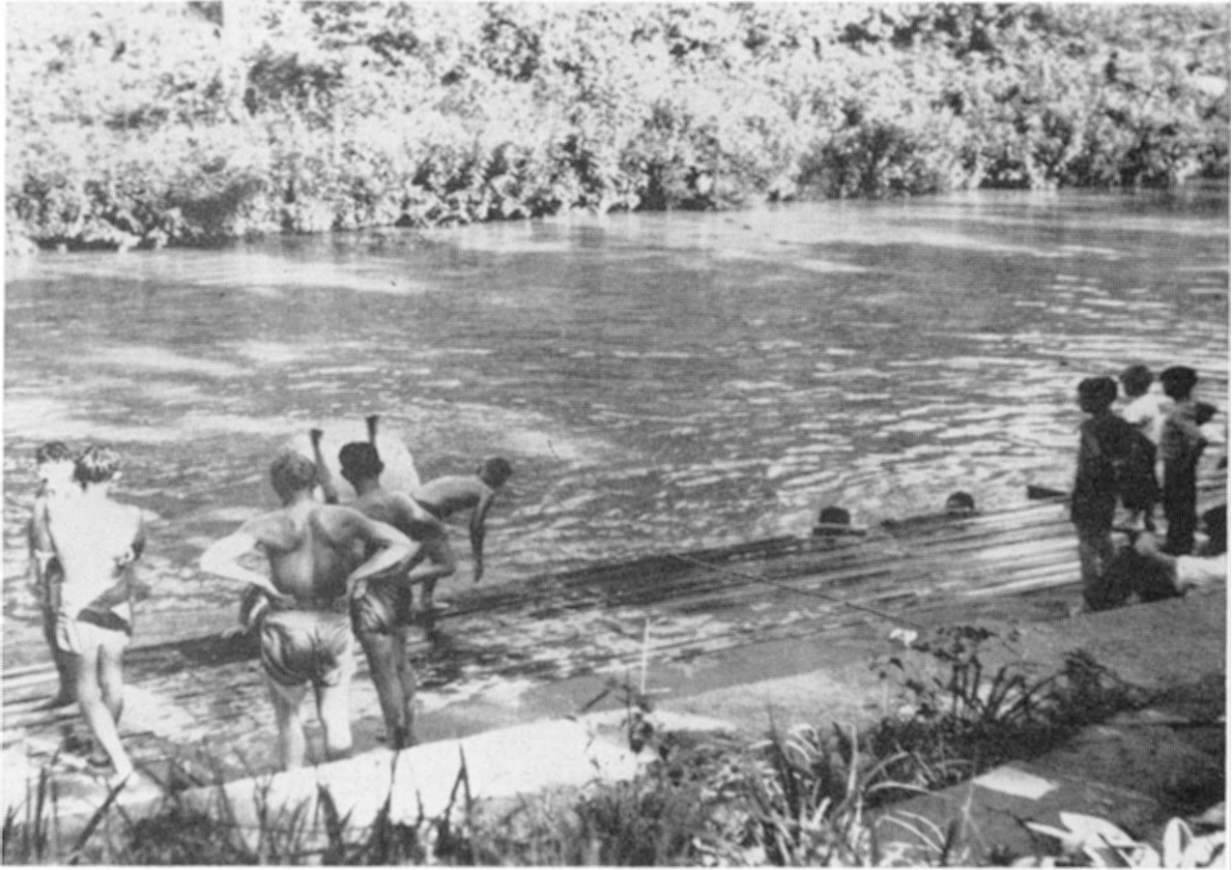
## PROJECT REQUIREMENTS AND SCORING

The requirements on which projects are scored are:

1. Make a leaf or seed collection of 10 important trees and shrubs and identify them. Exhibit the collection at fairs, schools, store windows or camp.
2. Keep a record book showing:
  - a. Your time and time of other members of the family spent on the project. The club members must do at least one-half of the work.
  - b. Tractor or horse hours.
  - c. Number and dates of cultivations and hoeings.
  - d. Record of other activities as fencing, insect and rodent control and fire control, harvesting, sale or value of the product.
  - e. Photographs.
  - f. Name and address of visitors.
  - g. List of the common or scientific names of species in your collection, and a description of their uses.



The small log represents what we are accomplishing now. The big one represents what we could accomplish by putting to work the present knowledge of scientific forestry. What you learn in your 4-H forestry project can help make this big difference in Oklahoma's timber crop in future years.



Forests that are properly cared for, and are not burned, provide a cover for the ground. This cover keeps soil from washing down into streams, causing them to be muddy. Clear streams make good "swimmin' holes."

3. Write a story of from 300 to 500 words covering the details of your project and its value as a farm practice.
4. Give a timely talk at one of your regular club meetings, or write one. Keep this as a part of your record.
5. Attend your county 4-H camp or a forestry or wildlife conservation camp or tour if such is available to you. Make these activities a part of your record.
6. Actual progress with the project on the ground. Fire prevention activities will be credited here, even though the fire work was done elsewhere.

**Scoring:**

Project requirements are scored as follows:

	Percent
1. Collection -----	10
2. Record book -----	30

3. Written story of project -----	10
4. Timely topic -----	10
5. Camp or tour -----	10*
6. Progress with project -----	30

Perfect Score -----100

\* If no camp or tour is available to you, the 10% designated here will be divided 2% to each of the other five items.

### AWARDS

The following awards are available for the year 1956-57:

County: Awards 1 medal.

State: Certificate of honor and pen and pencil set.

**4-H members in forestry projects can learn ways and means of preventing fires, and the use of fire-fighting tools. They can enlist the aid of adults in organizing volunteer fire-fighting clubs in their neighborhood.**



National: Twelve all-expense trips to the National 4-H Club Congress will be awarded one to each of the four Extension sections and eight at large.

To be eligible for awards, members must finish and submit their record books to the County Extension Agent. After selection of the county winner, the Agent must mail to the State Club Agent:

- (1) A complete report of the county winner on report form approved by the State Club Leader, filled out in ink and signed by the agent.
- (2) A report giving the total number of club members enrolled in a 4-H forestry project or activity. (Four or more members must complete the project in a county for its winner to be considered for state awards.)

These reports must reach the State Club Agent well in advance of November 1, to permit judging before that date, which is the deadline for submission of state winners for the national and regional contest.

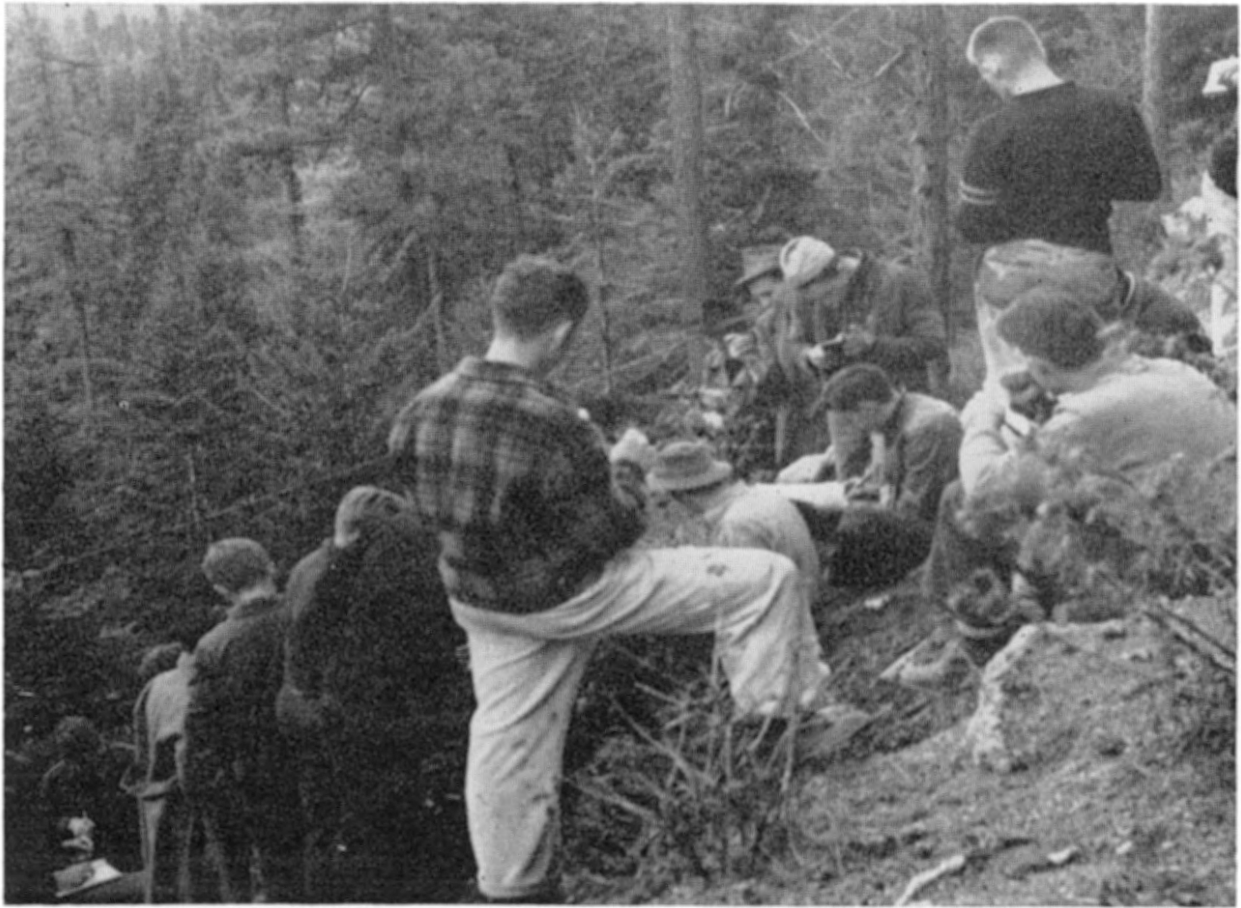
For Oklahoma to be eligible to compete for national and sectional awards, reports must be received from at least 12 counties. Therefore reports are desired from all counties having enrollment in the 4-H forestry project.

## **Types of Forestry Projects FOR INDIVIDUALS**

### **1. A New Postlot**

Beginning with the ground preparation before planting, prepare an area for planting a postlot and follow on with it through the ordering of the trees, planting, cultivation, hoeing, and pruning. The postlot must be  $\frac{1}{4}$  acre or larger, or 200 trees, and it must be protected from livestock, fire, rodents, and harmful insects. Clean cultivation is the best fire protection possible. A survival of 60% of the trees planted must be secured to be considered successful. If this is not secured, the failed spots can be replanted the following year and included in the second-year project.

There are five species used commonly for postlots in the state. They are catalpa, black locust, osage orange, mulberry and red cedar. Osage orange is also known as bois d'arc and hedge. The type of soil usually determines which species should be planted. For the proper types of soil, spacing, and species to plant, see reference bulletins.



**Much can be learned about our forests and wildlife through group and individual study "on the spot."**

## **2. An Established Postlot**

This project requires taking over at least 1/4 acre of an established postlot (or 150 trees) that is one or more years old. It should be protected from livestock, fire, rodents, and harmful insects. The work necessary in connection with it will depend on the age and condition of it. Such a plantation will more than likely need pruning, or it may be a postlot ready for harvest. It may be an over-aged postlot, in which case it may need special care. It may be one that was planted too thick, in which case it will have to be thinned. The County Agent will give or secure individual help on each project.

## **3. New Farmstead Windbreak or Field Shelterbelt**

Beginning with the ground preparation before planting, prepare an area for planting either a field shelterbelt or a farmstead windbreak and follow on with it through the marking out of the rows, order-

ing the trees, planting and cultivation. The area will depend on local conditions but it should be long enough to give proper protection to the farmstead or field for which it is being established. A newly planted windbreak must include 100 trees or more. It must be protected from livestock, fire, rodents, and harmful insects. Clean cultivation is the best fire protection possible. A survival of 60% of the trees planted must be secured to be considered successful. A windbreak or shelterbelt to give the best protection, should not have any trees missing; therefore, the failed spots should be replanted the following year and included with the second-year project. The number of rows will depend on local conditions, but five rows is ideal. There are several species used in Oklahoma for this type of planting. The soil requirements for these species should be studied and the right species chosen for the type of soil. For the proper spacing and species see reference bulletins.

#### **4. An Established Farmstead Windbreak or Field Shelterbelt**

This project can be carried out by taking over the care and management of an established windbreak or shelterbelt that is one or more years old. In connection with the project, it should be protected from livestock, fire and rodents. If it is a young planting, it should be kept cultivated and any dead trees should be replaced. If it is an old planting, it may need thinning if trees are too close together. There may be other work necessary. The County Agent will give or get help on general management.

#### **5. A Native Woodland**

In the eastern part of the state there are many acres of farm woodlots of native timber. This project can be carried out by taking over at least 1 acre of such timber. It may be either pine or broad-leaved timber. The proper care of such an area will include a lot of general forestry. The forestry practices to be considered are: Protection against fire and livestock, thinning, pruning, planting, cutting of culls, harvesting of mature products, cruising, developing long time plan, and keeping records.

#### **6. A Water Erosion Control Planting**

This project requires at least one acre. It can be a planting of one species or several along a river, stream or creek bank that is washing away or liable to slough off. Depending on the type of soil and the steepness of the slope, it may require the planting of cottonwood or willow cuttings along the toe of the bank, and the planting of





**Forests provide excellent camping sites for county 4-H club groups.**

black locust, catalpa, or osage orange further back on top of the bank. In such a case, it could be an erosion control and postlot combination planting. Another site for this project could be a planting on an erosive slope to control the erosion. A planting on a slope that is to be cultivated should be on the contour. The use of timber as an erosion control project may be carried on in connection with a soil and water conservation 4-H project or as a forestry project or both. But county and state awards cannot be paid on both projects on one area of land. Such plantings should be protected from livestock, fire and rodents.

## **7. Christmas Tree Plantation**

This project requires the planting of at least 1/4 acre of Christmas trees, followed by proper care of them. Proper care includes cultivation and protection from livestock, harmful insects, and fire. The best species for this type of planting is red cedar. It has two harmful insects which are common in this state. They are the bagworm and the red spider. Cedar will do quite well on a wide variety of soils. It pays to cultivate well and often. Since the trees will be harvested before they reach a large size, they can be planted at a close spacing such as 4 ft. by 4 ft. or wider. A survival of 60% of the planted trees must be

secured to be considered a successful planting. This project can be handled by one member or it may be handled by several members or entire clubs as a cooperative project. Members taking this project must be willing to put in effort to sell the trees, or the project will be a failure.

## **8. Wildlife Planting**

A combination postlot and wildlife planting or shelterbelt and wildlife planting may qualify as a forestry project. The postlot-wildlife combination project can be accomplished by the planting of at least 1/4 acre postlot, with wildlife plantings of the available species planted in a border about the edge; or by taking over at least 1/4 acre of an established postlot and planting the border to wildlife species.

The shelterbelt-wildlife combination can be accomplished in much the same manner; that is, by planting a border of wildlife species along an established windbreak, or by planting a shelterbelt and including a border of wildlife species. A combination project may be carried, but county and state awards will be made on only one project for the same area. An area that has only wildlife value will not qualify as a forestry enterprise, but combination use makes it acceptable as a forestry project.

### **FOR GROUPS**

4-H Clubs, or a group of members of any one club, may take a forestry project and handle it as a community project. All community projects will be considered on their individual merits.

Some suggestions are:

School ground windbreak: at least 50 trees per member.

Post plantation: at least 1/4 acre or 100 trees per member.

Christmas tree production: at least 1/8 of an acre or 100 trees per member.

Native woodland management: at least 1/2 acre per member.

4-H Forestry marketing: at least \$1.00 of value per member and good forestry practices must result from the project. Some suggestions are: harvest Christmas trees or decorative material; harvest fence posts, fuel wood, pulp wood or other timber; collect tree seed or wildings.

Others: Many other group projects are possible and will be approved on their own merits. Don't be afraid to try something new.

### **How to Make a Leaf Collection**

A leaf collection is made by gathering the leaves, drying them in a leaf press, and mounting them on a display board.

## GATHERING THE LEAVES

When collecting leaves, carry a large-sized notebook or magazine with you. Place leaves flat between the pages of the magazine for carrying home.

Only healthy leaves should be used. With compound leaves, be sure to take the entire leaf instead of just a leaflet. Leaves on the same tree vary in size considerably. Use a smaller leaf that will show all the characteristics.

## DRYING AND PRESSING

After leaves are gathered, place them in a drying press at once. With each leaf, place a card giving its identification. Leaves should be perfectly dry before mounting on the board. They should still have their natural color and shape.

The materials needed to make a press for drying the leaves are:

- (1) Several pieces of cardboard without splits or breaks;
- (2) Newspaper to be used as blotters;
- (3) A smooth plank; and
- (4) A weight of some kind, approximately 25 pounds.

The cardboard, papers and plank should all be about 9 inches by 12 inches. Some compound leaves may take larger materials.

To press the leaves:

- (1) Lay a sheet of cardboard on a smooth, solid place;
- (2) Lay several sheets of newspaper on the cardboard;
- (3) Lay the specimen out flat on the paper, along with the identification card;
- (4) Lay several sheets of newspaper over the specimen;
- (5) Lay another cardboard on the paper;
- (6) Continue this procedure until all specimens are covered;
- (7) Put the plank on top; and
- (8) Lay weight on the plank.

Change newspapers every day until leaves are completely dry.

## MOUNTING

Mount the leaves on stiff, white cardboard. For group projects, the board should be 18 by 30 inches. Smaller boards will be accepted for individual projects, but 18 by 24 inches is suggested.

Mount the dry leaves neatly on the display board. Space them evenly, with the bottoms of the leaf stems in line. The common name of each species should be printed neatly directly underneath, with the scientific name directly under the common name. The leaves can be attached to the cardboard at several points with scotch tape.

The name, "Useful Forest Trees of Oklahoma," should be printed at the top of the sheet, and also the name and address of the exhibitor as well as the date the exhibit was completed and the year of project: that is, first year.

### Reference Publications

You can get Oklahoma A. & M. Extension Circulars and U.S.D.A. publications from your county agent, or by writing: Agriculture Mailing Room,, Oklahoma A. & M. College, Stillwater, Okla. The Division of Forestry publications can be obtained from their office in the Capitol Building, Oklahoma City.

Reference	Use for Projects Numbered:
<b>EXTENSION SERVICE</b>	
Cir. 398 - Windbreaks in Relation to Agriculture .....	3-4
Cir. 413 - 4-H and Adult Soil and Water Conservation .....	6
Cir. 450 - Fence Post Production in Oklahoma .....	1-2
Wildlife Conservation - 4-H Project Outline .....	8
<b>DIVISION OF FORESTRY</b>	
No. 1 - Forest Trees of Oklahoma	Leaf Collection
No. 6 - Planting and Care of Forest Trees .....	1-2-3-4-7
<b>U. S. D. A.</b>	
F. B. No. 1177 - Care and Improvement of Farm Woods .....	5
M. P. No. 600 - Water and Our Forests .....	6
Leaflet No. 153 - Farm Timber .....	5



Forests that are well protected and properly managed make tall, straight trees which are valuable for lumber, posts, and other material.