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## Let's Get Acquainted with Trees : Extension Circular 17-01-2

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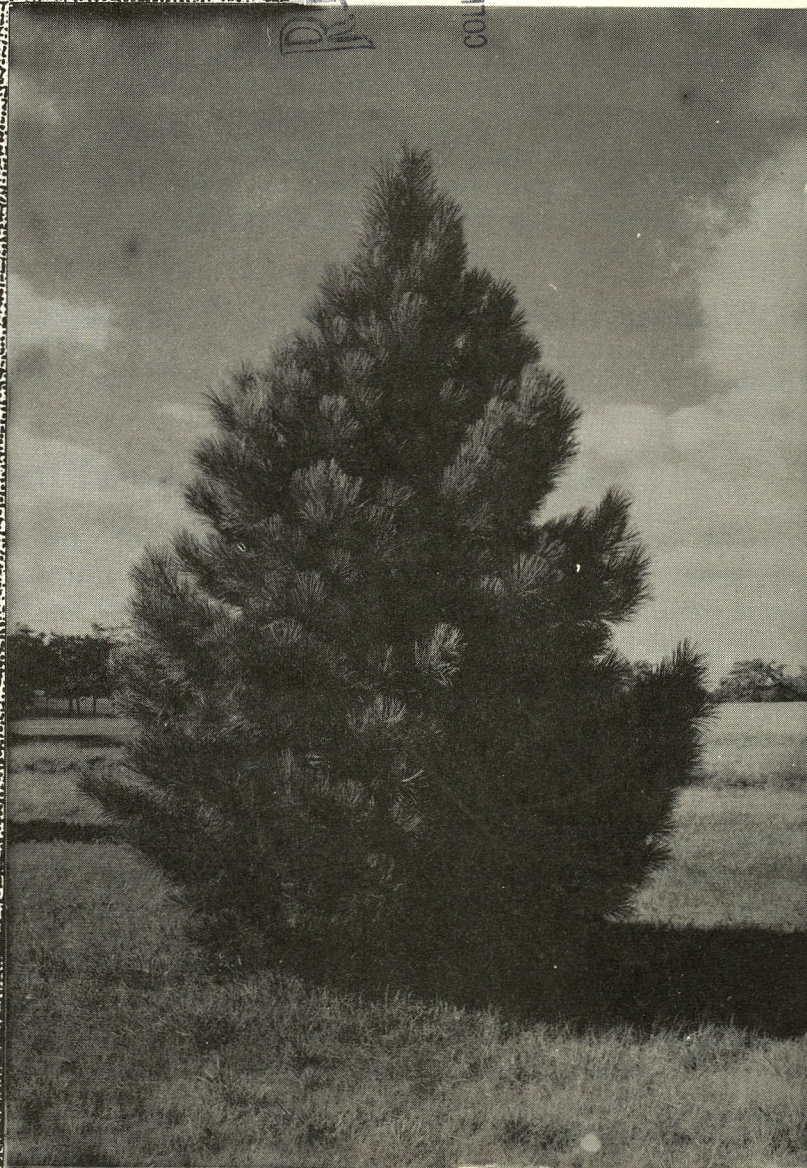
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1956

E.C. 17-01-2

*Let's Get Acquainted  
With Trees*



EXTENSION SERVICE  
UNIVERSITY OF NEBRASKA COLLEGE OF AGRICULTURE  
AND U.S. DEPARTMENT OF AGRICULTURE  
COOPERATING  
W. V. LAMBERT, DIRECTOR

# Let's Get Acquainted With Trees

By Karl Loerch and Don K. Wiles

This manual is for boys, girls and leaders interested in learning more about trees and shrubs. It is a guide for the phase of the Nebraska 4-H Forestry project known as "Let's Get Acquainted With Trees." Those taking part in the project will have an opportunity to learn how a tree grows, how to identify trees and shrubs, and the benefits that can be derived from them.

The minimum requirement of this project is that each club member learn to identify at least ten trees or shrubs. As proof of what he has learned each member must do one of the following and complete his project record book:

1. Collect and mount leaves, twigs, seeds or fruit of 10 trees or shrubs.
2. Collect and mount wood specimens of 10 trees or shrubs.

A word of caution -- this bulletin does not include all your needed information. It is a tool to be used to make intelligent and efficient use of your time and effort. It is designed to serve as a guide on how to carry out the project and where to receive help. The rest is up to you.

This project may be taken along with the other two forestry projects: "Let's Plant and Raise Trees" and "Let's Protect Our Trees." It may be repeated as many times as the club member desires, but he must be able to identify ten trees or shrubs in addition to those already mounted.

## Identifying Trees And Shrubs

The identification of trees calls for not only knowing one leaf or one fruit from another, but it consists of knowing something about the trees themselves. All trees are different in some respects and very much alike in others. For example, all trees have leaves and roots. The leaves make food; and the roots support the tree and collect food from the soil. Yet the kinds of leaves and roots of trees are different. One tree may have leaves that stay green all year. These trees are called conifers or evergreens. Another may have leaves that change color in the fall and then drop off the branches, leaving the tree bare in the winter. These trees are called deciduous or broadleaf trees.

Within these two broad groups of trees there exists many differences. These differences may be in the leaves, the fruit, the twigs, the bark, or the soil and moisture requirements. To be able to identify trees, these differences must be kept in mind.

There are many places where one can find information about the different trees. You may have a tree identification book. Your library has some booklets and books about trees; and your county extension service can provide circulars about trees. Some of the circulars that may be obtained through the County Extension Service office are:

E. C. 1703 "Tree Identification Manual"

E. C. 1727 "Twelve Broadleaf Trees for Nebraska"

Your county agent or home agent may also be able to provide you with the Nebraska Conservation Bulletin, Number 32, "Handbook of Nebraska Trees." If he does not have a copy of the bulletin, it may be obtained by writing to the Conservation and Survey Division, University of Nebraska, Lincoln, Nebraska

The "tree road map" on the back of this manual will give some help in understanding how trees are classified and may help you identify trees.

## Collecting And Mounting Leaves, Twigs, Seeds Or Fruit

Building a Plant Press: Before you attempt to collect any leaves and twigs for mounting, build a plant press. A plant press is the apparatus used to dry plant specimens under pressure. Collecting and mounting leaves and twigs will be more enjoyable, if you have a plant press for properly drying them. Making a plant press is an easy job. Just follow the directions carefully and complete each step to the best of your ability.

Take a discarded apple crate or similar fruit box and measure and saw out:

1. Four pieces of wood 18 inches long, 1 1/2 inches wide and about 3/8 inch thick.
2. Sixteen pieces of wood 12 inches long, 1 inch wide and 1/4 inch thick.

Also, have these materials and tools on hand:

1. Thirty-two small nails or small 1/2 inch screws.
2. Hammer, screw driver and a square.

Make two frames out of the slats. Use one-half of the material for each frame. They should appear as in the drawing on "How to Make a Plant Press."

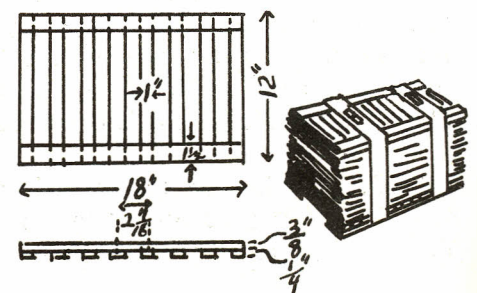
To make the press ready for use, get the following:

1. Two buckle straps or pieces of rope, each about 4 feet long.
2. At least 20 newspaper sheets for holding plant specimens.
3. Two pieces of cardboard 12 inches by 18 inches in size.

Collecting and Pressing the Leaves and Twigs: The only equipment needed is a small knife, a small pad of note paper, and a large-paged magazine. While in the field, carry the specimens between the pages of the magazine. As the sample is collected, add a sheet of note paper bearing the information that you want to remember; such as the place and date of collection and notes about the surroundings.

Select only good, average samples. Small seedlings or new growth are not typical of the particular tree.

Place the samples in the plant press within a few hours after they are collected. Put the leaf or twig between several sheets of newspaper -- being sure to arrange the leaves and twigs in exactly the way they are to appear on the display sheet. Place a piece of cardboard between each sample that is being pressed. Keep this up until the plant press is packed. Wrap the press tightly with straps or pieces of rope.

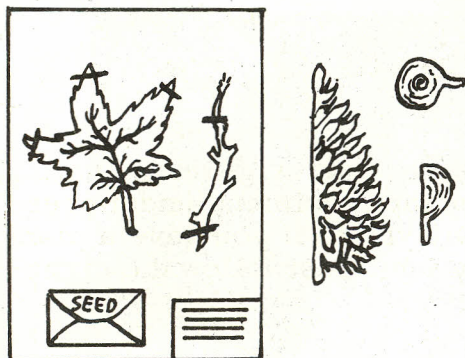


Plant press measurements

Usually, 10 days in the press is necessary to dry specimens properly. On about the fourth day replace the newspapers with dry ones. If you do not, the samples are apt to become discolored or rotted by mold.

Mounting the Leaves and Twigs in a Display Book: When the sample is thoroughly dried, mount on the pages of the display book. The paper used for mounting should be stiff enough not to buckle when handled and should be at least 12 inches by 16 inches in size. (Do not use sheets larger than 16 inches by 20 inches.) Mount the leaves, twigs, seeds or fruit of a tree on a sheet separate from the others, as shown in the picture on "How to Mount Specimens."

Use transparent tape or gummed tape for fastening leaves and twigs to the paper. Large cones or pulpy fruits can be cut in half and pasted flat side down on the mounting sheet. Small seeds are displayed best in transparent envelopes pasted to the mounting paper.



The mounting sheet label is ordinarily placed in the lower right-hand corner of the sheet. The information placed on this label will increase in value over the years, so be thorough. Include the common name, the scientific name, date and place of collection, and the commercial and farm uses of the tree.

The last step is to bind the plant mountings into a book. Print the club member's name, club, and year of membership on the cover.

How to mount specimens. Cut cones and pulpy fruits in half to mount.

Mounting the Leaves and Twigs on a Display Board: When the sample is thoroughly dried, mount on a 22 inch by 28 inch board. The material used for the mounting board should be stiff enough not to buckle when handled. If possible, use

transparent tape or gummed tape for fastening leaves and twigs to the board. In some cases you may need to use string or wire.

Place the information label below the leaves, twigs, and seeds; and place on in the common name, the scientific name, date and place of collection, and the commercial and farm uses of the tree.

## Collecting And Mounting Wood Specimens

Wood samples are usually prepared and mounted on a mounting board as shown in the picture "How to Cut and Mount Wood Samples." Collect the wood samples from branches with a diameter of 2 to 3 inches. The sample should be about 6 inches long with the ends sawed square. Air dry the pieces of wood for several weeks before attempting to finish the shaping. After the wood has dried, cut each block as shown in the drawing. Sand and varnish the surface mounting.

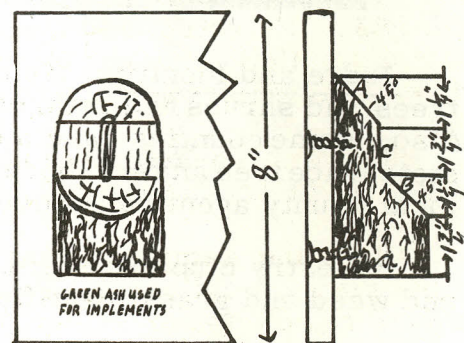
Mount the wood samples on a 22 inch by 28 inch board. All wood samples should be fastened to the board with screws.

Below each wood sample place a 2 inch by 4 inch card with the following information printed or typed on it: common name, scientific name, date and place of collection, and the commercial and farm uses of the trees.

There are many activities that a club can do to make the project both interesting and educational. Some of the things that your club might do are:

Demonstrate: Club members can demonstrate to the public what has been learned, and various improved practices with growing and care of trees. Some suggested demonstrations are "How to Make and Use a Plant Press," "How to Identify Trees," "How to Prepare Wood Specimens," "How to Plant Trees," and "How to Protect Trees from Rabbit Damage." Your local club leader and county agent may have other suggestions.

Tour: Club members might tour the club member's projects; local tree plantings; tree nurseries; and public places such as parks, Nebraska's National Forest at Halsey, Nebraska, and Arbor Lodge at Nebraska City, Nebraska.



How to cut and mount wood samples



Judge and Identify: Members can be given an opportunity to try their skill in identifying trees and shrubs and determining how to use them. Many clubs hold identification contests. Also, some counties have a county-wide tree and shrub identification contest. Each year a state-wide tree and shrub identification contest is held during the Nebraska State Fair. Your local county agent can provide information about the contest.

Forestry club members may also take part in the state 4-H crops judging, land judging and weed and grass identification contests.

Exhibit: Exhibits can be made by the individual club member and by the club. They can be made in the community, at county fairs, and at the state fair. In the case of the county fair and the state fair, check with the county agent about requirements. Exhibits might consist of booths, floats, or display books and mounts.

Establish a Lending Library: The club might establish a lending library of pamphlets, books, and similar material pertaining to forestry and conservation. The library might become a part of the school's library or the public library. By doing this a club will have given more people an opportunity to learn about trees.

Other Activities: The club members may think of other things that can be done. For example, a club might sponsor an educational skit about trees; give talks pertaining to trees; and make plantings of trees in public places such as the local park, local schoolyard, or local church grounds. A special program might be planned in observance of Arbor Day.

# CONIFERS (EVERGREENS)

LEAVES NEEDLE  
LIKE

LEAVES AWL-SHAPED OR  
SCALE-LIKE



SOLITARY



CLUSTERS OF  
2-5 (PINES)

LEAVES AWL-  
SHAPED OR FLATTENED  
FRUIT A BLUISH  
BERRY - RED CEDAR

LEAVES FLATTENED  
WOODY CONE -  
ARBOR-VITAE

ANGULAR, SHARP  
POINTED - SPRUCE

FLAT, BLUNT,  
FIR

CLUSTERS OF 2+3  
PONDEROSA PINE

CLUSTERS  
OF 5

CLUSTERS  
OF 2

NEEDLES 1-2"  
LONG, VERY  
SHARP, BLUISH  
BLUE SPRUCE

NEEDLES 1/2-1"  
LONG, NOT  
BLUISH

CONES ERECT  
CONCOLOR  
(TRUE) FIR

CONES PEND-  
ULOUS  
DOUGLAS FIR

NEEDLES 3-5"  
LONG  
WHITE PINE

NEEDLES 1-3"  
LONG  
LIMBER PINE

CONES 1-2" LONG  
WHITE SPRUCE  
(BLACK HILLS)

CONES 3-6" LONG  
NORWAY SPRUCE

NEEDLES 3-6"  
LONG  
AUSTRIAN PINE

NEEDLES 1-3"  
LONG

OLD BARK  
ORANGE  
SCOTCH PINE

CONES HANGING  
ON JACK PINE

# BROADLEAF (DECIDUOUS)

LEAVES SIMPLE

LEAVES COMPOUND

LEAVES ALTERNATE

LEAVES OPPOSITE  
OR IN WHORLS

LEAVES OPPOSITE

LEAVES ALTERNATE

MARGINS  
ENTIRE

MARGINS  
WAVY, TOOTH-  
ED

MARGINS  
LOBED

LEAVES  
LARGE HEART-  
SHAPED  
CATALPA

LEAVES  
LOBED  
MAPLES

LEAVES  
NARROW  
RUSS. OLIVE

LEAVES  
HEART-SHAPED  
REDBUD

LEAVES  
NARROW  
WILLOWS

LEAVES  
BROAD

LOBES  
ROUNDED  
WHITE OAK

LOBES  
POINTED

LEAVES  
OBLIQUE  
AT BASE -  
ELMS-HACKBERRY

LEAVES NOT  
OBLIQUE AT  
BASE

LEAVES  
HEART-SHAPED  
LINDEN

FINELY  
TOOTHED  
MULBERRY

COARSELY  
TOOTHED

MARGIN COARSELY  
TOOTHED  
COTTONWOOD

MARGIN FINELY  
TOOTHED  
HAWTHORNE

LOBES  
BRISTLE TIPPED  
BLACK OAKS

LOBES NOT  
BRISTLE-TIPPED  
SYCAMORE

7-9 LEAFLETS  
ASHES

3-5 LEAFLETS  
BOXELDER

TWICE PINNATE

ONCE PINNATE

THORNS  
HONEY LOCUST

NO THORNS  
KENTUCKY COFFEE-TREE

THORNS  
BLACK LOCUST

NO THORNS  
WALNUT