

ENVIRONMENTAL EDUCATION & EARTH SCIENCES DEPARTMENT D

FORESTRY

Department D - Section 320

GENERAL INFORMATION:

The official reference for all forestry projects is the Tree Identification Manual (4-H 332) which was recently revised and is available for purchase from UNL Marketplace (<http://marketplaceunl.edu/ne4h/tree-identification-manual-691.html>). Other helpful forestry references include Trees of Nebraska (E 92-1774-X), Leafing Out (4-H431), and Plant A Tree (EC 17-11-80).

Display "boards" must be made from wood or wood composite, i.e. plywood, fiberboard or Masonite, 1/4" to 1/2" inch thick and no larger than 24" X 24". Display boards may be coated, e.g. painted, varnished on both sides to prevent warping.

Display "posters" must be made from a material, e.g. foam board or poster board, that will stand upright without buckling, and be no larger than 24" x 24".

Display "books" must measure no more than 16" X 16" inches.

At least 5 of the 10 samples in Class 2, 3, 4, and 5 must be from the list of 60 species described in 4-H 332. Samples must be from 10 different trees, For example, Emerald Queen Maple and Crimson King Maple are both varieties of the same species (Norway Maple), and thus have the same genus and species name, i.e. *Acer platanoides*. All samples must be from trees, NO shrubs. If more than 10 samples are included in the display, only the first 10 samples from the current year will be judged.

Remember that other general labeling standards apply. For example scientific names are **always** italicized or underlined. Also, the first letter of a genus name is always capitalized. The first letter of a species name is always lower case. When required, always indicate **complete** scientific names (Genus and species) and common names (e.g. Norway Maple) even when "variety names" are included. For example, the scientific name of Emerald Queen maple is *Acer platanoides* and the common name is Norway maple. "Emerald Queen" may be included as the variety name, but variety names are not required.

Another important judging factor is how well the exhibitor follows the directions for the exhibit class.

Classes:

- *1. **Design-Your Own Exhibit** - Prepare an educational exhibit about some aspect of trees, forests, or forestry that is of special interest to you. Possible topics include paper recycling, wild fire, forest products, forest wildlife, or forest pests. The only requirement is that the display must be no larger than 24 inches by 24 inches by 24 inches. Photographs, drawings, samples, charts, posters, etc. can be used, but include enough information to adequately explain the topic. Your display should be substantially different from other display classes. Be as creative as you like.
- *2. **Leaf Display** - The leaf display must include samples of "complete leaves" from at least 10 different tree species. The display must include at least two samples each of simple leaves, compound leaves, and conifer leaves. Leaves should be pressed, dried, and mounted.
Collection: Whenever possible, collect leaves from mature trees. Collect leaves any time after they have reached full size, usually beginning in early summer. Leaf samples should be in good condition and representative of the average leaves on the tree. Keep in mind that shaded leaves are often much larger than normal. Carefully remove leaves from the twig with the entire petiole or rachis intact. After collection, fresh leaf samples can be temporarily stored within the pages of an old magazine, but they should be properly pressed and dried for display. Be sure to record pertinent information during collection.

Mounting: Leaves may be displayed in a notebook or on a display board. Any method may be used to mount leaves, but be sure all their features can be clearly identified.

Labeling: Refer to 4-H 332 for labeling specifications. The label for each sample must include

- 1) common name
- 2) scientific name
- 3) leaf type
- 4) leaf arrangement (for broadleaf trees)
- 5) leaf composition (for broadleaf trees)
- 6) exhibitor's name
- 7) collection date
- 8) collection location (be specific, state and county at a minimum)

If a twig is included with a sample, indicate "twig included" on the label. For example, the twig may be included with an eastern red cedar sample because the leaves are very small and difficult to remove from the twig.

Supplemental information, e.g. general uses, common products, fall color, etc., may be included with the display to enhance its educational value.

*3. **Twig Display** - The twig display must include twig samples from at least 10 different tree species. The display must include at least two samples of opposite and alternate leaf arrangements from broadleaf trees.

Collection: Twig samples should be collected during the dormant season (November - April) when the buds are mature. Twig samples must be at least 6 inches long and exhibit buds. Leaves must be removed and side branches must be trimmed to less than 1 inch in length.

Mounting: Twigs must be mounted on a display board. Any method, e.g. wire, glue, tape, staples, plastic bags, may be used to mount twigs, but be sure all features can be clearly identified. The non-terminal end must be cut at a slant so the pith can be seen.

Labeling: The label for each sample must include:

- 1) Common name
- 2) Scientific name
- 3) Leaf arrangement (for broadleaf trees)
- 4) Exhibitor's name
- 5) Collection date
- 6) Collection location (be specific, state and county at a minimum)

Supplemental information, e.g. general uses, tree characteristics, etc., may be included with the display to enhance its educational value.

*4. **Seed Display** - The seed display must include samples from at least 10 different tree species.

Collection: Tree seeds should be collected at the time of year when they are mature, which varies widely depending upon tree species. For example, Silver maple seeds mature in May while red oak acorns do not mature until September. Seed samples should be free of insect or disease symptoms. Remember to display seeds, and not the fruit. For example, the seed of honey locust is enclosed in a pod. Remove and display the seed not just the pod. It is acceptable to display the fruit with the seed, but clearly label each.

Mounting: Seeds may be displayed in a variety of ways e.g. mounted on a display board, displayed in jars in a rack, etc., but they must be securely mounted and easily viewed. Be as creative as you like.

Labeling:

- 1) common name
- 2) scientific name
- 3) type of fruit, if known (e.g. samara, pod, nut, legume, etc.)
- 4) exhibitor's name
- 5) collection date
- 6) collection location (be specific, state and county at a minimum)

Supplemental information, eg. maturity date, average number of seeds in the fruit, etc., may be included with the display to enhance its educational value.

- *5. **Wood Display** - The wood display must include wood samples from at least 10 different tree species.
Preparation: Samples may be of any shape, e.g. sections from a board, wood cylinders turned on a lathe, horizontal or vertical cross sections of a small log with bark attached, etc. But all samples should be the same shape e.g. all wood cylinders or all sections of a board. Each sample can be no larger than 4 inches by 4 inches by 4 inches.. Cut surfaces should be sanded to show the grain. Treating samples with a clear finish (no stain) is optional.
Mounting: Samples may be displayed in a variety of ways, e.g. mounted on a display board, displayed in a box or rack, etc, but they must be securely mounted and easily viewed. Be as creative as you like.
Labeling: The label for each sample must include:
- 1) common name
 - 2) scientific name
 - 3) wood type (softwood or hardwood)
 - 4) exhibitor's name
 - 5) collection date
 - 6) collection location (be specific, state and county at a minimum)

Supplemental information, e.g. common products, wood density, etc. may be included with the display to enhance its educational value.

- *6. **Cross Section** - Display a disc cut from a tree special listed in 4H 332. The display must be collected within one year of the state fair judging day. The disc must measure 6 to 12 inches in diameter and 1 to 3 inches thick. The bark should be firmly attached, which may be difficult if the tree was dead when the disc was cut. Sand at least one side of the disc so the grain can be easily seen. If the disc is treated with a clear finish, both sides must be treated to minimize warping. As the disc dries some cracking or checking can be expected and is allowed.
Labeling: The following parts must be clearly and accurately labeled in the cross sections with pins, paper tags, or some other form of identification.
- a) pith
 - b) heartwood
 - c) sapwood
 - d) one growth ring
 - e) cambium
 - f) bark

A separate label attached to the back of the disc must include:

- 1) common name
 - 2) scientific name
 - 3) tree classification (softwood or hardwood)
 - 4) age, (of the cross section)
 - 5) exhibitor's name
 - 6) collection date
 - 7) collection location, (be specific, state and county at a minimum)
- *7. **Parts of a Tree** - THIS PROJECT IS ONLY FOR AGES 8-11
Prepare a poster, no larger than 24 inches x 24 inches that clearly identifies the main external parts of any tree:
- A) trunk
 - B) leaves
 - C) roots
 - D) leaves
 - E) flowers
 - F) fruit
 - G) buds
 - H) bark

Identifying other internal parts, e.g. phloem, xylem, cambium, annual ring, pith, etc., is optional. Attach a separate label on the back of the poster that includes the exhibitor's name and age.

- *8. **Living Tree** - Display a living tree seedling grown by the exhibitor from seed in the display container. The seed must be from a species listed in 4H-332. The seedling must be - 60 days to 1 year old (on State Fair judging day). The display container must contain at least 8 inches of soil (potting mix or suitable natural soil), have drainage holes, and a drain pan to catch drainage water.

Labeling: A waterproof label must be attached and include:

- 1) common name
- 2) scientific name
- 3) seed treatments (if any)
- 4) planting date
- 5) emergence date
- 6) exhibitors name

Supplemental information about the tree, e.g. where the seed was collected, growth measurements, uses for that species, etc., may be included in an attached notebook, poster, etc. to enhance educational value. Supplemental information will be an important factor in judging.