

## DEPARTMENT D - FORESTRY

This category provides 4-H'ers an opportunity to prepare displays that show their expertise in many aspects of forestry. Involvement in this category will lead to expansion of seed, twig, wood, leaf, and tree knowledge for 4-H'ers. In addition, 4H'ers would learn more about common Nebraska trees.

### DIVISION 320

The official reference for all forestry projects is Tree Identification Manual (4H 332). Other helpful forestry references include Trees of Nebraska (EC 921774), Leafing Out (4H431), and Plant a Tree (EC 171180). Display "boards" **MUST** be made from wood or wood composite, i.e., plywood, fiberboard, or Masonite, ¼" to ½" thick and **NO** larger than 24"x24". Display boards **MAY** be coated, e.g., painted or 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"x24". Display "books" **MUST** measure **NO** more than 16"x16". At least 5 of the 10 samples in Class 2, 3, 4, and 5 **MUST** be from the list of 60 species described in 4H 332. Samples **MUST** be from 10 different tree species. 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. **Due to emerald ash borer infestation, no true ash species (Green Ash, White Ash, Black Ash, or Blue Ash) may be included in any collections. Inclusion of a true ash species will result of the project being disqualified.**

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. How well the exhibitor follows written directions is an important factor in judging.

### DIVISION 320

#### Class

- \*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, wildfire, forest products, forest wildlife, or forest pests. The only requirement is that the display **MUST** be **NO** larger than 24" by 24" by 24". 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 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. All collections **MUST** be done by the 4-H'er.  
**Mounting:** Leaves may be displayed in a notebook or on a display board. Any method may be used to mount leaves, e.g. wire, glue, tape, staples, plastic bags, but be sure all their features can be clearly identified.  
**Labeling:** 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) Collector'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 to enhance 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" long and exhibit buds. Leaves **MUST** be removed and side branches **MUST** be trimmed to less than 1" in length. All collections **MUST** be done by the 4-H'er.  
**Mounting:** Twigs **MUST** be mounted on a display board. Any method, e.g. wire, glue, tape, staples, plastic bags, etc., 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) Collector'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 to enhance educational value.
- \*4. **Seed Display** - The seed display **MUST** include seed samples from at least 10 different tree species.  
**Collection:** Tree seeds should be collected at the time of year when they 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, **NOT** 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. All collections **MUST** be done by the 4-H'er.  
**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:** The label for each sample **MUST** include: 1) Common name, 2) Scientific name, 3) Type of fruit, if known (e.g. samara, pod, nut, legume, etc.) 4) Collector's name, 5) Collection date, 6) Collection location (be specific, state and county at a minimum).  
**Supplemental Information,** e.g. maturity date, average number of seed in the fruit, etc., may be included to enhance 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" by 4" by 4". Cut surfaces should be sanded to show the grain. Treating samples with a clear finish (no stain) is optional. All collections **MUST** be done by the 4-H'er.

**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) Collector'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 to enhance educational value.

- \*6. **Cross Section Display** - A disc cut from a tree species listed in 4H 332. The sample **MUST** be collected by the exhibitor within one year of the fair judging day. The disc **MUST** measure 6" to 12" in diameter and 1" to 3" 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 on the cross section with pins, paper tags, or some other form of identification: 1) Pith, 2) Heartwood, 3) Sapwood, 4) One growth ring (beginning and end), 5) Cambium, 6) Bark. A separate label attached to the back of the disc **MUST** include: 7) Common name, 8) Scientific name, 9) Tree classification (softwood or hardwood), 10) Age (of the cross section), 11) Collector's name, 12) Collection date, 13) 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" x 24" that clearly identifies the main external parts of any tree: 1) Trunk, 2) Crown, 3) Roots, 4) Leaves, 5) Flowers, 6) Fruit, 7) Buds, 8) 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 fair judging day). The display container **MUST** contain at least 8" of soil (potting mix or suitable natural soil), have drainage hole(s), 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) Collector's 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.