

Department D Environmental & Earth Sciences

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All entries must be pre-entered at the York County Extension Office by July 15. All Environmental Education Earth Science exhibits will be interviewed on Wednesday, August 5. Please call the extension office by Friday, July 31 for an interview appointment.

* denotes those entries are not eligible for State Fair

FORESTRY

General Information: The official reference for all forestry projects is Tree Identification Manual (4-H 332). Other helpful forestry references include Trees of Nebraska (EC 92-1774-X), Leafing Out (4H431) 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" thick and no larger than 24" x 24". 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" x 16". At least 5 of the 10 samples in Class 2, 3, 4 and 6 exhibits must be from the list of 60 species described in 4H 332. If more than 10 samples are included in the display, only the first samples of the current year will be judged. All samples must be from trees NO shrubs. The 10 samples to be judged must be from 10 different species, i.e. Emerald Queen Maple and Crimson King Maple are both Norway Maples. Remember that the other general labeling standards apply, i.e. scientific names are always italicized or underlined. When required, always indicate complete scientific names and common names, 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.

Division 320 – Forestry Pay Category 200

- D320001 Design Your Own Exhibit
- D320002 Leaf Display
- D320003 Twig Display
- D320004 Seed and Fruit Display
- D320006 Wood Identification Display
- D320008 Cross Section of a Tree – the diagram in the Tree Identification Manual (4H 332 page 8) is incorrect. Please consult Trees of Nebraska (EC92-1774) or other references or contact the extension office for correct labeling information.
- D320009 Parts of a Tree
- D320010 Living Tree Display - A living tree seedling, 60 days to 2 years old (on judging day), grown from seed in the display container by the exhibitor. The container must have drainage holes, a drain pan to catch drainage water, and contain at least 8" of soil. Soil should be a potting mix or natural soil high in organic matter.
Labeling: The waterproof label must include the tree's:
 - 1) common name
 - 2) scientific name (underlined)
 - 3) date of planting
 - 4) seed treatments (if any)
 - 5) date of emergence
 - 6) exhibitor's name

Supporting information, such as where the seed was collected, growth measurements, uses for that species, etc. may be included on the label or in an attached notebook, poster, etc. Supporting information will be an important factor in judging.

WILDLIFE CONSERVATION

- A. SHOW WHAT YOU DID & LEARNED – All exhibitors are encouraged to show evidence of their personal field experiences, study, or observations that relate to their exhibit. This helps judges understand what the 4-Her did and learned in the process that led to the exhibit.

- B. PROPER CREDIT - Show proper credit by listing the sources of plans or other supporting information used in exhibits.
- C. WHOSE EXHIBIT? - The exhibitor's name, address, and parent's name must be on the back or bottom of all displays so that the owner can be identified even if the entry tag becomes separated from the exhibit.
- D. WILDLIFE & WILDLIFE LAWS - "Animal" or "wildlife" in the following instructions includes wild fish, amphibians, reptiles, birds, or mammals. Follow wildlife laws; example: wildlife laws do not allow collection of bird nests, eggs, or parts.
- E. ENTRIES PER INDIVIDUAL - Each individual is limited to a total of four (4) exhibits, each in a different class.
- F. PROJECT MATERIALS - Related project booklets include Bird Behavior (EC59381), Fishing for Adventure Project Manuals, Wildlife Conservation (4H125), and Wildlife Habitat Evaluation Handbook, Participants Manual (NE 4H4300).
- G. BOARD & POSTER EXHIBITS - These are displays that show educational information about a topic of interest. Board exhibits can hold objects such as fishing equipment or casts of animal tracks. Mount all board exhibits on 1/4" plywood, masonite, or similar panel no larger than 24" high by 24" wide. Poster exhibits should be on regular poster sheets, no larger than standard size (22" x 28") but half size (22"x14") is recommended. Poster exhibits normally will be stapled in the corners for fair display and to prevent their blowing in the wind.
- H. SCORING - Sample score sheets are available at the extension office and on the UNL 4-H web page (<http://4h.unl.edu>).

Pay Category 200

Division 340 – Wildlife & How They Live

- D340001 Mammal Display
- D340002 Bird Display
- D340003 Fish Display
- D340004 Reptile or Amphibian Display

Classes 1-4 are board or poster exhibits.
Display may show any aspect of wildlife, wildlife

habitat, or related conservation, restoration, or management. Examples: life history or other facts about one type of wildlife; how to manage wildlife on a farm or in town; managing habitat for one kind of wildlife; life requirements for one kind of wildlife during one season or through the year; wildlife study methods; wildlife behavior (example: when nesting, finding food, moving, etc.); habitats (examples: grasslands, wetlands, river or stream corridors) and what wildlife is found there; habitat needs for a specific kind of wildlife. For more ideas, refer to project booklets.

D340005 Wildlife Connections - board or poster exhibit. The purpose of this display is to show inter- connections and related aspects among animals, plants, and other habitat components. All displays should show two or more interactions (connections) that occur between or among animals or between animals and their habitat. Displays might show how animals interact with other animals, with people, or with their habitat.

Examples:

- 1) Food chain display. Use pictures, drawings, or other items to illustrate the source of food energy and where it goes—who eats whom or what. Use arrows to show the direction of the energy (food) flow.
- 2) Show the role of predators, scavengers, insect eaters, or others in nature.
- 3) Show how wild-life numbers (populations) change through the year or with their habitat.
- 4) Show predation, competition, or other behavioral interactions wildlife.
- 5) Choose one kind of wildlife and make observations through a season or year, keep notes of interactions, then make a display of what you saw.
- 6) For more ideas, refer to project booklets.

D340006 Wildlife Tracks - board or diorama-type box exhibit. Make a display of animal tracks using plaster-of-paris casts. There are two options. For both options, include a brief description of your experiences in making the tracks so the judges' better understand

what you did and learned. Positive casts (impressions as they would be in nature) are preferred. Option 1 should show plaster-of-paris tracks of five or more kinds of wildlife along with a picture or illustration of each kind of animal. Option 2 should show more than one plaster-of-paris track of one specific kind of wildlife and should include a picture or illustration of the animal, what the animal may eat, and what may eat the animal.

D340007 Wildlife Knowledge Check – use electrical circuits, pictures, or other methods of teaching wildlife identification or other wildlife related knowledge. Plan size and shape to fit display; maximum size 24"x24".
Example: prepare a list of animals and questions about where each would most likely live. Rabbits--brushy areas along field borders; ducks--marshes, etc.

D340008 Wildlife Diorama - box must be no larger than 24"x24". The exhibit might show a grassland, prairie, agricultural, wood-land, riparian (stream or river corridor), wetland, and/or other area with wildlife habitat.
Example: show a large, unbroken grassland or prairie for species such as meadowlarks, greater prairie-chicken, lark bunting, grasshopper sparrows, Ferruginous hawk, burrowing owl, horned lark, upland sandpiper, or pronghorn; and/or show an area interspersed with several habitats such as windbreaks, farm fields, woods, waste areas, ditches, or pastures for edge-adapted species such as white-tailed deer, Northern bobwhite, mourning doves, cottontail rabbits, fox, squirrels, Northern cardinals or blue jays. Label the habitats displayed and show at least five kinds of wildlife in their proper habitats.

D340009 Wildlife Essay - learn how to share educational information by writing. Choose a conservation or wildlife topic that interests you and write an essay about it. For example, write about a particular species of wildlife that you have observed or about the values of wildlife. You might write about wild-life on a farm, in town, in a backyard, at a backyard feeder, or other places. You might write about hunting, fishing, or ethics

and proper behavior for hunting or fishing. For other ideas, refer to project book. The essay should be between 100 and 1,000 words long and should be typed, double spaced, or written so that it can be easily read. Standard size paper (8x11) format is preferred. You might use books, magazines, or personal interviews as resources, but you must give credit to all sources by listing them

- D340010 Wildlife Values Scrapbook - make a scrapbook about the various values of wildlife following guidelines in the Wildlife Conservation project booklet (4-H pg.125).
- D340011 Wildlife Arts - the purpose of this class is to allow artistic exhibits that contain educational information about conservation and wildlife. Examples might include paintings, photographs, wood carvings, painted duck decoys, or songs or poems written by the exhibitor. Entries must be appropriate for fair display and no larger than 24"x 24". For example, paintings or photographs should be displayed in notebook format or mounted on a sturdy display panel. All entries must include a title and brief explanation of the purpose or message (what is the exhibit meant to show).

Division 342 - Wildlife Habitat Pay Category 200

- D342001 Houses - make a house for wildlife. Examples: bird house (bluebird, purple martin, wood duck, kestrel, barn owl, etc.) or bat house; no insect houses. Make the house functional so that dimensions, hole size, etc. are appropriate to fit the intended species' needs. Include the following information: 1) the kinds of animal(s) for which the house is intended, 2) where and how the house should be located for best use and 3) any seasonal maintenance needed. Tips: check NebGuide on bird houses and shelves.
- D342002 Feeders/Waterers - Make a bird feeder or bird bath. Examples: seed, suet, or nectar feeders. Squirrel feeder is okay but no insect feeders. Indicate the kinds of animal(s) for which the feeder or waterer is intended. Make the feeder or waterer

functional so that it fits wildlife needs. Include the following info: 1) where and how the feeder or waterer should be located for best use and 2) how it should be maintained. Tips: check NebGuide on feeding birds.

- D342003 Wildlife Habitat Design - board or poster exhibit. Choose a backyard, acreage, or farm, and design a habitat plan to meet the food, water, shelter, and space needs of at least three kinds of animals you would like to attract. Draw an outline of the area and show what plants or other habitat will be provided. Indicate how the various parts of your plan provide the desired habitat needs. You might include an aerial photo of the area if you have one. For ideas, check the Wildlife Habitat Evaluation Handbook, Participant's Manual (4-H 4300).

Pay Category 200

Division 343 - Harvesting Equipment

- D343001 Fish Harvesting Equipment - board exhibit. Display of equipment used in fish harvesting. Examples: fishing knots, hooks (with corks over ends for safety), and lures. Label all items displayed. Include in your exhibit the following info: 1) purpose of each item, 2) when or where each item is used in relation to other equipment and 3) any personal experiences you've had with the item(s).
- D343002 Build A Fishing Rod - build your own fishing rod for exhibit and for fishing use. Rod building blanks and kits with instructions are available for this purpose. For fair exhibit, follow guidelines in the Fishing For Adventure Manuals.
- D343003 Casting Target - make a casting target for exhibit and use, following guidelines in the project booklet, Fishing For Adventure Manuals.
- D343004 Wildlife Harvesting Equipment – board exhibit. Display of equipment used in harvesting wildlife. Examples: expended ammunition casings (no live ammunition permitted), steel traps, hide stretchers, fleshers, etc. For displays of shotguns, rifles, or bows, use drawings or pictures. Label all items displayed. Include in your

exhibit the following information:

- 1) The purpose of each item,
- 2) When or where it is used in relation to other equipment and
- 3) Any personal experiences you've had with the item.

Division 346 – Taxidermy Pay Category 200

- D346001 Tanned Hides or Taxidermy - any legal fish, bird, or other wild animal properly processed by the member. No requirement as to size or mounting. Include the following info:
- 1) The animal's name and
 - 2) Information about the exhibitor's personal field experiences, study, or observations that relate to the exhibit.

Pay Category 200

Division 361 - Other Natural Resources

- D361001 Design Your Own Exhibit in Natural Resources, Conservation or Ecology –This class is for educational exhibits about natural resources, conservation, wildlife, or ecology that do not fit into other categories. Entries must be appropriate for fair display and no larger than 24" x 24". All entries must include a title and should be clear (a brief explanation or other method) about the intended purpose or message what the exhibit is meant to show. Think about accuracy, creativity, educational value for viewers, and evidence of exhibitor's personal experiences and learning

Division 365 - Eco-Wonders Pay Category 200

- *D36590 Build Your Own Ecosystem – follow directions and diagram on page 11 of manual.
- *D365902 Food Web - make a poster illustrating a food web for the ecosystem found in your backyard. Follow guidelines for posters listed on page 23.
- *D365903 Weather Instrument or Weather Log – make a rain gauge or pinwheel to determine direction of the wind. Follow directions for these on pages 19 and 20 of the manual.

Division 366 - Eco-Adventures Pay Category 200

- *D366901 Identify Flower Parts - make a poster

illustrating all of the parts of a flower.
Follow guidelines for posters listed on page 23.

- *D366902 Groundwater Model - using diagram on page 27 of manual, construct a groundwater model of your area using colored clay or play dough. Include key to describe colors. Use poster board for the base no larger than 12"x12".
- *D366903 Soil Profile Poster - dig a hole approximately 1 foot deep. Illustrate different soil types using crayons or colored pencils. Use page 15 in manual for reference.

Division 367 - Eco-Actions Pay Category 200

- *D367901 Global Positioning System Chart - using a GPS choose 5 landmarks and chart locations (i.e. your house, make sure to include street address along with GPS description).
- *D367902 Biotechnology - inventory items found in your refrigerator. Explain how biotechnology is used to create these products and its benefits in an essay no longer than 2 pages typewritten.

CASTING CONTEST

Gary Zoubek, Superintendent

To be eligible to enter the casting contest, a contestant must be enrolled in a 4-H wildlife project. The object of this contest is to place the bait/lure where you think the fish are. Plugs will be provided. Contestants must use their own rod and reel. No hooks attached when brought to the fair. There will be three stations. They are: 1. standing, aiming for a target; 2. sitting (like in a boat) aiming for a target; 3. Target with an obstruction (like a tree). Participants will cast three times at each station.

Division 350 - Casting Contest Pay Category 220

- *D350901 Junior Casting (8-11 years old, 4-H age)
- *D350902 Senior Casting (12 years and up, 4-H age)

SHOOTING SPORTS

Pay Category 200

Division 39 0 - Shooting Sports Exhibits

- *D390901 Poster - poster must relate to something learned in the Shooting Sports project(s). See rules and guidelines for Posters on page 23.
- *D390902 Educational Exhibit - this exhibit is a designed to share things you have learned in the project(s). Exhibit may be a notebook or a small display of educational nature.
- *D390903 Photo Display - four to six photos of yourself demonstrating safety measures necessary when using a gun or bow. Display vertically or horizontally on a 14"x22" poster board.

To participate in the shooting sports competitions, a 4-Her must have been enrolled in the York County Shooting Sports program under the supervision of certified Shooting Sports instructors and have attended at least four (4) meetings of the program.

In order to maintain NCAA intercollegiate eligibility of youth enrolled in 4-H Shooting Sports, cash prizes, fair premiums, etc. will not be awarded based on how a 4-Her or team ranks or finishes in a specific competition. All contest safety, eligibility and equipment rules will be enforced. Contact the Extension Office for a list of rules.

To participate in the 4-H Shooting Sports competitions (Archery, BB Gun, Air Rifle, Air Pistol & Trap) a 4-Hers MUST have been enrolled in a York County Shooting Sports Club under the supervision of a 4-H Shooting Sports Certified Leader

ARCHERY CONTEST

Dean Fredericks, Superintendent

Safety Statement Safety is of highest priority. Any archer not exhibiting proper shooting safety will not shoot. The decision of tournament officials, safety officers and line judges is final.

Competition Rules

1. Junior archers will shoot from a distance of 5 to 15 yards. Intermediate and Senior archers will shoot from a distance of 10 to 25 yards.

- Shooting station yardage will be marked.
 Archer age brackets: Junior 8-11 years;
 Intermediate 12-14 years; Senior 15-18 years.
2. Female and male archers will shoot together in the same shooting age bracket classes.
 3. Equipment category groups: Group # 1 - Traditional: Long bows and Recurve bows; no sights or markings of any kind on bow, no releases or stabilizers. Shoot with fingers, tabs, or gloves. Group # 2 - Olympic Style: Long bows and Recurve bows; may use sights, releases and stabilizers, no string sights or peeps. Shoot with fingers, tabs, or gloves. Group # 3 - Barebow: Compound bows; no sights or markings of any kind on bow, no releases. Stabilizers are allowed. Shoot with fingers, tabs, or gloves. Group # 4 - Unlimited: Compound bows with accessories; may use sights, releases or stabilizers.
 4. Equipment requirements and restrictions:
 - a) There will be an equipment inspection and check-in prior to the competition.
 - b) Armguards must be worn while shooting.
 - c) Archer must have at least 2 back up arrows, all being the same shaft material, tips (no hunting tips), length, and fletching material. Plastic or feather fletching, all the same size, can be used with different color mixes.
 - d) No stabilizers allowed in Traditional.
 - e) No sights, string peeps, string markings, tied string floss, or limb markings allowed in Traditional or Barebow.
 - f) Maximum bow draw weight - 60#.
 - g) Refer to State 4-H Archery Rules for rule clarification.

For competition information, contact the Extension Office.

Division 360 - Archery Contest Pay Category130

- *D360901 Traditional, Junior Division
- *D360902 Traditional, Intermediate Division
- *D360903 Traditional, Senior Division
- *D360904 Olympic Style, Junior Division
- *D360905 Olympic Style, Intermediate Division
- *D360906 Olympic Style, Senior Division
- *D360907 Barebow, Junior Division
- *D360908 Barebow, Intermediate Division
- *D360909 Barebow, Senior Division
- *D360910 Unlimited, Junior Division

*D360911 Unlimited, Intermediate Division

*D360912 Unlimited, Senior Division

BB GUN CONTEST

Doug Rafert, Dean Fredericks and Mike Dey
Co-Superintendents

In order to compete in the BB Gun Contest, you must pre-register at the York County Extension Office by July 15.

The 4-H BB Gun competition will follow N.R.A. 5-meter BB Gun rules. Shots will be fired at targets from a distance of 5 meters from each of four shooting positions; standing, sitting, kneeling and prone. Ten shots per position for a total of 40 shots.

The final scoring and awards will be based on scores from the four shooting positions combined, plus a score from a knowledge/safety written examination. Contestants will be allowed 10 minutes per position to complete 10 shots. An eligible BB Gun is any spring or air powered smooth bore gun that shoots BB's and weighs 6 lbs. or less. No scopes permitted.

All contestants must wear eye protection. Coaching and spotting for shooters is permitted and encouraged by parent or other shooting sport competitor. Refer to 1997 Nebraska State 4-H BB/Air Rifle rules, shooting sports section superintendent or extension staff for rules and rule clarification.

Division 370 - BB Gun Contest Pay Category 160

*D370901 8-9 years of age, 4-H Age

*D370902 10-12 years of age, 4-H Age

*D370903 13-15 years of age, 4-H Age

AIR RIFLE

Doug Rafert, Dean Fredericks and Mike Dey
Co-Superintendents

In order to compete in the Air Rifle Contest, you must pre-register at the York Co. Extension Office by July 15.

Precision and Sporter Air Rifles as per USA Shooting Rules. No Scopes. Air rifle contestants are required to have at least one year of prior BB

Gun Shooting Sports experience under a certified 4-H Shooting Sports Leader to be eligible to compete. EYE PROTECTION IS REQUIRED.

Air rifle shooting distance will be 10 meters, using three shooting positions: standing, kneeling and prone. Contact the York County Extension Office for complete information and rules.

Division 371 - Air Rifle Competition

- *D371901 9-10 years of age, 4-H age
- *D371901 11-12 years of age, 4-H age
- *D371901 13-18 years of age, 4-H age

AIR PISTOL

Doug Rafert, Dean Fredericks and Mike Dey
Co-Superintendents

In order to compete in the Air Rifle Contest, you must pre-register at the York Co. Extension Office by July 15.

Air Pistol discipline contestants are required to have at least one year of prior BB Gun Shooting Sports experience under a certified Shooting Sports Leader to be eligible to compete. Air pistols as per USA shooting rules. EYE PROTECTION IS REQUIRED. Contact the York County Extension Office for information and complete rules for the Air Pistol 4-H Contest.

Division 372 - Air Pistol Competition

- *D372901 9-10 years of age, 4-H age
- *D372902 11-12 years of age, 4-H age
- *D372903 13-18 years of age, 4-H age

TRAP SHOOTING CONTEST

Dan Barrett, Superintendent

In order to compete in the Trap Shooting Contest, you must pre-register at the York County Extension Office by July 15.

Pay Category 130

Division 380 - Trap Shooting Contest

- *D380901 Girls, ages 8-12 (4-H age)
- *D380902 Girls, ages 13-14 (4-H age)
- *D380903 Girls, ages 15-18 (4-H age)
- *D380904 Boys, ages 8-12 (4-H age)

*D380905 Boys, ages 13-14 (4-H age)
*D380906 Boys, ages 15-18 (4-H age)