

# Crops & Range (Agronomy)

## Including projects related to Field Crops, Weed Science & Range

### Plant Science

### Department G

Superintendent - Lori Walla  
Jr. Superintendent - Alyssa Dye

The purpose of these exhibits is to demonstrate to the public the benefits from the study and application of crop, weed, range and soil sciences to solving problems in management, conservation, sustainability and environmental protection. For guidelines on specific projects, refer to appropriate project manuals.

#### Department G-Crop Production

##### General Information:

- A. Individuals with Field Crop Production Projects may exhibit grain or plants or prepare an educational display representing their project.
- B. **Important:** A two page (maximum) essay must accompany grain and plant exhibits. The essay must include the exhibitors name and address, county, plant hybrid or variety, plant population, whether crop production was irrigated or dryland, and general information including farm cropping history, soil type and weather effects. **The essay also must include an economic analysis of the project, covering income and expenses per acre.** Other topics to discuss are the selection of variety or hybrid, impacts of tillage and conservation practices, inputs (Fuel, fertilizer, irrigation, labor, pesticides, etc.), any observations made during the growing season, and what you learned from your crops project. The essay counts as 25% of the total when judged. Essay must be the original work of the individual exhibitor. Attach the essay to the entry in a clear plastic cover such that it can be read without removing it from the cover. In addition to the essay, grain and plant exhibits will be judged on condition, appearance (i.e. disease and insect damage, grain fill), uniformity (size, shape, color, maturity), quality of exhibit.
- C. Grain exhibits must be one gallon per sample. Fall harvested crops (e.g., corn or soybeans) may be from the previous year's project. Display containers will be furnished.
- D. Plant exhibits: Corn 10 ears or 3 stalks (cut at ground level with no soil and bound together); Grain Sorghum – 4 stalks (cut at ground level with no soil and bound together); Soybeans - 6 stalks (cut at ground level and bound together); Small grains - (oats, barley, wheat, triticale) - sheaf of heads 2 inches in diameter at top tie with stems about 24" long. Other crops (alfalfa, millet, etc.) - sheaf of stems 3 inches in diameter at top tied with stems cut at ground level or half size small square bale. All plant exhibits, with the exception of ears of corn, must be the result of the current year's project.

#### Division G750, Crop Production

G750001\* Corn (includes yellow, white, pop, waxy, or any other type)

G750002\* Soybeans

G750003\* Oats

G750004\* Wheat

G750005\* Any other crop (includes grain sorghum, alfalfa, millets, barley, rye, triticale, amaranth, dry beans, sugar beet, mung bean, canola, forage sorghum, safflower, etc )

G750006\* Crop Production Display - The purpose of this class is to allow original and creative exhibits that contain educational information about crop production aspects, such as crop scouting, alternative crops, bioenergy, etc.

G750007\* Crop Technology Display – Display information about aspects of technology used in crop production, such as genetic engineering, crop breeding, GPS, yield mapping, computers, etc.

G750008\* Crop End Use Display – Display information about the uses for a crop including examples of products.

G750009\* Water or Soil Conservation Display – Display information about ways to protect or conserve water and soil resources

G750010\* Soils Display - The purpose of this class is to allow original and creative exhibits that contain educational information about soils, such as how soils are being used for crop production, range, conservation, wildlife, or wetland use.

**Guidelines for all Displays :** The purpose of the display is to tell an educational story to those that view the display. The display is a visual representation (pictures, charts, graphs) as a poster on 24" by 24" ¼" plywood or poster board. The display should be neatly titled. Make sure to label display with exhibitor's name, address, and county on back side. Explain pictures and graphs clearly and concisely. Each display must have a one page essay explaining why the exhibitor chose the area of display and what they learned from their project. Include any references used. The essay should be in a clear plastic cover with the exhibitor's name outside.

### **G750015, Wheat Project**

Exhibitors must be enrolled in the 4-H Wheat Project to exhibit in this area. Exhibit will include a sample of each of the five wheat varieties included in the project. A sheaf of wheat three inches in diameter at the center tie and a one quart sample of the grain are to be displayed for each of the five varieties. Exhibit should be labeled with the variety name, member's name, and club.

**Youth Sugar Beet Project:** Exhibitors must be enrolled in the Youth Sugar Beet Project to exhibit in this area. Exhibit will include sample of beets and exhibition card. Information on the exhibition card will include stand counts, percent of early sugar, variety, etc. Exhibition cards are available at the Extension Office. Sugar beets should be prepared in the following manner. Hand dug (not pulled), tops cut square off and washed (do not brush or tip roots).

G750016 Youth Sugar Beet Project (3 uniform type sugar beets)

G750017 Three best type sugar beets over 2-1/2 pounds

G750018 Three best type sugar beets under 2-1/2 pounds

G750019 Largest sugar beet (single specimen)

### **General Information: Weed Management**

- A. Any individual with a range or conservation project may exhibit a weed book or weed display. The book cover and majority of specimens must represent this year's work. For assistance identifying plants, participants can use Nebraska Department of Agriculture's Weeds of Nebraska and the Great Plains (1994) or Weeds of the Great Plains (2003).
- B. Exhibits will be judged based on completeness of plant mount, accuracy of identification, label, neatness, and conformity to exhibit requirements.
- C. Display one plant on the book cover (no label required on cover specimen). Plants must be mounted on sheets that are 11" wide x 14" high. Proper plant mount should include root as well as stem and leaf tissue. Plants should be glued rather than taped and the mounts should be protected with a clear clover. Each completed mount must have a 3" wide x 5" high or 5" wide by 3" high cardstock label glued flush in the lower right corner of the mounting sheet. The label (see example below) should include the following information: 1. Scientific name (in italic or underlined), with authority, 2. Common name, 3. County of collection, 4. Collection date, 5. Collector's name, 6. Collection number, 7. Other information depending on class selected, i.e., noxious, life form. This information should be typed or printed very neatly.

**PLANTS OF NEBRASKA**

Scientific name: *Abutilon theophrasti* Medic.

Common name: velvetleaf

County of collection: Lancaster County

Collection date: 6 September 2002

Collector's name: Dan D. Lion

Collection number: 3

Life cycle: annual

**Division G751, Weeds**

- G751001\* Weed Identification Book - Each book shall contain a minimum of 15 plant mounts and must include at least two of the following prohibited noxious weeds (Canada thistle, musk thistle, plumeless thistle, leafy spurge, purple loosestrife, diffuse knapweed, or spotted knapweed), and at least five weeds that are a problem primarily in lawns.
- G751002\* Longevity - A collection of 6 perennial, 1 biennial, and 6 annual weeds selected from grasses, sedges, or forbs.
- G751003\* Weed Identification Board - This exhibit should display a collection of 20 weed species important to a particular county. The display board should be hinged in the middle with the total open width of 60" and height of 36". This display should be adequately labeled.
- G751004\* Weeds Display - The purpose of this class is to allow original and creative exhibits that contain educational information about weeds, such as the effects of weed control, herbicide resistant weeds, what makes a weed a weed, or uses for weeds.

**Guidelines for Displays:** The purpose of the display is to tell an educational story to those that view the display. The display is a visual representation (pictures, charts, graphs) as a poster on 24" by 24" ¼" plywood or poster board. The display should be neatly titled. Make sure to label display with exhibitor's name, address, and county on back side. Explain pictures and graphs clearly and concisely. Each display must have a one page essay explaining why the exhibitor chose the area of display and what they learned from their project. Include any references used. The essay should be in a clear plastic cover with the exhibitor's name outside.

# RANGE MANAGEMENT

## Department D

Superintendent – Lori Walla  
Jr. Superintendent - Alyssa Dye

### General Information

- A. Individuals in Reading the Range Unit 1 project may exhibit in Classes 1-5, and 8.
- B. Individuals in the Using Nebraska Range (Unit II) project may exhibit in Classes 1-8. Refer to EC 170 and EC 118 for plant identification.
- C. Each exhibit must be properly identified with Unit and Class. Exhibits will be judged based on completeness of plant mount, accuracy of identification, label, neatness and conformation to project requirements. All plant displays and display covers must be the result of the current year's work.
- D. Lists of appropriate plants in each category (grasses, forbs, shrubs, and grass-like plants) can be found in Judging Handbook for Nebraska (EC 98-150F), Common Grasses of Nebraska (EC 05-170) and Nebraska Range/Pasture Forbs and Shrubs (EC 118).
- E. Plants must be mounted on sheets that are 11" wide x 14" high. Plants should be glued rather than taped and the mounts should be protected with a clear cover. Proper plant mount should include root as well as stem and leaf tissue. Each completed mount must have a 3" wide x 5" high or 5" wide x 3" high cardstock label glued flush in the lower right corner of the mounting sheet. The label (see example below) should include the following information: 1. Scientific name (in italic or underlined), with authority. 2. Common name. 3. County of collection. 4. Collection date. 5. Collector's name. 6. Collection number. 7. Other information, depending on class selected, i.e., grazing response, longevity, season of growth, origin, life form. This information should be typed or printed neatly.

#### PLANTS OF NEBRASKA

Scientific name: *Schizachyrium scoparium*  
(Michx.) Nash

Common name: Little bluestem

County of collection: Lancaster County

Collection date: 6 September 2002

Collector's name: Joe Smith

Collection number: 3

Grazing response: decreaser

Instructions for FFA Member Range Boards: (Please note this is only for FFA members, 4-H members must use directions listed above.) All range boards shall be 36" x 36" & 3/8" thick. Mounted range plants excluding invader plants must be on the list of important range plants (Table #1, Range Judging Handbook for Nebraska, E.C. 1-37-78). Mounted range plants must include roots, stems, and head. The Board shall not be covered by a plastic material. Range plants may be destroyed at release time. The exhibit must show the name of exhibitor, chapter, and each range plant shall be identified as follows: common name, scientific name, grazing response, forage value, season of growth, and life span.

### **DIVISION 330, Range Management**

D330001\* Grazing Response - A collection of 4 decreases, 4 increasers, and 4 invaders.

- D330002\* Longevity - A collection of 6 perennial plants and 6 annual plants selected from grasses or forbs.
- D330003\* Season of Growth - A collection of 6 cool-season grasses and 6 warm-season grasses.
- D330004\* Origin - A collection of 6 native range grasses and 6 introduced grasses. Introduced grasses are not from North America and often used to seed pastures.
- D330005\* Life Form - A collection of 3 grasses, 3 forbs, 3 grass-like, and 3 shrubs.
- D330006\* Range Plant Board – Will include 25 range forage species important to a particular county. The display board should be hinged in the middle (total open length is 60" and height is 36"). This display should be adequately labeled.
- D330007\* Special Study Exhibit - A display of the results of a clipping study, a degree of use study or a range site study. The boards in this class should be 30" X 36" or if hinged in the middle, may be 60" X 36". The display should be adequately labeled.
- D330008\* Junior Rancher Exhibit - This exhibit should include a ranch map with a record book or an appropriate educational display on some phase of rangeland or livestock management. The overall size of the exhibit should not be larger than 30" wide and 36" high.