



2022 Scotts Bluff County Fair 4-H Fair Book



Plant Science Agronomy

Including Projects Related to Field Crops, Weed Science

Only one entry per class. ^{S_F} Classes only are State Fair eligible.

Individuals in the Crop Production, Field Crops projects may exhibit grain or plants or prepare an educational display representing their project.

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.

Scoresheets, forms, contest study materials and additional resources can be found at <https://go.unl.edu/ne4hagronomy>.

All static exhibits must have received a purple ribbon at the county fair to advance to the State Fair.

Field Crops Division 750

- A. **Grain or Plant Exhibits - Classes 1-5:** IMPORTANT: A completed Crop Production Worksheet (available at <https://cropwatch.unl.edu/Youth/Documents/Crop Production Project Worksheet Final.pdf>) must accompany grain and plant exhibits or it will automatically be deducted one ribbon placing. The worksheet 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 worksheet also must include an economic analysis of the project, listing individual expenses and income on a per acre basis.** 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.
- B. The worksheet counts as 50% of the total when judged. Worksheet must be the original work of the individual exhibitor. Attach the worksheet to the entry in a clear plastic cover such that it can be read without removing it from the cover. In addition to the worksheet, grain and plant exhibits will be judged on condition, appearance (i.e. disease and insect damage, grain fill), uniformity (size, shape, color, maturity), and quality of exhibit. Refer to Scoresheet SF264.
- C. Grain exhibits must be one gallon per sample. Grain exhibits harvested in the fall (e.g., corn or soybeans) may be from the previous year's project.
- D. Plant exhibits, with the exception of ears of corn, must be the result of the current year's project. • Corn - 10 ears or 3 stalks (cut at ground level with no roots or soil and bound together); • Grain Sorghum - 4 stalks (cut at ground level 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.

Classes (Scoresheet SF264)

^{S_F}Class 1 **Corn** (includes yellow, white, pop, waxy, or any other type)

^{S_F}Class 2 **Soybeans**

^{S_F}Class 3 **Oats**

^{S_F}Class 4 **Wheat**



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- S_FClass 5 Any other crop** (includes grain sorghum, alfalfa, millets, barley, rye, triticale, amaranth, dry beans, sugar beet, mung bean, canola, forage sorghum, safflower, etc).

Displays

- A. 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) no larger than 28" wide by 28" tall on 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. Consider creativity and neatness. Refer to Scoresheet SF259
- B. Each display must have a one-page essay (minimum) 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. If the display does not have an essay, it will automatically be deducted one ribbon placing.

Classes(Scoresheet SF259)

- S_FClass 6 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, etc.
- S_FClass 7 Crop Technology Display** – Display information about aspects of technology used in crop production, such as genetic engineering, crop breeding, GPS, yield mapping, computers, etc.
- S_FClass 8 Crop End Use Display** – Display information about the final product or end uses for a crop, such as food, feed, fuel or other products. (i.e. corn can be processed into livestock feed, ethanol, plastics, etc. or soybeans can be processed into bio-diesel, pet bedding, crayons, oil, etc.) This should not be about the process of crop production, but focus on an end product(s).
- S_FClass 9 Water or Soil Display** – Display information about water or soils, such as how soils are being used for crop production, range, conservation, wildlife, or wetland use, or ways to protect or conserve water and soil resources.
- S_FClass 10 Career Interview Display** - The purpose of this class is to allow youth to investigate a career in agronomy. Youth should interview one person that works with crops about such topics as, what parts of their job do they enjoy or dislike, why did they choose that career, what was their education, etc. Include a picture of the person interviewed.

Special Agronomy Project

The crop of the year for 2022 is broomcorn sorghum.

Classes

- S_FClass 11 Special Agronomy Project - Educational Exhibit** (Scoresheet SF259)- Educational exhibit based on what was learned from the project. Present information on a poster 14" X 22" either vertical or horizontal arrangement or in a clear plastic report cover. The 4-H member's name, age, full address, and county must be on the back of the poster or report cover. Refer to Scoresheet SF259 Each display must have a one-page essay (minimum) explaining why the exhibitor chose the area of display and what they learned from their project. Include any references used.
- S_FClass 12 Special Agronomy Project - Video Presentation** - 4-H exhibitor designs a multimedia presentation related to the crop. This could include narration of the growing process, presenting facts about the crop or any other innovative multimedia practices. The presentation should be at least 2 minutes in length and no more than 5 minutes in length, appropriate graphics, sound and either a video clip, animation or



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voice over and/or original video clip. Any of the following file formats will be accepted: mp4, .mov, .ppt, or .avi.

SE Class 13 Special Agronomy Project (Freshly Harvested Crop) Plant exhibits must be the result of the current year's project. Depending on the type of crop selected for the current year:

- **Corn - 10 ears or 3 stalks** (cut at ground level with no roots or soil and bound together)
- **Grain Sorghum - 4 stalks** (cut at ground level 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.

Supporting documentation (½ to 1-page in length) should include the following:

- Economic Analysis and/or research that supports feasibility of this crop in Nebraska or how the crop has evolved over time.
- Other topics to discuss are past/current commercial production of this crop. This includes: 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 about this crop and what you learned from your crops project. This ½ to 1-page summary counts as 50% of the total when judged.
- In addition to the summary, grain and plant exhibits will be judged on condition, appearance (i.e. disease and insect damage, grain fill), uniformity (size, shape, color, maturity), and quality of exhibit.

Weed Science Division 751

Any individual in the Conservation, Environment 1, 2, or 3, Range, Reading the Range 1 or Using Nebraska Range 2, or Crop Production, Field Crops projects may exhibit a weed book or weed display. At least 15 of the 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).

Books (Classes 1-2)

- A. Plants must be mounted on sheets that are no larger than 14" wide by 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.
- B. Exhibits will be judged based on completeness of plant mount, accuracy of identification, label, neatness, and conformity to exhibit requirements. Refer to Scoresheet SF261.
- C. Each completed mount must have the following information (see example below) in the lower right corner of the mounting sheet:
 1. Scientific name (in italic or underlined), with authority,
 2. Common name,
 3. County of collection,
 4. Collection date,
 5. Collector's name,
 6. Personal collection number, indicating the order that plants were collected in your collection,
 7. Other information depending on class selected, i.e., noxious, life form. This information should be typed or printed neatly.



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Classes

- S_FClass 1 Weed Identification Book** – A collection of a minimum of 15 plant mounts including at least two of the following prohibited noxious weeds (Canada thistle, musk thistle, plumeless thistle, saltcedar, leafy spurge, purple loosestrife, diffuse knapweed, spotted knapweed, Japanese knotweed, bohemian knotweed or phragmites), and at least three weeds that are a problem primarily in lawns.
- S_FClass 2 Life Span Book** - A collection of 7 perennials, 1 biennial, and 7 annual weeds.

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) no larger than 28" by 28" on 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. Refer to Scoresheet SF259. **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.

Classes

- S_FClass 3 Weed Display** – The purpose of this class is to allow original and creative exhibits that contain educational information about weeds, such as interesting information about a weed species, the effects of weed control, herbicide resistant weeds, what makes a weed a weed, or uses for weeds.