

# 2009 Linn County Fair



## Engineering, Agriculture & Natural Resources Department

Committee— Bill Caldwell, Eric Goettler

### Science and Engineering Projects

Rules: (Note: All General Rules and rules for Building Division apply)

#### Classes

##### 401A—Aerospace - Model

Flyable model built from a kit or original design.

**Note:** Final evaluation is based on construction, the exhibitor's knowledge of safety, and the ability of the model to fly (including stability). Construction and safety will be judged on Wednesday morning July 8 during conference judging. **To determine the final ribbon, all exhibitors must pass a safety test and a launch/flight (Wednesday July 8, Noon in the Grandstand).** Exhibitor has option to take oral or written safety test. Testing will be offered Tuesday evening July 7 from 4-8pm during booth set up and Wednesday AM during conference judging. No unstable models may be launched; exhibitor may be required to demonstrate stability, if questioned. In case of inclement weather, exhibitor must still demonstrate stability and flight preparation. Failure of model to pass safety/stability test or fly will result in a lower ribbon rating. For State Fair selection the rocket must be an original design (no kits go to State Fair). Rockets selected for State Fair will not be launched at the County Fair. Safety test must still be passed.

##### 401B—Aerospace - Other Exhibit

Educational display or other type of exhibit showing an aerospace idea such as forces involved in flying, model rocket photography, safety in flying model rockets or airplanes, test for rocket stability, etc. May include scale models or kits to illustrate a concept.

##### 421A—Automotive - Vehicle

Repaired or restored vehicle.

##### 421B—Automotive - Other Exhibit

Educational display or other type of exhibit showing an automotive idea such as safe operation, maintenance plan, comparison shopping, principles of systems operations such as electrical, braking, air bags, etc.

##### 901A—Computer

Educational display or other type of exhibit showing:

- An original computer program written by the exhibitor in a common computer language, including documentation; or
- An applied use of existing software (data base, spreadsheet, graphic design, etc.) Including printouts of the application showing work product; or
- Another idea that is an outgrowth of participation in a 4-H computer project or program.

##### 611A—Electric/Electronics

Constructed or repaired article or educational display or other type of exhibit showing an electric or electronic idea such as safety, construction techniques, lighting effects, electrical energy sources, etc.

##### 451A—Small Engine

Repaired or restored operating engine or educational display or other type of exhibit showing a small engine idea such as maintenance, function of parts, comparison, etc.

##### 441A—Tractor

Repaired or restored tractor.

##### 441B—Tractor - Other Exhibit

Educational display or other type of exhibit related to tractors showing an idea such as safe operation, maintenance plan, engine components, operation costs, principles of engine operation, safety hazards, etc.

##### 411A—Welding

Constructed article or educational display related to welding showing an idea such as safety, types of welds, comparison of welds, etc.

Note: Large items may be displayed outside.

##### 461A—Woodworking - Article

New constructed and finished article.

Note: Large outdoor items may be displayed outside.

##### 461B—Woodworking - Other Exhibit

Educational display or other type of exhibit showing a woodworking idea such as type of woods, wood finishes, safety precautions, tools and proper use, wood fasteners, woodworking skills and techniques, etc.

##### 893A—Science and Technology

Educational display or other type of exhibit showing how science and math help us understand the world. May include constructed article, posters, portfolios, notebooks, etc. to show and explain what was learned.

##### 601A—Other Science, Mechanics and Engineering Ideas

Any other exhibit which is an outgrowth of a 4-H science, mechanics and engineering project or education experience that does not fit any previous classes listed.

Note: Large items may be displayed outside.

### Agriculture & Natural Resources Projects

Rules: (Note: All General Rules and rules for Building Division apply)

#### Classes

##### 101A—Animal Science

Any exhibit (excluding an animal itself) which is an outgrowth of a small or large animal project or program including beef, dairy, goat, dog, horse, pets, poultry, rabbit, sheep, and swine. Ownership of an animal is not required for entry in this class. Exhibit topics might include, but are not limited to: selection, feeding, financial management, waste management, use of records, health care, housing or career opportunities.

**211A—Conservation**

Any exhibit that is an outgrowth of a conservation project or program such as soil conservation, creating habitats, wetland restoration, energy conservation, planting windbreaks, etc.

**701A—Crop Production**

Any exhibit which is an outgrowth of participation in a corn, soybean, small grain or forage project or program. If the exhibit involves a crop specimen, include the variety and planting date. Exhibit topics might include, but are not limited to: variety selection, plant growth, planting, plant nutrition, weed, insect or disease control, environmental protection, harvesting, storage, marketing, or career opportunities.

**221A—Entomology**

A general or special collection from an entomology or bee project. (Excluding live specimen) or any exhibit which is an outgrowth of an entomology or bee project or program such as life cycle, bee management, products (honey, wax), equipment, diseases, pests, habits of insects, insect genetics, IPM scouting, etc.

**706A—Forestry - Collection**

General or special collection, i.e. leaves, seeds, etc.

**706B—Forestry - Other Exhibit**

Any exhibit which is an outgrowth of participation in a forestry project or program such as insect or disease control, growth stages, type of tree for intended use, etc.

**865A—Outdoor Adventures and Camping**

Any exhibit which is an outgrowth of participation in an outdoor adventure or camping project or program such as camper safety, fire building, rainy day activities, outdoor cooking, day camp plan, selecting camping equipment, equipping a backpack, resource file of camping activities, orienteering , outdoor ethics, etc.

**741A—Plant Science**

Any exhibit which is an outgrowth of a plant science project or program such as collections, plant growth, plant parts, soil structure, soil maps, germination, cross breeding, root systems, etc.

**231A—Veterinary Science**

Any exhibit which is an outgrowth of a veterinary science project or program such as maintaining health, cause and prevention of disease, internal parasites, public health, careers, etc.

**880A—Safety & Education in Shooting Sports**

Any exhibit which is an outgrowth of participation in a SESS project or program such as archery, rifle, shotgun, muzzle loader, etc. Topics may include selection of equipment, record keeping in scoring, safety , care and storage of equipment, ethics, etc.

**911A—Fish and Wildlife**

Any exhibit which is an outgrowth of participation in the wildlife project or program such as fish and wildlife identification, observation, habitats, fish and wildlife harvest, other activities, etc.

**301A—Other Agriculture and Natural Resources Ideas**

Any other exhibit which is an outgrowth of a 4-H agriculture and natural resources project or educational experience that does not fit any previous class listed.