MINNESOTA STATE FAIR

Aug. 24-Sept. 4, 2017

FFA Agriculture Technology

Superintendent.....Duane Hutton, Winona, MN
Board Member..... Paul Merkins, Stewart, MN
.....Joel Larsen, New Prague, MN

FFA Agriculture Technology Rules

1. Exhibits from individual students, groups, classes, or FFA chapters.
   A. **Eligibility.** Open to Minnesota students, grades 7-12, who are currently enrolled in an agricultural education program during the 2016-2017 school year, or who are active members of a FFA chapter in good standing with the state FFA association.
      1. FFA members enrolled in new or reestablished programs are not eligible to exhibit until the fair following the first academic year of operation.
      2. Exhibitors who have not graduated from high school must have been enrolled in at least one agriculture class during the current year.
      3. Must be current, paid members in good standing of the State FFA and National FFA.
      4. Exhibits must have been completed since the close of the 2016 Minnesota State Fair.

2. A committee will evaluate projects to determine if they are the type, kind and quality to be representative of agricultural technology.

3. **Entries.**
   A. **NEW. All exhibits must be registered on-line; no unregistered exhibits will be accepted at the door.** One entry per individual per class.
   B. **Entries open May 1 - August 8, 4:30 p.m. 2017**
   C. Entries must be made by the FFA advisor.

4. **Exhibit delivery.** Exhibits should be brought to the Education Building on the delivery dates and times indicated.
   A. **Delivery dates and times.** Monday, August 21, 2017, 8 a.m. to 4 p.m. and Tuesday, August 22, 2017 8 a. m. to noon.
      1. Exhibits to be brought to the Education Building. Very large projects are to be brought in before August 15; contact Joel Larsen at joel.larsen@state.mn.us for assistance.
   B. **Exhibits may not be dropped off at any other time,** unless prior arrangements for staff from the the FFA Agricultural Technology to be present to accept exhibits.
      1. The K-12 Competition and Technology Education staff will not accept exhibits entered in the FFA Agricultural Technology division.

5. **Identification.**
   A. **Exhibit tags.** Will include the following information: Class description, student name, student grade and FFA chapter name.
      1. Tags will be mailed to the address of the advisor who registered the entries.

6. **Judging.** In classes where entries exceed 10, classes may be split at the discretion of the superintendent.
   A. Judging begins the day before fair starts. After judging, entries will be selected for display.
   B. Points are calculated on: quality of workmanship, design, fabrication, finish and overall appearance, functionalism, selection of materials, and safety.
      1. Quality of workmanship, design, fabrication, finish and overall appearance, functionality, selection of materials, and safety.

7. **Removal of exhbits.** September 6-7, 2017, from 10 a.m. to 6 p.m.
   A. Appointments for exhibit removal for dates/times other than above must be made by contacting the Competition Department at (651) 288-4417.

Division A: Leadership

Leadership

1. **Exhibits.** Include education materials, science display or projects relating to Leadership, Power, Structures, and Electricity Systems; Natural Resource and Environmental Systems; Animal and Plant Sciences.
   A. Educational materials defined as projects or displays allowing individuals to read, learn, and understand a concept or standard.
      1. Term papers and reports are not included in educational materials.
   B. Must be student made, and reflecting an activity carried out in any agricultural mechanic subject area. May be the work of an individual student, or a group of two or more students.
   C. Working models, graphic, or three dimensional presentations.
   D. Exhibits should be mounted on plywood, masonite or other sturdy material for display.
   E. **Judging.**
      1. Basis for judging design and functionalism will be the effectiveness of the project or teaching aid in illustrating or clarifying a principle or idea.
      2. Special consideration given to workmanship and suitability for public display in judging.

Premiums for Leadership

Divisions A-F (except champions)
$13 $10 $8 $6 $3

Class Listing for Leadership

Leadership

1 Educational Materials, Individual
Displayed at the FFA Chapter House and Leadership Center.

2 Educational Materials, Group
Displayed at the FFA Chapter House and Leadership Center.

3 Educational Materials, Chapter
Displayed at the FFA Chapter House and Leadership Center.

15 Champion; Leadership

Division B: Power, Structures and Electricity Systems

Power, Structures and Electricity Systems

1. **Exhibits.** Include education materials, science display or science fair projects relating to Leadership, Power, Structures, and Electricity Systems; Natural Resource and Environmental Systems; Animal and Plant Sciences.
   - A. Educational materials defined as projects or displays allowing individuals to read, learn, and understand a concept or standard.
     1. Term papers and reports are not included in educational materials.
   - B. Must be student made, and reflecting an activity carried out in any agricultural mechanic subject area. May be the work of an individual student, or a group of two or more students.
   - C. Working models, graphic, or three dimensional presentations.
   - D. Exhibits should be mounted on plywood, masonite or other sturdy material for display.
   - E. **Judging.**
     1. Basis for judging design and functionalism will be the effectiveness of the project or teaching aid in illustrating or clarifying a principle or idea.
     2. Special consideration given to workmanship and suitability for public display in judging.

Premiums for Power, Structures and Electricity Systems

Divisions A-F (except champions)
$13 $10 $8 $6 $3

Class Listing for Power, Structures and Electricity Systems

Power, Structures and Electricity Systems

1 Educational Materials, Individual
2 Educational Materials, Group
3 Educational Materials, Chapter

15 Champion; Power, Structures and Electricity Systems

Division C: Natural Resource & Envrmnt Sys

Natural Resource and Environmental Systems

1. **Exhibits.** Include education materials, science display or science fair projects relating to Leadership, Power, Structures, and Electricity Systems; Natural Resource and Environmental Systems; Animal and Plant Sciences.
   - A. Educational materials defined as projects or displays allowing individuals to read, learn, and understand a concept or standard.
     1. Term papers and reports are not included in educational materials.
   - B. Must be student made, and reflecting an activity carried out in any agricultural mechanic subject area. May be the work of an individual student, or a group of two or more students.
   - C. Working models, graphic, or three dimensional presentations.
   - D. Exhibits should be mounted on plywood, masonite or other sturdy material for display.
   - E. **Judging.**
     1. Basis for judging design and functionalism will be the effectiveness of the project or teaching aid in illustrating or clarifying a principle or idea.
     2. Special consideration given to workmanship and suitability for public display in judging.

Premiums for Natural Resource & Envrmnt Sys

Divisions A-F (except champions)
$13 $10 $8 $6 $3

Class Listing for Natural Resource & Envrmnt Sys

Natural Resource and Environmental Systems

1 Educational Materials, Individual
2 Educational Materials, Group
3 Educational Materials, Chapter

15 Champion; Natural Resources and Environmental Systems

Division D: Animal Sciences

Animal Sciences

1. **Exhibits.** Include education materials, science display or science fair projects relating to Leadership, Power, Structures, and Electricity Systems; Natural Resource and Environmental Systems; Animal and Plant Sciences.
   - A. Educational materials defined as projects or displays allowing individuals to read, learn, and understand a concept or standard.
     1. Term papers and reports are not included in educational materials.
   - B. Must be student made, and reflecting an activity carried out in any agricultural mechanic subject area. May be the work of an individual student, or a group of two or more students.
   - C. Working models, graphic, or three dimensional presentations.
   - D. Exhibits should be mounted on plywood, masonite or other sturdy material for display.
   - E. **Judging.**
     1. Basis for judging design and functionalism will be the effectiveness of the project or teaching aid in illustrating or clarifying a principle or idea.
     2. Special consideration given to workmanship and suitability for public display in judging.

Premiums for Animal Sciences

Divisions A-F (except champions)
$13 $10 $8 $6 $3

Class Listing for Animal Sciences

Animal Sciences

1 Educational Materials, Individual
2 Educational Materials, Group
3 Educational Materials, Chapter

15 Champion; Animal Sciences

Division E: Plant Sciences

Plant Sciences

1. **Exhibits.** Include education materials, science display or science fair projects relating to Leadership, Power, Structures, and Electricity Systems; Natural Resource and Environmental Systems; Animal and Plant Sciences.
   A. Educational materials defined as projects or displays allowing individuals to read, learn, and understand a concept or standard.
      1. Term papers and reports are not included in educational materials.
   B. Must be student made, and reflecting an activity carried out in any agricultural mechanic subject area. May be the work of an individual student, or a group of two or more students.
   C. Working models, graphic, or three dimensional presentations.
   D. Exhibits should be mounted on plywood, masonite or other sturdy material for display.
   E. **Judging.**
      1. Basis for judging design and functionalism will be the effectiveness of the project or teaching aid in illustrating or clarifying a principle or idea.
      2. Special consideration given to workmanship and suitability for public display in judging.

Premiums for Plant Sciences

Divisions A-F (except champions)
$13 $10 $8 $6 $3

Class Listing for Plant Sciences

Plant Sciences

1 Educational Materials, Individual
2 Educational Materials, Group
3 Educational Materials, Chapter

15 Champion; Plant Sciences
20 Grand and Reserve Champion (divisions A-E)

Division F: Directed Activities

Directed Activities

1. **Exhibits.** Reflect introductory learning experiences, which develop skills that will be transferred to advanced project construction.
   A. Must be the work of an individual student.
   B. Must have an appropriate finish, and display quality workmanship.

Premiums for Directed Activities

Divisions A-F (except champions)
$13 $10 $8 $6 $3

Class Listing for Directed Activities

Introductory Wood

1 Introductory wood project
3 Tool box
4 Bird House
5 Nail or tool carrier
6 Plant stand
7 Bird feeder
8 Wood shelf

9 Champion; Directed Activities, Introductory Wood

Intermediate Wood

10 Sawhorse
11 Wood duck house
12 Bluebird house
13 Show box, crates, livestock handling equipment
14 Tool carrier, shop storage units
15 Tray or folding table
16 Lawn or garden furniture
Lawn chair; lawn, garden or picnic table
17 Livestock feeder
18 Miscellaneous intermediate wood project
19 Plant stand
21 Picnic, lawn or garden table

23 Champion; Directed Activities, Intermediate Wood

Introductory Metal

26 Miscellaneous introductory metal project
27 Laser cut project
28 C clamp
29 Drawbar hitch pin
30 Chisels and punches
31 Eye bolt
32 Nut and bolt, using tap and die
33 Drill bit gauge
34 Plant stand

35 Sheet metal project
36 Tool box

44 Champion; Directed Activities, Introductory Metal

Intermediate Metal

50 Shop stand
51 Adjustable roller work stand
52 Portable light
53 Implement ramp
54 Lawn chair
55 Two wheel utility cart
56 Mechanics safety stand
57 Fish spear
58 Tree stand
59 Tool gauge
60 Weather vane
61 Clothes line pole
62 Picnic table
63 Post puller
64 Welded stand
65 Snowmobile stand
66 Garden arbor
67 Mail box post
68 Tool box
69 Shop work bench
70 Miscellaneous intermediate metal project
71 Metal display sign
72 Laser design project
73 Welded art

74 Champion; directed activities, intermediate metal

Natural Resources and Outdoor Environment Projects

75 Forestry and natural resources, metal
76 Forestry and natural resources, wood
77 Forestry and natural resources, recreational
78 Forestry and natural resources, habitat
79 Special wood project with application for agricultural use
80 Special metal project
81 Special concrete project
82 Special electric project
83 Special hydraulic project
86 Miscellaneous project

87 Champion; Directed Activities, Natural Resources and Outdoor Environment Projects

Advanced Construction

90 Wood project
With project plan.

91 Metal project
With project plan.

92 Shop work bench

93 Miscellaneous advanced project
With project plan.

96 Champion; Directed Activities, Advanced Construction

99 Grand and Reserve Champion (division F)

Multifaceted Construction

100 Designed Adirondack wood chair
Using Wood Craft Project plan 412186

101 Champion; Multifaceted Construction, Designed Adirondack wood chair
DeWalt Drill Set awarded.

Multifaceted Construction

102 Designed welding table
Project plan available from superintendent Joel Larsen.

103 Champion; Multifaceted Construction, Designed welding table
Lincoln Electric MIG Welder - provided by Fastenal Manufacturing.

Division G: Large Construction Project

Large Construction Project

1. **Exhibits.** Entries in this division are projects too large or expensive to transport and display. No small projects.
   A. Exhibits will consist of plans, pictures, and an explanatory informational paragraph of the project.
   B. Exhibits should be mounted on tagboard for display.
   C. **Judging.** Judged on uniqueness of design, utility, and workmanship.

Premiums for Large Construction Project

Divisions G and L (except champions)
$20 $16 $13 $10 $7

Class Listing for Large Construction Project

Large Construction Project

1 Permanent agricultural building
2 Portable agricultural building
3 Large projects primarily of wood, wood planter box
Plans provided.
4 Large projects primarily of metal, portable welding table
Plans provided.
5 Large energy conservation project, portable light stand
Plans provided.
6 Mechanization using sensing controls
7 Miscellaneous large construction

15 Champion; Large Construction Project

Division H: Misc Ag and Home Equipment

Miscellaneous Agriculture and Home Equipment

1. Must be the work of an individual student.

Premiums for Misc Ag and Home Equipment

Divisions H-K (except champions)
$40 $33 $26 $20 $15

Class Listing for Misc Ag and Home Equipment

Miscellaneous Agricultural and Home Equipment Construction

1 Home farm shop equipment and power tools
examples: work benches, tool cabinets, power saws
2 Home & farmstead labor saving equipment, largely of wood
examples: self feeders, holding pens, chutes
3 Home & farmstead labor saving equipment, largely of metal
examples: gates, feed carts, post drivers
5 Wood splitting machine or tool
May utilize a small gasoline engine or tractor as power source.
6 Home & farmstead recreational equipment
8 Hydraulic press
9 Motor stands
10 Welding table
11 Work bench
12 Alternate energy related project
13 Engine hoist
14 Miscellaneous equipment

15 Champion; Misc. Agricultural and Home Equipment

Division I: Major Ag Equipment

Major Agricultural Equipment

1. **Exhibits.** Must be able to pass through an eight foot door.
   A. **Restored tractors.** Must be unloaded. Will be displayed in Education Building.

Premiums for Major Ag Equipment

Divisions H-K (except champions)
$40 $33 $26 $20 $15

Class Listing for Major Ag Equipment

Major Agricultural Equipment

1 Tandem wheel implement trailer
2 Two wheel trailer
Must include the running gear and box or rack.
3 Carpentry
Construction largely of wood. Examples: wagon or trailer boxes, large feeders, farrowing crates, brooder houses, etc.
4 Metal construction (consisting largely of metal)
Construction largely of metal. Examples: garden tractors, grain or bale elevators, livestock crate, etc.
5 Loading chute
6 Large alternate energy project
7 Project utilizing hydraulic components
8 Tractor restoration
9 Miscellaneous agricultural equipment
10 Miscellaneous agricultural power units
11 Multipurpose application of sensing and automatic controls
12 Miscellaneous major agricultural equipment
13 Lawn and garden equipment

15 Champion; Major Agricultural Equipment

Division J: Ag-Mech-Tech

Ag-Mech-Tech

1. A project that has been constructed or may be used to develop an instructional outline that teaches principles, concepts and rules as applied to agricultural mechanics in agricultural education using mechanics, geometric, mathematical, physics, etc.

2. **Exhibits.** Exhibits in Ag-Mech-Tech and Computer-Mech-Tech will be selected from exhibits entered in the Exchange of Ideas Competition at the State MVAIA Meeting in July for competition at the Minnesota State Fair.
   A. Stand alone projects may be entered.
   B. If the physical item is too large to transport to the fair, a 5 x 7 inch or 8 x 10 inch picture may be substituted.
   C. All printed materials, pictures, sketches, and instructional outlines must be mounted on heavy tag board or fiberboard.

Premiums for Ag-Mech-Tech

Divisions H-K (except champions)
$40 $33 $26 $20 $15

Class Listing for Ag-Mech-Tech

Ag-Mech-Tech

1 Power technology
Fluid, internal combustion, water, solar, pneumatics.
2 Machinery applications
Moving materials, harvest, storage, processing.
3 Environmental
Water, soil, air.
4 Sensor and control technology
Electronic, electrical, compter.
5 Construction and fabrication technology
Materials, processes, procedures, assembly techniques.
6 Combination of two or more concepts

Division K: Computer-Mech-Tech

Computer-Mech-Tech

1. Should illustrate the application of computer science to agricultural technology in agricultural education.
2. **Exhibits.** Exhibits in Ag-Mech-Tech and Computer-Mech-Tech will be selected from exhibits entered in the Exchange of Ideas Competition at the State MVAIA Meeting in July for competition at the Minnesota State Fair.
   A. Stand alone projects may be entered.
   B. Pictures, sketches, and printouts explaining the project are to be mounted on heavy tag board or fiberboard.

Premiums for Computer-Mech-Tech

Divisions H-K (except champions)
$40 $33 $26 $20 $15

Class Listing for Computer-Mech-Tech

Computer-Mech-Tech

1 Power technology
Fluid, internal combustion, water, solar, pneumatics.

2 Machinery applications
Moving materials, harvest, storage, processing.

3 Environmental
Water, soil, air.

4 Sensor and control technology
Electronic, electrical, computer.

5 Construction and fabrication technology
Materials, processes, procedures, assembly techniques.

6 Combination of two or more concepts

15 Champion; Ag-Mech-Tech and Computer-Mech-Tech (classes J-K)

Division L: Nursery Landscape

Nursery Landscape

1. Projects reflect student skill development in developing and drawing landscape projects.
2. **Exhibits.**
   - A. May be work of individual or group.
     1. May reflect work done at home, school, or for a SAE project.
   - B. All printed materials should be assembled as a display on heavy tag board or other suitable material.
     1. Maximum size of display is 3 x 3 feet.
     2. Pictures should be 5 x 7 inches or larger.
   - C. Projects may not be entered in both Nursery Landscape and Landscape Design and Construction Competition.

Premiums for Nursery Landscape

Divisions G and L (except champions)
$20 $16 $13 $10 $7

Class Listing for Nursery Landscape

Nursery Landscape

1 Landscape design drawings

2 Landscape project
Includes design drawings, budget, and photos showing before, during, and at completion of project.

15 Champion; Nursery Landscape

25 Grand and Reserve Champion (divisions G-K)

30 Best of Show Champion (all divisions)

2017 MN STATE FAIR FFA AG MECH WELDING CONTEST

Welding Bench Construction

In partnership with Fastenal Manufacturing Division in Winona, MN this year's Ag Mech Welding contest at the MN State Fair will be better than ever! Each contestant will be supplied with a professional blueprint and material list from which to construct a 4x4' Welding Bench. Contestants will be judged on adherence to the print, soundness of construction, overall appearance, and knowledge of general welding practices.

GRAND CHAMPION WILL RECEIVE A MIG WELDER PROVIDED BY FASTENAL MANUFACTURING!

Build a Welding Table

Enter it in the FFA contest at the MN State Fair

Earn a new Lincoln MIG Welder

See 2017 MN State Fair FFA Premium Book for Registration Instructions

Fastenal's 100,000 SqFt Manufacturing shop in Winona is always open to School and individual Tours If in the area please stop in Contact Scott Rodeghier to set up a tour!

FASTENAL MANUFACTURING
1801 Theurer BLVD
Winona, MN 55987
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FASTENAL MANUFACTURING CONTACTS

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CHECK OUT THE FASTENAL CHANNEL ON YOUTUBE
GO TO THE FASTENAL CHANNEL
SELECT PLAYLISTS
SELECT FASTENAL MANUFACTURING FOR DETAILED VIDEOS!

MN STATE FAIR CONTEST CONTACT

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Example Table Layout

Final Print and Parts list to be provided with Contest Registration

Welding Table Parts List

Key	Quantity	Description
1	6	37" x 2x2x1/8" square tubing
2	4	27" x 2x2x1/8" square tubing
3	2	12" x 2x2x1/8" square tubing
4	4	48" x 2x2x1/8" square tubing
5	1	29" x 2x2x1/8" square tubing
6	1	4' x 4' x 1/4" top plate or 7 gauge sheet metal
7	1	12 ½" x 12 ½" 16 gauge sheet metal
8	1	7" x 12" 16 gauge sheet metal
9	3	12 ½" x 26 ¾" 16 gauge sheet metal
10	1	12 ½" x 19 ¼" 16 gauge sheet metal
11	2	7" x 12 ¼" 16 gauge sheet metal
12	1	8 ¼" x 12 ½" 16 gauge sheet metal
13	1	12" x 12 ¼" 16 gauge sheet metal
14	16	3/8" x ½ bolts for wheels
15	1	41" x 48" x 1/8" Sheet metal plate
16	1	1" x ¼" x 7 ½" flat bar stock (drawer handle)
17	1	1" x ¼" x 10' flat bar stock (plasma grate)
18	2	¾" x ¾" x 12" angle iron (grate support)
19	4	¾" x ¾" 12 ½" angle iron (plasma chute)
20	4	4" x 4 ½" x ¼" plate for mounting wheels
21	2	Stationary wheels rated @ 1,000# each.
	2	Swivel wheels rated @ 1,000# each with locks

2" diameter pipe about 3"
¼" round bar stock for tool holders, torch holders, etc.