Ag Communications

Contest Description and Rules:

Please direct questions to:

Whitney Barnes  Kristen Hatzinger  Wendy Prow
whitney.barnes@my.uwrf.edu  kristen.hatzinger@my.uwrf.edu  wendy.prow@my.uwrf.edu

RULES:
The Agricultural Communications contest will include ALL portions of the National FFA Agricultural Communications Contest. **Please reference the National FFA CDE Handbook for details. (https://www.ffa.org/documents/cde_agcomm_2012.pdf)

EVENT COMPONENTS:

1) Ag Related Media Plan

**2013 MEDIA PLAN SCENERIO**

Your chapter has been contacted by the National FFA Organization, to create a media plan to help recruit participants or promote an international travel program through National FFA, such as ILCSO, Go: Africa or I-CAL. Your chapter can decide what the participant goal or program will be. You have a $25,000 budget for this media plan.

**One printed copy of the plan must be postmarked BEFORE 3/16/13** to the below address.
UWRF Ag Education Department
310 South 3rd Street
River Falls, WI 54022

2) Tests

- Editing exercise test (30 min)
- Communications quiz (30 min)

3) Media Plan Presentation (25 Min per team)

**Members must bring own technology (Presentations will occur in a small conference room. Projectors will not be needed. A laptop or tablet can be used for electronic presentations, but is not required)**

- 5 minutes set up
- 15 minutes in front of a panel of judges
- 5 minutes of tear down
- 5 minutes for judges to collaborate
4) **Practicums**

   Press Conference (30 Minutes)
   Break out into 3 areas: (1 Hour)
   - Design (4 teams)
   - Electronic Media (4 teams)
   - Writing (4 teams)

**2013 PRACTICUM DETAILS**

**Design**
- Activity: Magazine Layout
- Software: InDesign

**Electronic Media Specialist**
- Activity: Social Media Plan
- Software: Microsoft Word

**Writer**
- Activity: News Story
- Software: Microsoft Word

**EVENT POINTS**

**Media Plan Proposal** 200

**Media Plan Presentation** 125

Tests- 150 points possible
- Communications Quiz 75 (25 pts/member)
- Editing Exercise 75 (25 pts/member)

Practicums- 300 points possible
- Writer Practicum 100
- Electronic Media Practicum 100
- Design Practicum 100

Total individual score possible 150
Total team score possible 775
TIE BREAKERS

1. Team ties will be broken in the following order:
   a. Combined Media Plan Proposal & Presentation rankings (state FFA contest only)
   b. Practicum rankings
   c. Quiz rankings
   d. Editing exercise rankings

2. Individual ties will be broken in the following order:
   a. Practicum Ranking
   b. Quiz Ranking
   c. Editing exercise ranking
Agronomy

Contest Description and Rules:

Please direct questions to:

Dr. Loretta Ortiz-Ribbing
Plant and Earth Science Department
University of Wisconsin-River Falls
loretta.ortiz-ribbing@uwrf.edu
715-425-3989

or

Garett Heineck, Student Co-Chair
garett.heineck@my.uwrf.edu

Jenna Lisowe, Student Co-Chair
jenna.lisowe@my.uwrf.edu

The Agronomy Contest will be in three parts:

1. Identification:

Identify selected specimens of common weed and crop plants and seeds. 
Specimens will be selected from the list below.

<table>
<thead>
<tr>
<th>Crop Species</th>
<th>Weed Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>Plantains</td>
</tr>
<tr>
<td>Barley</td>
<td>Bull thistle</td>
</tr>
<tr>
<td>Birdsfoot trefoil</td>
<td>Canada thistle</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>Chickweed</td>
</tr>
<tr>
<td>Canola</td>
<td>Common burdock</td>
</tr>
<tr>
<td>Corn</td>
<td>Common lambsquarter</td>
</tr>
<tr>
<td>Cotton</td>
<td>Dandelion</td>
</tr>
<tr>
<td>Field bean</td>
<td>Eastern black nightshade</td>
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<tr>
<td>Flax</td>
<td>Field pennycress</td>
</tr>
<tr>
<td>Grain sorghum</td>
<td>Large crabgrass</td>
</tr>
<tr>
<td>Kentucky bluegrass</td>
<td>Pennsylvania smartweed</td>
</tr>
<tr>
<td>Oat</td>
<td>Quackgrass</td>
</tr>
<tr>
<td>Orchardgrass</td>
<td>Ragweed</td>
</tr>
<tr>
<td>Peanut</td>
<td>Redroot pigweed</td>
</tr>
<tr>
<td>Potato</td>
<td>Sandbur</td>
</tr>
<tr>
<td>Red clover</td>
<td>Shepherd’s purse</td>
</tr>
<tr>
<td>Rice</td>
<td>Velvetleaf</td>
</tr>
<tr>
<td>Rye</td>
<td>Wild mustard</td>
</tr>
<tr>
<td>Soybean</td>
<td>Yellow foxtail</td>
</tr>
<tr>
<td>Sugarbeet</td>
<td>Yellow nutsedge</td>
</tr>
<tr>
<td>Sunflower</td>
<td></td>
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</tbody>
</table>

http://www.uwrf.edu/AGED/AgriculturalTechnologyContest.cfm
22. Timothy
23. Triticale
24. Wheat
25. White Clover

2. Written Examination:

The emphasis of the exam is on agronomic field crops including:
   i. General plant morphology, elementary physiology, growth, and reproduction.
   ii. Crop management including fertility and control of insects, diseases, and weeds.
   iii. Harvesting, storage, and quality of crops.
   iv. Sprayer, fertilizer spreader, and planter calibration.

3. Lab Practical:

The purpose of the lab practical is to provide experience in the identification of insects, diseases, equipment, fertilizers, and other aspects of crop production. In addition, students will be asked to rank several sets of four samples of grain and/or forage from best to worst. No reasons will be required. Questions will be taken from the list below.

<table>
<thead>
<tr>
<th>Insects</th>
<th>Equipment</th>
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</thead>
<tbody>
<tr>
<td>1. Alfalfa weevil</td>
<td>1. Anhydrous ammonia applicator</td>
</tr>
<tr>
<td>2. Bean leaf beetle</td>
<td>2. Broadcast fertilizer spreader</td>
</tr>
<tr>
<td>4. European corn borer</td>
<td>4. Combine</td>
</tr>
<tr>
<td>5. Fall armyworm</td>
<td>5. Cultipacker seeder</td>
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<tr>
<td>7. Grasshopper</td>
<td>7. Disk</td>
</tr>
<tr>
<td>8. Lady beetle</td>
<td>8. Field sprayer</td>
</tr>
<tr>
<td>11. Potato leaf hopper</td>
<td>11. Grain drill</td>
</tr>
<tr>
<td>12. Alfalfa weevil</td>
<td>12. Grain moisture tester</td>
</tr>
<tr>
<td>15. White grub</td>
<td>15. Moldboard plow</td>
</tr>
<tr>
<td>16. Wireworm</td>
<td>16. Rotary tiller</td>
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<tr>
<td></td>
<td>17. Row crop planter</td>
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<tr>
<td></td>
<td>18. Soil probe</td>
</tr>
<tr>
<td></td>
<td>19. Subsoiler</td>
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<tr>
<td></td>
<td>20. Swather/Windrower</td>
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<tr>
<td></td>
<td>Diseases</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Anthracnose</td>
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<tr>
<td>2</td>
<td>Bacteria Wilt</td>
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<tr>
<td>3</td>
<td>Ear Rot</td>
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<td>4</td>
<td>Ergot</td>
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<tr>
<td>5</td>
<td>Leaf Spot</td>
</tr>
<tr>
<td>6</td>
<td>Leaf/Stem Rust</td>
</tr>
<tr>
<td>7</td>
<td>Phytophthora root rot</td>
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<tr>
<td>8</td>
<td>Powdery Mildew</td>
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<tr>
<td>9</td>
<td>Smut</td>
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<tr>
<td>10</td>
<td>Verticillium Wilt</td>
</tr>
</tbody>
</table>
Agricultural Mechanics

Contest Description and Rules:

Please direct questions to:

Dr. Dean Olson
Agricultural Engineering Department
University of Wisconsin-River Falls
dean.ivanolson@uwrf.edu
715-425-3985

Event Theme for 2013: Processing Systems

Individuals participating in contest and/or event activities are required to provide:

- Pencils
- Calculators
- SAFETY GLASSES
- Appropriate Clothing (for the performance of skill activities)

FAILURE to wear SAFETY GLASSES and APPROPRIATE CLOTHING, which is in good repair, will result in loss of points for safety and/or disqualification from the impacted activities.

The University of Wisconsin-River Falls, Agricultural Engineering Technology Department, will provide all necessary specialized equipment for the performance of skill activities.

The University of Wisconsin-River Falls, Agricultural Engineering Technology Department, will furnish all other materials. Materials will include, but not limited to, hand and power tools, technical manuals, and computer (hardware and software). Computer hardware will be Windows based.

Individual and Team activities may include a broad range of problem solving and performance skills. Activities will be related to the event theme as defined by the National FFA Foundation.

Machinery & Equipment Systems Skill:
For this activity, we will emphasize one or more of the following types of equipment used in the Dairy Processing industry:

- Pasteurizers, Homogenizers, Evaporators, Separators or Clarifiers.
- Cheese Presses, or Cheese Cutters.
- Vacuum Pack or Bottling Machines.
We will consider the use of these machines in the efficient and sanitary handling of liquid milk and processed dairy products. Skills would include, but not be limited to calibration, selection, adjustment, troubleshooting and operation.

**Electrical Systems Skill:**
The focus of the electrical systems skill will be to analyze, interpret and/or troubleshoot electrical circuits with the following types of electrical equipment:
- Electrical relays and other common electrical devices.
- Variable Speed Electric Motors.
- Solid and/or liquid Level Control devices
- Voltage Drop/Wire size selection.

These electrical devices/skills are used for handling dairy products at all stages of a processing facility. Skills would include, but not be limited to adjustment, troubleshooting and operation of these devices, or reading/interpreting electrical diagrams.

**Energy Systems Skill:**
The energy systems skill will be related to Dairy Processing Systems including milk, ice cream and cheese production.
- Pumps and pump performance curves.
- Friction loss in pipes.
- Energy balance related to a process such as making Powdered Milk.

The ability to select, operate and maintain these devices or apply these concepts are valuable skills needed in a dairy processing facility.

**Structural Systems Skill:**
Estimating, planning and construction of dairy processing facilities are central to modern Dairy Processing systems. A general understanding of structural systems will enable students to perform one or more of the following:
- Interpret building plans.
- Demonstrate fabrication and/or construction skills including arc welding, metal fabrication or oxy-welding/brazing skills.
- Demonstrate problem solving/practical skills related to concrete, plumbing, building materials and HVAC systems.

**Environment and Natural Resource Systems Skill:**
The Dairy Processing Industry handles large volumes of milk, and the major waste material from processing is wastewater. The treatment and disposal of this wastewater is a major concern to the Dairy Industry. Key concepts in wastewater treatment/disposal will be considered:
- Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD).
- Treatment and disposal of high strength casein/cheese wastewater.
- Impact of land application of wastewater on soil and water quality.
Team Activity:
The team activity will be developed around a general theme of Dairy Processing systems. The team activity will be based on one of the following suggested topics:
  - Developing operational plans for the collection, storage and sanitation of equipment needed to collect milk from producers.
  - Design, construct and test a component needed for a customized milk processing machine.
  - Evaluate the quality of product from a processing system.
  - Develop a waste management plan from a Cheese Manufacturing facility.

Event and Contest Organization:
- Individual skill/problem solving activities:
  - 60 minutes, (3 of 5 system activities will be selected)
- Written examination:
  - 60 minutes, (50 multiple-choice questions, 10 from each of the 5 systems)
- Team activity:
  - 60 minutes, (integrated problem associated with the theme)

FFA Qualifying Event:
- Teams participating in the Wisconsin FFA Ag Mechanics Qualifying Event will compete in all of the areas listed above. A team consists of 3 or 4 individuals. The scores of the top 3 individuals for a team will be used to develop the team score.

Ag Technology Contest:
- Teams participating in the Ag Technology-Ag Mechanics Contest will compete in the individual skill/problem solving activities and the written examination; they will not complete the team activity. A team consists of 2 individuals.

Scoring:
- FFA Qualifying Event:
  - Written examination: 30%
  - Individual skill/problem solving activities: 45%
  - Team Activity: 25%
    - Total: 100%
- Ag Technology Contest:
  - Written examination: 50%
  - Individual skill/problem solving activities: 50%
    - Total: 100%
Invitational Crop Show

Contest Description and Rules:

Please direct questions to:

Dennis Cosgrove
Plant and Earth Science Department
University of Wisconsin-River Falls
dennis.r.cosgrove@uwrf.edu
715-425-3989

Veronica Justen
Plant and Earth Science Department
University of Wisconsin-River Falls
veronica.justen@uwrf.edu
715-425-3989

In conjunction with the Agricultural Technology Contest, all FFA Chapters are invited to submit entries for judging in this year’s crops contest. Class descriptions and contest rules are given below with each chapter allowed one entry per class.

- Trophies will be awarded to first prize winners in each class.
- Ribbons will be awarded for the first five placings in each class.
- Points will be awarded for placing in each class. Highest point total will determine the chapter to receive "Tops of the Crops" Excellence Trophy.

Class Quantity Rules

1. Ear Corn 6 ears Reasonable storage moisture
2. Oats 3 quarts Reasonable storage moisture
3. Soybeans 3 quarts Reasonable storage moisture
4. Miscellaneous Grains* 3 quarts All must be at reasonable storage moisture
5. Shelled Corn 3 quarts Reasonable storage moisture
6. Legume Hay 10-12" bale slice Alfalfa, clover or birdsfoot trefoil cutting; not more than 30% grasses
7. Mixed Legume/Grass 10-12" bale slice A combination of legumes and grasses
8. Grass Hay 10-12" bale slice Must contain at least 70% grasses
9. Corn Silage 1 gallon Undergone fermentation, cannot be freshly chopped
10. Haylage, Grass Silage 1 gallon Undergone fermentation, cannot be freshly chopped
11. Longest ear of corn 1 ear Flint corn not eligible

*Sunflowers and high moisture corn will not be judged.

REASONS FOR DISQUALIFICATION

- Insufficient or incorrect sample quantity
- Commercially graded samples
- Late entries
- Entered in the wrong class
- Adulterated sample
Entry Procedures

- Samples must be entered by 10:00 a.m., April 6th, 2013, to Dennis Cosgrove, Veronica Justen or other agronomy staff at the Invitational Crops Contest Headquarters on the second floor of the Agricultural Science Building.
- Samples will also be accepted prior to the contest in case of distance of hardship.
- Submitted samples will NOT be returned.
- The top five entries in each class, their evaluations, and their ribbons will be displayed on tables located on the 2nd floor of the Ag Science Building.
Dairy Cattle Evaluation

Contest Description and Rules:

Please direct questions to:

Dr. Steve Kelm
Animal and Food Science Department
University of Wisconsin-River Falls
steven.kelm@uwrf.edu
715-425-3704

Materials Needed

- A clipboard free from notes or other markings
- Several sharpened No. 2 pencils – No Pens
- Scratch paper will be provided - no extra paper will be allowed

Event Format

A. Dairy Management / DHI Record Analysis Exam (50 points) – FFA and Ag Tech

1. The exam will consist of a 25-question written exam involving dairy management practices and DHI records. Ten questions will focus on interpretation of DHI records that may include individual cow production records, somatic cell count summaries, and herd management summaries. Fifteen questions will be concerned with various dairy management and industry-related topics. Each question will be worth two points for a total of 50 points. All questions will utilize a multiple choice or true/false format. Twenty minutes will be allowed for the exam.

2. DHI records will be provided to answer the questions utilized within the exam.

B. Sire selection exercise (50 points) – FFA and Ag Tech

1. The sire selection exercise requires participants to utilize linear descriptive traits for a single cow and four potential mates. A scenario will be presented that clearly outlines the goals of the breeder. Participants will rank the four potential mates from most desirable mating to least desirable mating.

2. Linear evaluation and production information will be provided on the cow along with predicted transmitting abilities for the sires.

3. Ten minutes will be allowed for this exercise.
C. Evaluation and selection (200 points) – FFA and Ag Tech

1. Four classes of four dairy cattle each will be placed on type. Three classes will utilize lactating cattle and one class will feature virgin heifers.
2. Each class is allowed 50 points for a correct placing.
3. Participant will have at least 12 minutes to place each class. Fifteen minutes will be allowed for the class upon which oral reasons will be based.

D. Type analysis questions (50 points) – FFA and Ag Tech

1. A placing class of four animals will be used for this exercise. Ten questions will require the contestants to select the animal in the class which has the most desirable or least desirable feature (e.g. strongest fore udder attachment, sharpest at the withers).
2. Each question will have only one correct answer. Each question will be worth five points for a total of 50 points.
3. A total of 12 minutes will be allowed for this exercise.

E. Oral reasons (50 points) – FFA only!

1. Oral reasons will be required on one class of lactating cows. The class will be designated by the event superintendent prior to the actual judging of the class.
2. Oral reasons will be given immediately following the judging classes.
3. A maximum score of 50 points will be given to a perfect set of reasons. Participants are encouraged to refrain from utilizing notes during the delivery of reasons. If notes are used, a maximum score of 40 points will be given to a perfect set of reasons.
4. Participants will have at least 15 minutes to prepare for oral reasons.

Scoring Summary – Individual within the FFA Qualifying Contest
Exercise Maximum Points

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Dairy Management / DHI Record Analysis Exam</td>
<td>50</td>
</tr>
<tr>
<td>B. Sire selection</td>
<td>50</td>
</tr>
<tr>
<td>C. Evaluation and selection</td>
<td>200</td>
</tr>
<tr>
<td>D. Type analysis questions</td>
<td>50</td>
</tr>
<tr>
<td>E. Oral reasons</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL POSSIBLE SCORE</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

Scoring Summary – Individual within the Ag Tech Contest
Exercise Maximum Points

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Dairy Management / DHI Record Analysis Exam</td>
<td>50</td>
</tr>
<tr>
<td>B. Sire selection</td>
<td>50</td>
</tr>
<tr>
<td>C. Evaluation and selection</td>
<td>200</td>
</tr>
<tr>
<td>D. Type analysis questions</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL POSSIBLE SCORE</strong></td>
<td><strong>350</strong></td>
</tr>
</tbody>
</table>
Tiebreakers – FFA
If ties occur between individuals or teams competing within the FFA contest, the following exercises will be used in order to determine award recipients:

1. Oral reasons score (team total oral reasons score in the case of a tie between teams)
2. Dairy management / DHI record analysis exam (team total in case of a tie between teams)
3. Type analysis questions (team total in case of a tie between teams)

Tiebreakers – Ag Tech
If ties occur between individuals or teams competing within the Ag Tech contest, the following exercises will be used in order to determine award recipients:

1. Cumulative score from evaluation and selection section (4 live animal classes)
2. Dairy management / DHI record analysis exam
3. Type analysis questions

In the case of a team between teams, the same categories will be utilized but score will represent team totals rather than individual totals.

Tentative Schedule of events

8:30 – 9:00 Dairy mgmt / DHI record analysis exam and sire selection problem (on-campus)
9:00 – 9:10 Instructions for the remainder of the contest
9:10 – 9:30 Transport of participants to Dairy Learning Center – Mann Valley Farm
9:30 – 9:45 Class 1 and 2 (Two rings will judge simultaneously)
9:45 – 10:00 Class 2 and 1 (Cows will switch rings)
10:00 – 10:30 Type Analysis Questions
10:30 – 10:45 Class 3 and 4
10:45 – 11:00 Class 4 and 3
11:00 – 11:15 Reasons preparation
11:15 – 12:30 Oral reasons will be heard (delivered on the dairy farm)
Transportation of students back to University Center - Campus
Farm Business Management

Contest Description and Rules:

Please direct questions to:

Dr. Todd Hubbs
Agricultural Economics Department
University of Wisconsin-River Falls
todd.hubbs@uwrf.edu
715-425-3298

A written individual exam will be true-false, multiple choice, and short answer questions covering a broad group of topics in farm management. The exam tests the knowledge of students at the high school level.

Questions will be selected from the following areas:

A. Income tax reporting and methods of calculating depreciation.
B. Farm records.
C. Cooperatives - types, purposes and achievements.
D. Farm credit - credit agencies, principles for using credit, and borrowing and repayment plans.
E. Farm law - contracts, legal description of land, deeds, recording, leasing laws, boundaries, fences and trespassing.
F. Production goals in farming.
G. Farm planning and budgeting.
H. Marketing - elementary futures market operations, marketing agencies, simple applications of supply and demand, and livestock and dairy marketing practices.
Floriculture

Contest Description and Rules:

Please direct questions to:

**Dr. Terry Ferriss**  
Plant and Earth Science Department  
University of Wisconsin-River Falls  
terry.l.ferriss@uwrf.edu  
715-425-3345

Floriculture Contest Objectives:

- Promote the study of and interest in production and retailing of flowers, plants and foliage.
- Identify floriculture plant material including foliage, cut flowers, bedding plants, cacti, flowering potted plants used in the commercial industry.
- Understand the biological and scientific principles and skills underlying floriculture crop production including scheduling, propagation, growth requirements, pest identification and management, greenhouse environmental control, harvesting, shipping and handling, marketing and post-harvest maintenance.
- Understand principles and develop skills of floral design.
- Understand the interpersonal skills, sales and customer service skills, and general business practices appropriate for successful employment in the floriculture industry.

The contest will consist of three sections; all participants will participate in all three activities:

Scoring of each section is weighted equally for the calculation of the final score.

I. **Identification of Plant Material:**

   Forty plant specimens will be displayed for participants to identify by technical and common names using the National FFA Floriculture Career Development Event's floriculture plant list. Plants will be numbered 1-40. Participants will be given an answer sheet and the FFA floriculture plant list. Each participant will be given 30 seconds to identify the plant and write the plant number from the FFA list onto the answer sheet by the blank for that plant (listed 1-40). The supervisor for this portion of the contest will time the event and tell participants when to move to the next plant. Participants will only be given one opportunity to identify each plant, they will not be allowed to go back and review a plant that they previously identified. (20 minutes total for this section)
II. General Knowledge Exam:
Participants will answer forty multiple choice questions that cover the areas of the floriculture industry reflected in the contest objectives listed above. Each participant will be allowed 40 minutes to complete the exam.

III. Creating and Packing a Corsage:
Each participant will be given 20 minutes to make, price and package a corsage. Pricing will consist of developing an itemized listing of materials used based on the prices per unit provided. All materials will be provided. Participants will NOT be allowed to bring in any equipment, calculators or extra materials. Each participant will be given floral shears, a standard set of flowers, greens, floral wire, floral tape, corsage pins, corsage bag, and ribbon. Participants do not need to use all of the materials provided, however they are restricted to only use provided materials. Flowers will be corsage appropriate that could include (but not limited to or specifically provided) spray roses, spray carnations, daisy, wax flowers, and spray chrysanthemums. Corsages will be scored by the judge(s) based on the following criteria:

- Wiring and taping: 16 points
- Use of ribbon: 10 points
- Design: 18 points
- Wear-ability: 15 points
- Packaging: 8 points
- Pricing: 13 points

**Total Points 80**

**Sample Form**

<table>
<thead>
<tr>
<th>Flower/Foliage/ Other</th>
<th>Quantity Used</th>
<th>Unit Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Total Materials Cost: ____________________
Food Science and Technology

Contest Description and Rules:

Please direct questions to:
Dr. Bonnie Walters
Animal and Food Science Department
bonnie.s.walters@uwrf.edu
715-425-3704

We will only be able to accommodate the first 18 teams to register for the WI FFA State CDE.

Team Activity
Each team will create a plan and package for trail mix. Please see section 2 below for an overview.

For the WI FFA State CDE, a team will consist of 4 individuals. Prior to the contest the team must prepare materials and a presentation for the team event. The team score will be determined by adding the points from the product development presentation to the 4 individuals' scores in the individual activities.

Teams can compete in this event for Ag Technology awards without participating in the team activity. The top two individual scores on the individual activities will be used as the team score for Ag Technology Contest purposes.

Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must submit a special needs request at least two weeks prior to the event for participants with any allergies with certification. The event committee will make all reasonable efforts to accommodate students with food allergies.

1) OBJECTIVES

- To encourage FFA members to gain an awareness of career and professional opportunities in the field of food science and technology.
- To provide FFA members with the opportunity to experience group participation and leadership responsibilities in a competitive food science and technology program.
- To help FFA members develop technical competence and personal initiative in a food science and technology occupation.
2) EVENT FORMAT
The food science and technology career development event will consist of four activities:

- team presentation
- an objective test
- a practicum in food safety and quality
- a practicum in sensory evaluation

All team members will participate in all of the individual activities.

1) Equipment: **Materials student must provide**-Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils, and an electronic calculator. Calculators used in this event should be battery operated, non-programmable, and silent with large keys and large displays. Calculators should have only these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key, and one memory register. No other calculators will be allowed during the event.

2) Team Activity

**2013 Team Product Development Project Category – Trail Mix**

1) Each team will receive a marketing scenario describing a need for a new or redesigned product that would appeal to a potential market segment. This scenario will contain a description of the existing marketing situation, competition and potential target market segment to be served by the new product. It is the task of the team to design a plan for a new food product or reformulate an existing product.

2) The team will be responsible for understanding and using the following concepts:

- Formulation of product to meet specified requirements.
- Package design and labeling requirements to reflect the developed product.
- Nutritional fact development.
- Production and packaging equipment.
- Quality control and safety programs, i.e., good manufacturing practices (GMP) and Hazard Analysis Critical Control Points (HACCP).
- Formulation and costing (ingredient, packaging, etc.).
- Current food trends.
- Market segments.

3) Each team will create a package for the product based on the list of acceptable ingredients and marketing scenario. **The team will be able to access this information beginning March 18, 2013.** With this information, the team will use the marketing scenario to develop an ingredient list for a reformulated or new product, calculate a nutritional label, develop the ingredient statement and educational panel, and develop the front or principal display panel to reflect the new product and its market.

4) At the contest, each team member will contribute in a ten (10) minute oral product development proposal. Teams must use the package as part of the presentation. **Teams do not need to bring the actual product.** No electronic media will be used in
the presentation. Following the presentation there will be a ten (10) minute question period from the judges in which each team member will be expected to answer questions about the development of their particular product. Total time involved for each team will be 20 minutes. Total number of points possible for this activity will be 400 points.

(5) Evaluation Criteria for Product Development Presentation – 400 points

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package Design</td>
<td>100</td>
</tr>
<tr>
<td>Oral Presentation</td>
<td>250</td>
</tr>
<tr>
<td>Response to judge’s questions</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total Points – Team Component</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

Each component will be evaluated using the criteria listed in the National FFA CDE Handbook

3) Individual Activities

- **Test** - The objective questions administered during the Food Science and Technology examination will be designed to determine each team member's understanding of the basic principles of food science and technology. Team members will work individually to answer each of the 50 questions. Each person will have fifty minutes to complete the examination. Each question will be worth 1 point for a correct answer. The test will be based on the list of references.

- **Practicums** - Each team member will compete in both practicums. The practicums will each be worth 50 points.

1. **Food Safety and Quality Practicum**
   (a) **Customer Inquiry Letter** - Each participant will be given five scenarios representing general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue and determine if it is a biological, chemical or physical concern or hazard. (25 points)

   (b) **Food Safety/Sanitation** - Each participant will be given ten situations (e.g., photos, videos, written scenarios, live demonstrations or a combination). A numbered list of problems will be provided at the beginning of this practicum segment. The list will contain concepts such as good manufacturing practices (GMP), sanitation, food handling/storage and other pre-requisite programs. Participants will identify if there is a violation presented in the situation. If participants decide that there is a violation, they will indicate the number of the violation from the list of problems provided. (25 points)
II. Sensory Evaluation Practicum
   (a) Triangle Tests - Three different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/or textural differences. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 5 points. (15 points)
   (b) Flavor Identification - Three samples will be tasted. Participants will be expected to discern the flavor of each sample by taste. Flavors may include but are not limited to fruits, vegetables, florals, savory, sweeteners, etc. Each sample is worth 5 points. (15 points)
   (c) Aromas - Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each sample is worth 5 points. (20 points)

The Aroma list from the National FFA CDE Handbook will be used.

4) TIE BREAKERS

WI FFA CDE - Should a tie occur in the overall team placing, the tie will be broken by the highest team product development project score. If this score does not break the tie, then the highest number of total points earned from the objective test (adding the individual scores from 4 team members) will break the tie. If a third tiebreaker is needed the judges response to the Team Question period from the Team Product Development project will be used. To identify the high individual for this event in case of a tie, the highest examination score will be used as the first tiebreaker, followed by the highest Food Safety and Quality practicum score, as the second tiebreaker.

Ag Technology Contest – Team ties will be broken in the following order: highest total points on the objective test (total of the two individual scores), highest total points on the consumer letter, highest total points on the Food Safety and Quality practicum. Individual ties will be broken using the same contest components as team ties.

5) REFERENCES

Please see the National FFA CDE Handbook for contest references.
Forestry

Contest Description and Rules:

Please direct questions to:

Kirsten Konder
kirsten.konder@my.uwrf.edu
715-977-2000

Darren Nyhus
darren.nyhus@my.uwrf.edu
715-419-2621

Dan Peterson
daniel.peterson-1@my.uwrf.edu
920-728-0968

The Forestry contest will be composed of three 20 minute sessions. The reference from which questions, names, and procedures will be based is: The Forest Management Digest. 9th ed. Allen Wicken, editor.

General Knowledge/Management: (50 points)

- This portion of the contest will be a written examination (objective-type multiple-choice) covering the topics of tree anatomy and physiology, silviculture, mensuration, forest protection, and multiple use of forests.

Dendrology: (20 points)

- The dendrology portion of the contest will involve the identification of 20 specimens of native Wisconsin trees. Each specimen will be identified by common name.

Forestry Tools Identification: (30 points)

- This portion of the contest involves the student identifying fifteen tools used in different areas of forestry. A one sentence description of what the tool is used for is required for each tool identified.
Horse Evaluation

Contest Description and Rules:

Please direct questions to:

Dr. Kristina Hiney
Animal and Food Science Department
University of Wisconsin-River Falls
kristina.hiney@uwrf.edu
715-425-3704

Materials Needed

- A clipboard free from notes or other markings
- Several sharpened No. 2 pencils – No Pens
- Scratch paper will be provided - no extra paper will be allowed

Contest Format

This contest will consist of the two halter classes and two performance classes with oral reasons given for one class:

Halter Classes:

- Two-year old stock type mares: This class is to be evaluated on the basis of conformation and type.
- Two-year old Quarter Horse gelding: This class is to be evaluated on the basis of conformation and type.

Possible Performance Classes:

- Western Pleasure Stock Type Class
- Hunter Under Saddle
- English Equitation
- Reining
- Hunter Hack

Wisconsin FFA Qualifying Contest Participants will additionally complete awareness questions and a team problem solving activity patterned after the State Horse CDE.
Livestock

Contest Description and Rules:

Please direct questions to:

**Dr. Justin Luther**
Animal and Food Science Department
University of Wisconsin-River Falls
justin.luther-1@uwrf.edu

**Dr. Amy Radunz**
Animal and Food Science Department
University of Wisconsin-River Falls
amy.radunz@uwrf.edu

Materials Needed

- A clipboard free from notes or other markings
- No pens, several sharpened No. 2 pencils
- Scratch paper will be provided and no extra will be allowed under any circumstances

Oral reasons will be given for one of the 6 ranking classes. **Only teams attempting to qualify for the WI FFA State Livestock CDE will give oral reasons.**

Individual Classes:

- **Breeding Ewes/ Rams:** One class of ewe/ rams lambs or yearling ewes/ rams to be judged on the basis of type and production records.
- **Beef Heifers/ bulls:** One class of heifers or bulls to be judged on the basis of type and production records.
- **Crossbred Gilts:** One class of crossbred gilts to be judged on the basis of type and production records.
- **Market Swine:** One class of market swine (barrows and/or gilts) to be judged on the basis of market type.
- **Market Lambs:** One class of market lambs (wethers and/or ewes) to be judged on the basis of market type.
- **Market Cattle:** One class of market cattle (steers and/or heifers) to be judged on the basis of market type.
- **Cull-Keep Class:** A class of eight ewes, heifers, or gilts. Choose 4 to keep as replacement breeding stock.

Team Activity:

- **Production Scenarios:** Teams will be given 2 or 3 scenarios where they will need to choose the best AI beef bull for a specific scenario based their EPD proofs.
  - Teams need to be versed in cattle EPD’s and which ones are important for given situations and selection goals.
Middle School Agriscience Contest

Contest Description and Rules

Please direct questions to:
Student Co-Chairs

Ashley Johnson or Skylar Kraemer or Katee Lance
ashley.johnson-4@my.uwrf.edu skylar.kraemer@my.uwrf.edu kaitlyn.lance@my.uwrf.edu

This contest, open to any middle school student, will consist of 5 different areas: Agronomy, Animal Science, Agricultural Mechanics, Food Science, and FFA. Each student will complete all 5 sections of the contest through identification and multiple choice questions. Teams can consist of up to 5 students and the team score will be calculated by adding the top 2 individual scores.

A. Agronomy:

The agronomy component will consist of three activities: Weed Identification, Soil Identification, and Seed Identification

**Weed Identification** – Students will need to be able to identify the following weeds:

- Canadian Thistle
- Lambsquarter
- Cocklebur
- Quack grass
- Dandelion
- Ragweed
- Green foxtail
- Velvet leaf
- Jimsonweed
- Wild mustard

**Seed Identification** – Students must be able to identify the following seeds.

- Barley
- Rye
- Corn
- Soybeans
- Oats
- Wheat
- Sorghum

B. Animal Science:

Animal Science will consist of four activities: breed identification, terms, poultry identification, and placing classes/anatomy.

**Breed Identification:**

<table>
<thead>
<tr>
<th>Beef/Dairy:</th>
<th>Sheep:</th>
<th>Swine:</th>
<th>Horses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angus</td>
<td>Columbia</td>
<td>Berkshire</td>
<td>Quarter Horse</td>
</tr>
<tr>
<td>Brown Swiss</td>
<td>Dorset</td>
<td>Chester White</td>
<td>Clydesdale</td>
</tr>
<tr>
<td>Charolais</td>
<td>Finnsheep</td>
<td>Duroc</td>
<td>Paint</td>
</tr>
</tbody>
</table>
Guernsey  Hungarian  Landrace  Belgian
Holstein  Rambouillet  Hampshire  Appaloosa
Jersey  Suffolk  Poland China  Tennessee Walker
Limousin  Merino  Yorkshire  Arabian
Polled Hereford  Palomino  Thoroughbred
Simmental

**Dog breeds**
- Beagle
- Basset Hound
- Doberman Pinscher
- Border Collie
- Welsh Corgi
- English Setter

**Cat Breeds**
- Siamese
- Bombay
- Egyptian Mau
- Scottish Fold
- Persian Rex
- Himalayan

**Rabbits**
- Angora
- Californian
- Dutch
- English Lop
- Polish

**Terms:**
Terms for the following questions in these eight species (Cats, Cattle, Dogs, Goats, Horses, Poultry, Sheep, and Swine) when applicable:

- Males of breeding age
- Mature female
- Young male
- Young female
- Newborn
- Unsexed male
- Unsexed female
- Groups
- Genus
- Act of parturition
- Length of gestation

**Poultry Identification:**
- Ready to Cook chicken parts
  - Boneless, Skinless split breast
  - Breast Quarter
  - Leg
  - Thigh
  - Boneless, skinless thigh
  - Drumstick
  - Tenderloin
  - Wing

**Placing Classes and Anatomy:**
- Parts of a dairy cow
- Placing a class of dairy cattle
- Placing a class of horses

**C. Ag Mechanics:**

**Tool Identification** - Students should know be able to identify the majority of the following hand tools by photograph or actual tool:

- Measuring tools
- Saws
- Chisels and files
- Wrench
- Drills
- Hammers
Fastener Identification - Students should also be able to identify the following:
- Staple
- Parts of a screw
- Stripped screw
- Types of screw heads
- Types of nuts
- Students should know the definition of a penny in regards to nails.

D. Food Science:

Terms for Test
- Drying
- Jerky
- Pickling
- Salting
- Canning
- Blanching
- Freeze-drying
- Mad Cow Disease
- USDA
- Pesticide residues
- E. coli bacteria

Cheese Identification
- Cheddar
- Bleu
- Colby
- Munster
- Gouda

E. FFA

Terms:
- FFA mission
- Classroom/Laboratory
- SAE
- FFA Emblem
- FFA Colors
- FFA Motto
- Discovery Degree

Dates:
- Smith-Hughes Act
- FFA established
- FFA Jacket adopted
- NFA founded
- FFA Week established
- FFA and NFA merge
- FFA opened to female students
- National FFA Alumni founded
- Name change to National FFA Organization
- National FFA Center in Indianapolis opens
- FFA Discovery Degree added
References:


Official FFA Student Handbook.

USDA Poultry Grading Manual
(http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3002393)
Middle School Plant Science

Contest Description and Rules:

Please direct questions to:

Student Co-Chairs

Kelsey Simanski
kelsey.simanski@my.uwrf.edu

Brianna Bernhardt
brianna.bernhardt@my.uwrf.edu

This contest is open to any middle school student. Teams can consist of up to 5 students and the team score will be calculated by adding the top 2 overall individual scores.

Contest Format

Participants will take a written test and identify samples from the items in the Plant ID list.

Topics

Plant Parts and Basic Functions:
- Roots (tap, fibrous)
- Stems (xylem, phloem, cambium, bark, rhizome, tubers, lenticels, leaf, scar, bud scar, auxiliary and terminal bud)
- Flowers (pistil, stamen, sepal, petal, pollen, ovule)
- Seeds (cotyledon, embryo, seed coat, endosperm)
- Leaves (internal- stomata, guard cells, chloroplast, External- margin, midrib, shapes, epidermis, venation)
- Gymnosperms
- Angiosperms
- Ferns

Plant Processes:
- Transpiration
- Respiration
- Tropism, geo, hydro, photo
- Photosynthesis
- Germination
- Asexual Reproduction (cutting, layering, grafting, division)

Plant Care:
- Pruning
- Separating
- Dead heading
- Fertilizing
Plant ID:

- **Common Wisconsin Trees - Evergreen and Deciduous**
  - Red pine
  - Northern White Cedar
  - Eastern Red Cedar
  - Tamarack
  - White Ash
  - Red Oak
  - Sugar Maple
  - Trembling Aspen
  - Box Elder

- **Common Annuals and Perennials**
  - Scarlet Sage
  - Wishbone Flowers
  - Impatiens
  - Begonias
  - Marigolds
  - Goldenrods
  - Sage
  - Phlox
  - Pheony
  - Daylily

- **Invasive Species Found in Wisconsin**
  - Amur Honeysuckle
  - Baby’s Breath
  - Hill Mustard
  - Common Teasel
  - Wild Cherril
  - Japanese Knot Week
  - Japanese Hops
  - Japanese Stilt Grass
  - Giant Hogweed
  - Oriental Bittersweet

- **Common Garden Pests, Bugs, and Weeds**
  - Moles
  - Snails/Slugs
  - Rabbits
  - Crows
  - Caterpillar
  - Lady Bug
  - Grasshopper
  - Grubs
  - Crabgrass
  - Dandelion

- **Common House Plants**
  - Peace Lily
  - Snake Plant
  - Weeping Fig
  - Spider Plant
  - Cactus
  - Bromeliads
  - Coleus
  - Ivy
  - Dracaena

- **Common Garden Tools**
  - Watering Can
  - Pruners
  - Shears
  - Trowel
  - Hoe
  - Shovel
  - Rake
  - Wheel Barrow
  - Rake
  - Hose

**Word Bank:**
Tap root, fibrous root, stems, xylem, phloem, cambium, bark, flowers, pistil, ovary, ovule, stigma, style, stamen, anther, filament, pollen, seed, cotyledon, dicot, monocot, embryo, seed coat, endosperm, leaves, stomata, guard cells, chloroplast, margin, mid rib, leaf shapes, leaf arrangements, epidermis, palisade layer, venation, sepal, receptacle, transpiration, respiration, tropism, (geo, hydro, photo) photosynthesis, fertilization, germination, asexual propagation grafting, separating and sexual propagation, bulb, corm, bud, nitrogen, phosphorous, potassium, lenticel, leaf scar, bud scar, auxiliary and terminal bud.
Nursery and Landscape

Contest Description and Rules:

Please direct questions to:

Dr. David Zlesak
Plant and Earth Science Department
University of Wisconsin-River Falls
david.zlesak@uwrf.edu
715-425-3852

Rules of Contest: Limit 25 Teams

1. A team will consist of four members; the top two individual scores will compose the team score.
2. The contest will have two phases:
   a. Identification of woody plants
   b. General Knowledge (nursery/landscape) exam
3. Observers will NOT be permitted in the contest area before or during the contest.
4. Each participant should bring at least 2, No. 2 pencils.

Phase I. Identification of Woody Plants: 50 pts.

- 25 woody plant specimens from the attached list will be presented for the contestants to identify in the lab by common name. Each plant will be shown on a slide, image or specimen and its name is to be chosen from among 4 other plant common names. The letter to the left of the correct name should be written in the appropriate space on the official answer sheet. Two points will be given for each correctly identified plant. Each contestant will be allowed 25 minutes to complete this phase or approximately 60 seconds for each plant.
- Please consult the 2012-2016 Career Development Event Handbook for plant ID.

Phase II. General Knowledge: 50 pts.

- Fifty objective type, multiple-choice questions will be selected from the areas listed below. This phase of the contest will test the contestant’s knowledge and understanding of the basic principles relating to the following areas of horticulture. For example, questions in the plant materials area may deal with such features as anatomy of a flower of leaf, or physiology of specific types of plants important to the horticulture industry. Questions related to design might cover concepts such as landscape style options (formal, natural), design principles (unity, balance), or planting for energy conservation. Each contestant will be allowed 30 minutes to complete this phase. Each answer has a value of 1 point.
Areas for testing include:

1. Plant materials
2. Plant disorders
3. Cultural practices
4. Landscape design and construction: *There will be NO Landscape drawing practicum for the UWRF Contest, but general knowledge is testable.*
5. Supplies and equipment

**UWRF NURSERY/LANDSCAPE PLANT ID STUDY GUIDE**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Abies concolor</em></td>
<td>White Fir</td>
</tr>
<tr>
<td><em>Acer platanoides cv.</em></td>
<td>Norway Maple</td>
</tr>
<tr>
<td><em>Acer rubrum cv.</em></td>
<td>Red Maple</td>
</tr>
<tr>
<td><em>Acer saccharum cv.</em></td>
<td>Sugar Maple</td>
</tr>
<tr>
<td><em>Amelanchier arborea</em></td>
<td>Downy Serviceberry</td>
</tr>
<tr>
<td><em>Berberis thunbergii</em></td>
<td>Japanese Barberry</td>
</tr>
<tr>
<td><em>Betula nigra</em></td>
<td>River Birch</td>
</tr>
<tr>
<td><em>Brassia actinophylla</em></td>
<td>Schefflera, Octopus Tree</td>
</tr>
<tr>
<td><em>Buxus microphylla cv.</em></td>
<td>Wintergreen Boxwood</td>
</tr>
<tr>
<td><em>Cornus sericea</em></td>
<td>Red-Osier Dogwood</td>
</tr>
<tr>
<td><em>Cotoneaster lucidus</em></td>
<td>Hedge Cotoneaster</td>
</tr>
<tr>
<td><em>Cotoneaster apiculatus</em></td>
<td>Cranberry Cotoneaster</td>
</tr>
<tr>
<td><em>Crataegus phaenopyrum</em></td>
<td>Washington Hawthorn</td>
</tr>
<tr>
<td><em>Dracaena marginata</em></td>
<td>Red-edge Dracaena</td>
</tr>
<tr>
<td><em>Draceana fragrans ‘Massangeana’</em></td>
<td>Corn Plant</td>
</tr>
<tr>
<td><em>Epipremnum spp.</em></td>
<td>Pothos</td>
</tr>
<tr>
<td>Botanical Name</td>
<td>Common Name</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Euonymus alatus</td>
<td>Winged Euonymus</td>
</tr>
<tr>
<td>Euonymus fortunei</td>
<td>Wintercreeper</td>
</tr>
<tr>
<td>Ficus benjamina</td>
<td>Benjamin Fig</td>
</tr>
<tr>
<td>Ficus elastica ‘Decora’</td>
<td>Decora Rubber Plant</td>
</tr>
<tr>
<td>Forsythia x intermedia cv.</td>
<td>Border Forsythia</td>
</tr>
<tr>
<td>Fraxinus americana cv.</td>
<td>White Ash</td>
</tr>
<tr>
<td>Frax. pennsylvanica</td>
<td>Green Ash</td>
</tr>
<tr>
<td>Ginkgo biloba</td>
<td>Ginkgo, Maidenhair Tree</td>
</tr>
<tr>
<td>Gleditsia triacanthos inermis cv.</td>
<td>Thornless Honeylocust</td>
</tr>
<tr>
<td>Gymnocalcludus dioicus</td>
<td>Kentucky Coffeetree</td>
</tr>
<tr>
<td>Hedera helix cv.</td>
<td>English Ivy</td>
</tr>
<tr>
<td>Hemerocallis spp. and cv.</td>
<td>Day lily</td>
</tr>
<tr>
<td>Hosta x hybrida cv.</td>
<td>Plaintain Lily</td>
</tr>
<tr>
<td>Hydrangea paniculata</td>
<td>PeeGee Hydrangea</td>
</tr>
<tr>
<td>Ilex verticillata</td>
<td>Winterberry</td>
</tr>
<tr>
<td>Juniperus scopulorum</td>
<td>Colorado Red Cedar</td>
</tr>
<tr>
<td>Juniperus horizontalis cv.</td>
<td>Creeping Juniper</td>
</tr>
<tr>
<td>Juniperus virginiana</td>
<td>Eastern Red Cedar</td>
</tr>
<tr>
<td>Magnolia stellata</td>
<td>Star Magnolia</td>
</tr>
<tr>
<td>Malus floribunda</td>
<td>Flowering Crabapple</td>
</tr>
<tr>
<td>Pachysandra terminalis</td>
<td>Japanese Spurge</td>
</tr>
<tr>
<td>Botanical Name</td>
<td>Common Name</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td><em>Parthenocissus tricuspidata</em></td>
<td>Boston Ivy</td>
</tr>
<tr>
<td><em>Philodendron scandens oxycardium</em></td>
<td>Heartleaf Philodendron</td>
</tr>
<tr>
<td><em>Picea abies</em></td>
<td>Norway Spruce</td>
</tr>
<tr>
<td><em>Picea glauca</em></td>
<td>White Spruce</td>
</tr>
<tr>
<td><em>Picea pungens cv.</em></td>
<td>Colorado (Blue) Spruce</td>
</tr>
<tr>
<td><em>Pinus mugo</em></td>
<td>Mugo Pine</td>
</tr>
<tr>
<td><em>Pinus strobus</em></td>
<td>Eastern White Pine</td>
</tr>
<tr>
<td><em>Pinus sylvestris</em></td>
<td>Scotch Pine</td>
</tr>
<tr>
<td><em>Potentilla fruticosa cv.</em></td>
<td>Shrubby Cinquefoil</td>
</tr>
<tr>
<td><em>Quercus palustris</em></td>
<td>Pin Oak</td>
</tr>
<tr>
<td><em>Quercus rubra</em></td>
<td>Red Oak</td>
</tr>
<tr>
<td><em>Rhododendron ‘PJM’</em></td>
<td>PJM Hybrid Rhododendron</td>
</tr>
<tr>
<td><em>Salix alba ‘Tristis’</em></td>
<td>Golden Wheeping Fig</td>
</tr>
<tr>
<td><em>Sorbus aucuparia</em></td>
<td>European Mountain Ash</td>
</tr>
<tr>
<td><em>Spiraea x bumalda</em></td>
<td>Bumalda Spirea</td>
</tr>
<tr>
<td><em>Syringa vulgaris cv.</em></td>
<td>Common Lilac</td>
</tr>
<tr>
<td><em>Taxus spp. and cv.</em></td>
<td>Yew</td>
</tr>
<tr>
<td><em>Thuja occidentalis cv.</em></td>
<td>American Arborvitae</td>
</tr>
<tr>
<td><em>Tilia cordata</em></td>
<td>Littleleaf Linden</td>
</tr>
<tr>
<td><em>Tsuga canadensis</em></td>
<td>Canadian Hemlock</td>
</tr>
<tr>
<td><em>Ulmus americana</em></td>
<td>American Elm</td>
</tr>
<tr>
<td>Botanical Name</td>
<td>Common Name</td>
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<tr>
<td><em>Viburnum dentatum</em></td>
<td>Arrowwood Viburnum</td>
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<tr>
<td><em>Viburnum trilobum</em></td>
<td>American Cranberrybush Viburnum</td>
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<tr>
<td><em>Vinca minor cv</em></td>
<td>Periwinkle</td>
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Power Tool Drag Race

Contest Description and Rules:

Please direct questions to:

Alex Donnay
alex.donnay@my.uwrf.edu

Please note the following Major Rule Changes for 2013:

1. This year, the objective is to achieve a target time, rather than the fastest time. **Target Time = 3.14 seconds**

2. At least 2 side-mounted guide wheels (such as skateboard, rollerblade, or similar wheels) are to be installed to prevent the vehicle from becoming wedged diagonally in the track, and to prevent damage to the track or your vehicle.

3. All vehicles must be powered by a **120-volt Angle Grinder**.

Purpose:
The purpose of the Power Tool Drag Racing competition is to allow Student Competitors to design and build a vehicle powered by a handheld power tool. The Power Tool Vehicle will run down a track in the attempt to achieve a target time. The vehicle “engine” is a power tool connected to the drive train by a transmission.

General Information:
The vehicle may be constructed with any material, but must fit within the vehicle specifications listed below. Power tools must have the trigger locked into place. A switch operated by the student competitor will start the tool remotely. The vehicle will be stopped by a laser beam that de-energizes the power tool, and 18 inches of foam at the end of the track. It is the responsibility of competitors to build a vehicle that will not be harmed by our foam cushioning system.

Track and Procedural Information:
The track is painted OSB plywood and is designed similar to an NHRA drag strip with the finish line being 24’ from the start line. The start of the race utilizes a drag strip light system (three amber, one green, and fault lights). The vehicle will be energized by pushing a start button when the green light is illuminated. In the event of a false start, a time delay start will be imposed (random penalty between 0.5 and 2.4 seconds to be determined the day of the race) adding to the overall run time. The race is terminated by a laser beam installed at a height of 4” which de-energizes the power tool. Race times will be displayed to the nearest one-hundredth of a second. Three race times will be recorded and the time closest to the target time will determine the winner. All three runs must be completed during the allotted time for the competition.
Vehicle Specifications:

This year, all vehicles must be powered by a 120-volt Angle Grinder for the official competition.

Students are encouraged to participate in an exhibition class using previous year vehicles to obtain experience.

1. **Power tool Selection:**
   - One 120-volt Angle Grinder
     - Only Angle Grinders will be allowed in the competition.
     - Other tools or previous year vehicles may participate in the exhibition class.
   - The Power Tool electrical system must remain unaltered and casing remain intact (i.e. No removal of motor from casing).
   - Power Tool must be grounded or double insulated. Safety will be ensured by a Ground Fault Circuit Interrupter (GFCI) outlet.

2. **Vehicle Restrictions:**
   - Drive wheels must be 6-8" new non-pneumatic, lawnmower wheels.
   - Limit of 4 drive wheels.
   - The wheels must be unaltered with the exception of mounting to a drive train or an axle (i.e. welding or keying to the axle).
   - The drive train cannot be a direct drive and must use some form of transmission to transmit power from the tool to the drive wheels (i.e. No direct attachment of wheel to the drive shaft of the respective power tool).
   - Must fit in a 24" long x 16" wide x 24" high box, including the cord that is attached to the power tool.
   - 35 lbs maximum weight.
   - Frame of the vehicle may be made out of any material, but must be structurally sound.
   - **At least 2 side-mounted guide wheels must be mounted on the side of the frame near the front of the vehicle. These guide wheels must prevent the vehicle from becoming wedged diagonally in the track.**

3. **Other Restrictions:**
   - Minimal hand tools and small power tools (120 volt or battery powered) can be used for repairs.
   - **Please:** no welders or grinders allowed at the competition. Minor repairs only.
   - Participants **MUST** be present to operate their own vehicles.
**Track Specifications:**
- Track is 22 inches wide and 24 ft long from the start line to the finish line.
- Tracks sides and center divider are 8 inches high.

**Safety:**
The event coordinators reserve the right to prevent any vehicle from participating due to safety issues. Safety issues to be addressed are electrical hazards or lack of structural integrity. Power Tools must not trip a Ground Fault Circuit Interrupter (GFCI). The event coordinators are not responsible for any damage that may occur to the vehicles or for potential injuries to the participants. **Safety glasses must be worn at all times by competitors.** A-B-C fire extinguisher will be on site (supplied by UWRF).

**Prizes:**
Four prizes will be awarded:
- First place, second place, Most Aesthetic, and Most Creative Design.
- Aesthetically Pleasing and Most Creative Design awards are awarded at the discretion of the judges.
- In the event of a tie, the following tie-breaking procedure will be used:
  1. Best time achieved on multiple runs. (I.e. target time or time nearest the target time achieved in 2 or more runs.)
  2. Order of best time(s). (I.e. achieving best time on first race, second race, or third race.)
  3. Average Deviation from the Target Time for all 3 races.
  4. Coin toss.

**Most Creative Design criteria:**
- Ingenuity of vehicle and transmission design
- Evidence of applied engineering principles

**NOTE TO PARTICIPANTS:** All race vehicles will be photographed, allowing event coordinators to maintain a record of vehicles used in the contest. This practice will help to document that teams are submitting vehicles representing students' original work; thus ensuring the fairness and integrity of the competition.
Soils

Contest Description and Rules:

Please direct questions to:

Dr. Don Taylor
Plant and Earth Science Department
University of Wisconsin-River Falls
donavon.h.taylor@uwrf.edu
715-425-3395

The Soils Contest will consist of:

- Written examination with questions on physical and chemical properties of soils, soil formation, soil classification, and general issues of the importance of soils in land use, soil and water conservation and environmental quality.

- The examination will also include a "hands on" laboratory portion requiring identification of various soil textures, soil structure, soil colors using the Munsell color system, and soil horizons from soil samples in the laboratory.

- In addition there will be a section of the examination testing the students understanding of a soil survey report, specifically knowing what information is in the survey and how it is used to make a variety of interpretations for soil management and land use.
Wildlife

Contest Description and Rules:

Please direct questions to:

Dr. James Graham
Agricultural Education Department
University of Wisconsin-River Falls
james.graham@uwrf.edu
715-425-3555

The Wildlife Contest will evaluate general knowledge in the broad area of Wildlife and Fisheries Conservation.

The knowledge and skills needed are:

- Use of basic terminology of wildlife/ecological management.
- Identification of common Fish, Wild animals, and Invasive Species of Wisconsin and their basic ecology.
- Understanding of the basic laws and regulations pertaining to Fish and Wildlife.
- Description and use of common wildlife and fisheries management/research techniques.
- Current issues in wildlife and fisheries conservation.

The contest will consist of two parts:

- **Identification**
  - Identification will consist of identifying reptiles, amphibians, birds, traps, pelts, skulls, fish, mounts, and common invasive species.
  - **Under NO circumstances are the contestants to touch the materials that will be present for the identification of the contest!!**

- **Examination**
  - The test will be 25 questions containing questions related to general wildlife and fisheries information covering the topics list above. Format of the exam will consist of Multiple Choice, True or False, and Matching
Veterinary Science

Contest Description and Rules:

Please direct questions to:
Jessi Beucler (jessi.beucler@my.uwrf.edu) or Kessa Firkus (kessa.firkus@my.uwrf.edu)

Student Co-chairs

This contest is designed to assess student knowledge, application, analytical and evaluation abilities in the area of small animal care, veterinary skills and pet store management. Four students per team will be allowed to compete in the contest. Each member of the team will complete the contest individually. The top two scores on the team will constitute a team score for Ag Technology Contest Awards.

The contest will cover the following types of animals.
- Beef Cattle
- Cats
- Dairy Cattle
- Dogs
- Goats
- Horses
- Poultry & Pet Birds
- Sheep
- Swine

Equipment: Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils, and an electronic calculator. Calculators used in this event should be battery operated, non-programmable, and silent with large keys and large displays. Calculators should have only these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key, and one memory register. No other calculators will be allowed during the event.

A. Written Test and Math Applications Practicum – 50 points.

Fifty multiple choice questions worth 1 point per question.

Overall Topics include:
- Anatomy and Physiology
- Nutrition
- Diseases and Parasites
- Breeding and Genetics
- Breeds and Grooming
- Housing, Management, and Safety

LISTING OF TOPIC AREAS FOR WRITTEN EXAM

A. ANATOMY AND PHYSIOLOGY
   a. Skeletal
      i. Avian
      ii. Mammalian
   b. Muscles
      i. Major types and locations
ii. Physiology and functions

c. Digestion
   i. Parts and how they function
   ii. Comparison between species

d. Skin
   i. Glands
   ii. Layers/Attachments
   iii. Hair/Claws

e. Reproduction
   i. Parts and how they function
   ii. Comparisons of male and female
   iii. Comparisons between species
   iv. Gestation, Parturition, Litter size, Estrus Cycles

f. Nervous System
   i. Components and how they work
   ii. Sense organs - How they work (eyes, nose, mouth, ears)
   iii. Comparison between species

g. Circulatory System
   i. Arteries, Veins, Capillaries
   ii. Blood Composition

h. Lymph System
   i. Location
   ii. Functions

i. Respiratory System
   i. Parts and how they functions
   ii. Air exchange

B. NUTRITION AND FEEDING:

   a. Classes
      i. Uses/functions
      ii. Sources

   b. Diets
      i. Growth
      ii. Maintenance
      iii. Working/Active
      iv. Geriatric
      v. Reducing

   c. Digestibility
      i. Comparison of feeds

   d. Specific Diets
      i. Components
      ii. Quality
      iii. Quantity

   e. Food Labels
i. Comparative  
ii. Composition  
iii. Ingredients  
f. Costs of Food  
g. Math computations involving feeding  
h. Label Reading of pet foods  

C. DISEASES AND PARASITES  
a. Causes  
b. Treatments/cures  
c. Prevention  
d. Listing of Specific Diseases and Parasites  
e. DOGS  
i. Colic Roundworm  
ii. Parvo Tapeworm  
iii. Distemper Flea Tapeworm  
iv. Rabies Hydatid  
v. Hepatitis Whipworm  
vi. Kennel Cough Heartworm  
vii. Leptospirosis Tick  
viii. Ringworm Fleas  
ix. Hookworm Mites (Mange)  

f. CATS  
i. Leukemia Ringworm  
ii. Toxoplasmosis Roundworm  
iii. Rabies Hookworm  
iv. Distemper Tapeworm  
v. FVR Lungworm  
vi. Feline calicivirus Fleas  
vii. Feline chlamydiosis Mites  

g. Large Animals (Horse, Beef, Dairy, Sheep, Swine)  
i. Horse Bots  
ii. Horse Strongyles  
iii. White Line Disease (Speedy Toe)  
iv. Ringworm  
v. Mange  
vi. Bovine Anaemia  
vii. Mastitis  
viii. Calf Scour  
ix. Wooden Tongue  
x. Pregnancy Toxemia  
xi. White Muscle Disease  
xii. Atrophic Rhinitis (AR)  
xiii. White Scours
xiv. Mycoplasma

D. **REPRODUCTION AND GENETICS**
   a. Basic genetic knowledge (i.e. dominant/ recessive genes, punnett squares, etc.)

E. **GROOMING & BREEDS**
   a. Categories Length/height measurement
   b. Uses Traits
   c. Unique Features Care of specific breeds
   d. Commonality Grooming procedures

F. **HOUSING AND MANAGEMENT**
   a. Housing
   b. Environmental Needs
   c. First Aid
   d. Health and Safety Precautions

**LISTING OF POSSIBLE SAMPLES FOR MATH APPLICATIONS PRACTICUM**

Questions may include conversions, feed calculations, dose calculations, dilutions, cost calculations and invoices. Non-programmable calculators are allowed.

Samples:

A farmer had a liter of piglets born today and each one weighed about 5 pounds. He usually sells the piglets at sixty pounds. If the piglets gain on average .87 pounds per day, how many days will he have to raise them before selling them?

A. About Three weeks
B. About 93 days
C. about 64 days
D. 4 weeks and 3 days

If a beef steer weighs 500 pounds and gains 2.7 pounds per day, about how many days will you have to raise the steer to sell it at 1,100 pounds?

A. Between 200 and 205 days
B. Between 220 and 225 days
C. Between 250 and 255 days
D. Between 275 and 280 days

You buy a 25 lb. bag of dog food at the feed store for $7.00. Your dog will eat two eight oz servings per day. How much is it costing you per day to feed the dog?

Answer: _________ (7 points)

(2 x 1/2 lb. = 1 lb./day; $7.00/ 25 lbs = $0.28/lb.; 1 lb./day x $0.28/lb = $0.28 /day)

How many days will the bag last?

Answer: _________ (3 points)
You are ordering feed for your flock of chickens. You are selling them in 14 days and you need to buy feed for the next two weeks. They eat 3.6 pounds per day and one pound costs $1.47 per pound. How much would this feed purchase cost?

\[ (1.47/\text{lb} \times 3.6 \text{ lbs/day} \times 14 \text{ days}) \]
Answer. $74.09

It takes 2.6 hours to milk your cows and you milk three times a day. If you pay 7.50 an hour and you have to hire three people to work for you while you are on vacation, how much would you pay out to your workers during the seven milkings you are away from the farm?

\[ (2.6 \text{ hours} \times 7.50 \times 7 \text{ milkings} \times 3 \text{ people}) \]
Answer: $409.50

**B. Tool/ Equipment Identification – 50 points.**

There will be 25 tool/equipment items to identify that will be worth 2 points each. A code sheet given to each participant listing potential items. Photos, paintings or actual specimens may be used as samples. Refer to National FFA CDE handbook for specific items.

**C. Animal Breed and Digestion Identification – 50 points.**

There will be 25 breeds and digestive organs to identify that will be worth 2 points each. A code sheet given to each participant listing potential items. Photos, paintings/drawings or models may be used as samples. Please refer to the National FFA CDE handbook for specific breeds. Digestive organs from the cow, horse, chicken and dog may be used.