AGRONOMY CAREER DEVELOPMENT EVENT

Purpose:

To create interest and promote understanding in agronomy by providing opportunities for recognition through the demonstration of skills and proficiencies.

Objectives:

- To demonstrate basic knowledge of agronomic sciences.
- To explore career opportunities, skills and proficiencies in the agronomy industry.
- To identify agronomic crops, weeds, seeds, insects, diseases, plant nutrient deficiencies, plant disorders, and demonstrate skill in crop grading.

General Rules:

1. Four persons will constitute an official team for the Agronomy Career Development Event. However, only three of the individual scores will be used in the team score tabulation.
2. No alternates will be allowed in the event.
3. All samples for identification are to be taken from the approved list.
4. Participants cannot touch any samples during the event. Students can use a hand-held magnifying lens.
5. No duplication will be present in the event for plant and seed identification.
6. Event checkers will be used to verify official placing and scoring. Event checkers will remain at the event until their team is competing.
7. Participants in need of special accommodations (disability or other health issues) must submit the Idaho State FFA Career Development Events Request for Special Accommodation Application found at the end of the General Rules and Regulations at least one month prior to the event.

Format and scoring:

1. Fifteen (15) minutes will be allowed for identification of plant samples.
2. Fifteen (15) minutes will be allowed for identification of seed samples.
3. Fifteen (15) minutes will be allowed for Fertilizer Calculations.
4. Fifteen (15) minutes will be allowed for Seed Analysis (5 trays at 3 minutes each including rotation)
5. Fifteen (15) minutes will be allowed for Plant Disease, Disorder and Insect Identification.
6. Seven (7) minutes each will be allowed for Placing Classes.
   This will total fifteen (15) minutes including rotation.
7. Scoring – Scoring for each area is detailed within the section description.

Plant Identification (200 pts.)

All plants for identification will be pressed samples. Seedling stage specimens will not be allowed. The plants exhibited may be in the flower and/or fruiting stage. The plants exhibited must show the characteristics necessary for identification. (Noxious weeds may be in any stage from seedling to mature stage.)

Seed Identification (200 pts.)

Weed and crop seeds will be placed together for identification. Weed and crop seeds will be listed separate from each other on the same scorecard.

Plant Disorders, Disease, and Insect Identification (50 Points)

Participants will be required to correctly identify 10 plant disorders, diseases, and/or insects. Specimens may be presented as whole plants or plant parts displaying the disorder symptoms, as preserved plants, or as photographs. All samples will be limited to small grains and legume crops. A number will designate each specimen, and the participant is to correctly match the disorder, disease, or insect by filling out the appropriate scorecard and related scantron sheet. In the Practium Portion, two different examples of the same item will be displayed.

Problem Solving. (200 pts.) This area will consist of two sections worth 100 points each. Calculators may be used in this section.

a. Fertilizer Requirements: Participants will be required to solve problems on fertilizer application rates for a specific situation presented. The only variables to change in the problem will be: number of acres in the field, pounds of fertilizer recommended, and cost of the fertilizers.

b. Seed Analysis: Five (5) samples of simulated field run legume or cereal grain scored on individual merit according to current standards. Quantities for seed analysis will be 150 grams for cereal grains and 15 grams for small-seeded legumes each in all 5 samples. There has to be no less than three (3) prohibited and five (5) restricted noxious weed seeds in a sample to constitute a contaminant. The seed analysis classes will be scored 0-20. Each sample will be valued at 20 points.

3. Placing Classes (100 Points – 2 Classes at 50 Points each)

Two classes of crop samples will be evaluated. The crop species will be taken from the list of crop plant samples. Each class will consist of four samples of the same crop (i.e.- four samples of alfalfa hay, or potatoes). Class samples may consist of the product of the plant species from the list (i.e.- actual potatoes from a potato plant). Participants will rank each class according to the Hormel scorecard. The placing classes will be worth 50 points each. Crop samples to be placed will be identified in the registration packet for State Career Development Events.

750 points total

- Seed and Plant Identification - 400 points
- Problem Solving - 200 points
- Disease, disorder and insect identification - 50 points
- Judging classes - 100 points

Scorecards for the seed analysis classes will be placed next to the seed samples. Idaho Department of Agriculture Noxious Weeds Seed Law will be the official reference. A reference for the Idaho Noxious Weed Seed Law is the USDA Agricultural Marketing Service website www.ams.usda.gov/lsg/seed/nox01.pdf.

Awards:

Awards are presented to teams as well as individuals based upon their rankings. The top 10 teams and individuals will be recognized. Individuals from 1st through 5th place will receive medals. Teams from 1st through 5th place will receive plaques.

AGRONOMY CAREER DEVELOPMENT EVENT SCORECARDS

For Idaho State Career Development Events, the included scantron cards will be used unless otherwise indicated. Additional cards provided are included for study purposes and use at local and district events.

WEED AND CROP PLANT IDENTIFICATION SCORECARD

Bubble the plant number into #1-40 on the scantron card for the state CDE. Be sure the sample number is correct when you bubble the number into the scorecard and ***use all three digits****. Use the blanks provided for local and district events.*

Directions:

Identify plant specimens by matching the correct plant number at right to the sample spaces below.

01.	21.
02.	22.
03.	23.
04.	24.
05.	25.
06.	26.
07.	27.
08.	28.
09.	29.
10.	30.
11.	31.
12.	32.
13.	33.
14.	34.
15.	35.
16.	36.
17.	37.
18.	38.
19.	39.
20.	40.

SCORE _____

WEED PLANTS

001. Barnyardgrass
002. Black Henbane
003. Black Medic (Yellow Trefoil)
004. Black Mustard
005. Blue Mustard
006. Broadleaf Plantain
007. Buckhorn Plantain
008. Buffalobur
009. Bull Thistle
010. Burdock
011. Canada Thistle
012. Chicory
013. Cocklebur
014. Common Groundsel
015. Crabgrass
016. Curly Dock
017. Cutleaf Nightshade
018. Dalmation Toadflax
019. Death Camas
020. Diffuse Knapweed
021. Dodder
022. Downy Bromegrass
023. Dyers Woad
024. Field Bindweed (Morning Glory)
025. Field Pennycress (Fan Weed)
026. Foxtail Barley
027. Green Foxtail
028. Hairy Nightshade
029. Halogeton
030. Hare Barley (Wild Barley)
031. Hoary Cress (White Top)
032. Houndstongue
033. Johnsongrass
034. Jointed Goatgrass
035. Kochia
036. Lambsquarter
037. Larkspur
038. Leafy Spurge
039. Longleaf Groundcherry
040. Mallow
041. Mayweed (Dog Fennel)
042. Meadow Hawkweed
043. Meadow Salsify (Yellow Goatsbeard)
044. Medusahead
045. Musk Thistle
046. Nutsedge (Yellow Nutsedge)
047. Orange Hawkweed
048. Perrenial Pepperweed
049. Poison Hemlock
050. Povertyweed
051. Prickly Lettuce
052. Prostrate Knotweed
053. Puncture Vine
054. Purple Loosestrife
055. Purslane
056. Quackgrass
057. Redroot (erect) (Rough Pigweed)

WEED PLANTS (continued)

058. Rush Skeletonweed
059. Russian Knapweed
060. Russian Thistle
061. St. Johnswort (Goat Weed)
062. Scotch Broom
063. Scotch Thistle
064. Shepherdspurse
065. Showy Milkweed
066. Silver Lupine (Lupine)
067. Sowthistle
068. Spotted Knapweed
069. Tansy Ragwort
070. Teasel
071. Waterhemlock
072. Wild Buckwheat
073. Wild Oats
074. Yarrow
075. Yellow Starthistle
076. Yellow Toadflax

CROP PLANTS

077. Alfalfa
078. Alsike Clover
079. Beans
080. Birdsfoot Trefoil
081. Club Wheat
082. Common Wheat
083. Crested Wheatgrass
084. Kentucky Bluegrass
085. Lentils
086. Oats
087. Orchardgrass
088. Peas
089. Potatoes
090. Red Clover
091. Rye
092. Six Row Barley
093. Smooth Bromegrass
094. Strawberry Clover
095. Sugarbeet
096. Sweet Clover
097. Tall Fescue
098. Tall Oatgrass
099. Timothy
100. Two Row Barley
101. White Clover

SCORING DIRECTIONS:

Each plant identification is worth 5 points. Deduct total incorrect from 200 points possible and record score at the bottom of the card

WEED AND CROP SEED IDENTIFICATION SCORECARD

Bubble the seed number into #41-80 on the scantron card. Be sure the sample number is correct when you bubble the number into the scorecard and ***use all three digits.*** *. Use the blanks provided for local and district events.*

PARTICIPANT NUMBER _____

Directions:
Identify seed specimens by matching the correct seed number at right to the sample spaces below.

41. _____	61. _____
42. _____	62. _____
43. _____	63. _____
44. _____	64. _____
45. _____	65. _____
46. _____	66. _____
47. _____	67. _____
48. _____	68. _____
49. _____	69. _____
50. _____	70. _____
51. _____	71. _____
52. _____	72. _____
53. _____	73. _____
54. _____	74. _____
55. _____	75. _____
56. _____	76. _____
57. _____	77. _____
58. _____	78. _____
59. _____	79. _____
60. _____	80. _____

WEED SEEDS

200. Barnyard Grass
201. Black Medic (Yellow Trefoil)
202. Black Mustard
203. Broadleaf Plantain
204. Buckhorn Plantain
205. Bull Thistle
206. Burdock
207. Canada Thistle
208. Curly Dock
209. Dodder
210. Downy Bromegrass
211. Field Bindweed (Morning Glory)
212. Field Pennycress (Fan Weed)
213. Foxtail Barley
214. Green Foxtail
215. Halogeton
216. Hoary Cress (White Top)
217. Houndstongue
218. Lambsquarter
219. Leafy Spurge
220. Mallow
221. Medusahead
222. Perrenial Sowthistle
223. Povertyweed
224. Prickly Lettuce
225. Puncture Vine
226. Purslane
227. Quackgrass
228. Redroot Pigweed (Erect)
229. Russian Knapweed
230. Russian Thistle
231. Shepherdspurse
232. St. Johnswort (Goatweed)
233. Waterhemlock
234. Wild Buckwheat
235. Wild Oats
236. Yellow Starthistle

SCORE

CROP SEEDS

237. Alfalfa
238. Alsike Clover
239. Barley
240. Beans
241. Birdsfoot Trefoil
242. Crested Wheat Grass
243. Hard Red Wheat
244. Kentucky Bluegrass
245. Lentils
246. Oat
247. Orchardgrass
248. Peas
249. Red Clover
250. Rye
251. Smooth Bromegrass
252. Soft White Wheat
253. Strawberry Clover
254. Sugarbeet
255. Sweet Clover
256. Tall Fescue
257. Tall Oatgrass
258. Timothy
259. White Clover

SCORING DIRECTIONS:

Each seed identification is worth 5 points. Deduct the total incorrect from 200 points possible and record the final score at the bottom of the card.

PARTICIPANT NUMBER _____

SEED ANALYSIS SCORECARD

SAMPLE NUMBER	PARTICIPANT SCORE	OFFICIAL SCORE (Do NOT write in this column)	GRADE DIFFERENCE
86			
87			
88			
89			
90			

TOTAL GRADE DIFFERENCE _____

SCORING: The seed analysis grade can be any number between 0 and 20. Deduct the total grade difference from 100 to calculate the participant's score on this section of the event. ***For State CDE, bubble answers on the scantron card as indicated.***

PARTICIPANT NUMBER _____

SEED ANALYSIS SCORECARD

SAMPLE NUMBER	PARTICIPANT SCORE	OFFICIAL SCORE (Do NOT write in this column)	GRADE DIFFERENCE
86			
87			
88			
89			
90			

TOTAL GRADE DIFFERENCE _____

SCORING: The seed analysis grade can be any number between 0 and 20. Deduct the total grade difference from 100 to calculate the participant's score on this section of the event. . ***For State CDE, bubble answers on the scantron card as indicated.***

STANDARD FFA PLACING CARD

Idaho FFA

Participant

No. _____

Event:

_____

Class Name

_____

Class No. _____

Placing	Check Placing
1-2-3-4	
1-2-4-3	
1-3-2-4	
1-3-4-2	
1-4-2-3	
1-4-3-2	
2-1-3-4	
2-1-4-3	
2-3-1-4	
2-3-4-1	
2-4-1-3	
2-4-3-1	
3-1-2-4	
3-1-4-2	
3-2-1-4	
3-2-4-1	
3-4-1-2	
3-4-2-1	
4-1-2-3	
4-1-3-2	
4-2-1-3	
4-2-3-1	
4-3-1-2	
4-3-2-1	

Tabulator's Score_____

STANDARD FFA PLACING CARD

Idaho FFA

Participant

No. _____

Event:

_____

Class Name

_____

Class No. _____

Placing	Check Placing
1-2-3-4	
1-2-4-3	
1-3-2-4	
1-3-4-2	
1-4-2-3	
1-4-3-2	
2-1-3-4	
2-1-4-3	
2-3-1-4	
2-3-4-1	
2-4-1-3	
2-4-3-1	
3-1-2-4	
3-1-4-2	
3-2-1-4	
3-2-4-1	
3-4-1-2	
3-4-2-1	
4-1-2-3	
4-1-3-2	
4-2-1-3	
4-2-3-1	
4-3-1-2	
4-3-2-1	

Tabulator's Score_____

SCORECARD FOR SMALL-SEEDED LEGUMES

(Alfalfa, Clovers, etc.)

Main Points to be Considered		Points Deducted from 20
1.	Clean Sample	0
2.	Soundness and cleanliness of seed (Plumpness, uniform size, luster and freedom from inert material)	3
3.	Crop seeds	3 per species
4.	Common weeds	6 per species
5.	Restricted noxious weeds	7 per species
6.	Prohibited noxious weeds	20

SCORECARD FOR CEREAL GRAINS

(Oats, Barley, Wheat, etc.)

Main Points to be Considered		Points Deducted from 20
1.	Clean Sample	0
2.	Soundness & Freedom of Disease (Inert material, stems, trash, broken or weathered, damaged, etc.)	2
3.	Mixed Crop Seeds	
	Small Grains	5 per species
	Other crop seeds	2 per species
4.	Common Weed Seeds	
	Broadleaf weed seeds	3 per species
	Grass weed seeds	5 per species
5.	Restricted weed seeds (secondary)	9 per species
6.	Prohibited weed seeds (primary)	20

Participant Number _____

AGRONOMY: PLANT DISORDER, DISEASE AND INSECT LIST

Correctly match the plant specimen to the disorder, disease or insect listed. 5 points each. Bubble the number shown next to the appropriate sample number in #91-100 on the scantron card for the state CDE or write the appropriate Disease/Disorder/Insect next to the numbers on the list below (local and district).

001 Iron Deficiency (Chlorosis)
002 Magnesium Deficiency
003 Rust
004 Wilt
005 Gall
006 Hairy Root
007 Spider Mite
008 Earwig
009 Aphid
010 Wireworm
011 Alfalfa Weevil
012 Snail/Slug
013 Looper
014 Nitrogen Deficiency
015 Potassium Deficiency
016 Phosphorus Deficiency
017 Ergot
018 Scab
019 Curly Top
020 Necrosis
021 Grasshopper/Crickets
022 Leafhopper
023 Corn Earworm
024 Potato Beetle
025 Blister Beetle
026 Armyworm

91. _____
92. _____
93. _____
94. _____
95. _____
96. _____
97. _____
98. _____
99. _____
100. _____

Participant Number_____

Complete the following fertilizer calculation problem with the given information. Round all numbers to the nearest whole number on the last step of your calculations..

Fertilizer Problem

A farmer has two fields. Field one has 145 acres, field two has 80 acres. He has had soil samples performed for both field and the following results:

Field 1 fertilizer recommendations/per acre:

150 lbs of nitrogen
55 lbs of P2O5
45 lbs of K2O

Fertilizer Options:

Fertilizer #1: 13-0-45 @ $195.00/ton
Fertilizer #2: 11-52-0 @ $270.00/ton
Fertilizer #3: 46-0-0 @ $245.00/ton

Field2 fertilizer recommendations/per acre:

175 lbs of nitrogen
112 lbs of P2O5
32 lbs of K2O

Total Score _____(100 pts)

Using the above fertilizer calculate the amount of fertilizer per acre, the cost per acre for each fertilizer and total cost for each field.

Results:

Field 1	**Lbs fertilizer/ acre**	**Pts. (5 pts each)**	**Cost / acre**	**Pts. (5 pts each)**
Fertilizer 1				
Fertilizer 2				
Fertilizer 3				
Total Pounds Applied / Acre			Total Cost / Acre	
			Total Field Cost	

Field 2	**Lbs fertilizer/ acre**	**Pts. (5 pts each)**	**Cost / acre**	**Pts. (5 pts each)**
Fertilizer 1				
Fertilizer 2				
Fertilizer 3				
Total Pounds Applied / Acre			Total Cost / Acre	
			Total Field Cost	