Wyoming

FFA

Agronomy Contest

Rules and Regulations

2002

Wyoming State Department of Education

WYOMING FFA AGRONOMY CONTEST

(Rules and Regulations)

2002

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WYOMING FFA AGRONOMY CONTEST

GENERAL INFORMATION

The annual agronomy contest is one of the state Career Development Events held in cooperation with the University of Wyoming.

It is sponsored by the Department of Plant Sciences and the Department of Renewable Resources Department, College of Agriculture, under the supervision of Tom Whitson.

Vocational agricultural instructors should contact Kelli Belden, Department of Renewable Resources, University of Wyoming, University Station, Box 3354, Laramie, Wyoming 82071 (766-2135) for more detailed information on any phase of the agronomy contest.

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General Rules

1.) The agronomy team will consist of four members.

2.) The agronomy contest will consist of eight blocks which will be divided into four sections (300 points/ section).

Section A	
1.) Written test (100 questions)	300 points
Section B	
1.) Entomology	150 points
2.) Commercial Grain Grading (two problems)	150 points
Section C	
1.) Forages (Judging and Identification)	
A.) Judging Grass and Alfalfa Bale Flakes (1 class of each)	100 points
B.) Identification of forages (15 plant mounts, 4 points/specimen)	60 points
2.) Weed and Seed Identification	
A.) Weed plant mounts, with color photos from Weeds of the West Book, 15 specimens, 4 points/specimen	60 points
B.) Crop and Weed seed identification seeds from designated ( ) F.F.A. Mounts and Seeds List (Page ___) 20 specimens, 4 points/specimen	80 points
Section D	
1.) Soils and Land Judging	300 points
TOTAL	**1200 points**

GENERAL RULES

1. The agronomy team may have a maximum of four members. For scoring, the top three scores in any individual class will be counted towards the team score. Teams fielding less than three members are at a disadvantage, however, individual participants from those schools are not.

2. The agronomy contest will consist of four blocks, which will be divided into four sections.

3. Each section will be allotted 45 minutes. Contestants will be notified at the halfway point and when 5 minutes remain.

4. Four samples shall constitute a judging class.

5. All classes shall be numbered 1,2,3,4, from left to right.

6. Forage classes will be placed on factors which can be determined by exterior examination. No contestant will be allowed to separate the bale flake and so destroy the general appearance and leafiness of the sample.

7. A list of plants, seeds, and insects which may be included in the identification sections is attached, and constitutes a portion of the rules and regulations, including the correct spelling.

8. The list of materials from which selections may be made for the grading problems follows and is a part of the rules and regulations.

9. Each of the four team members will be assigned to a different judging section and move accordingly.

10. No communication with other contestants, other members of the team, coach, or anyone else except the person(s) in charge will be permitted while the contest is underway.

11. It is required that each contestant have a writing board, magnifying glass, and pencil when entering the contest area. No rules or regulations may be used by the contestant.

12. Official Grain Standards of the United States Handbook will be provided.
Guide to Wyoming Fertilizer Recommendations will be provided.

13. Infraction of rules shall be followed by dismissal or point reduction.

14. Correct spelling will be required in the identification list. One (1) point will be taken off for each misspelled word. Spelling must be as is listed on the official plant and seed identification list.

15. All foreign materials added to the grass and alfalfa sheaves should be easily recognized by the contestants.

SPECIAL RULES

PART A - AGRONOMY TEST

1. Test: 100 questions

2. Time: 45 minutes

3. Value: A total of 300 points

4. Test will be made up of true or false, completion, multiple choice or essay questions. Questions will come from the study guide prepared by the Department of Plant Sciences.

5. Examples:

   True or False

   a. Most noxious weeds are annuals.
   b. A stolon is an underground stem.
   c. Sandy soils will hold less water than clay soils.

   Completion

   a. Buckskin is a variety of _____.
   b. Round hollow stems are characteristic of a _____.

   Multiple Choice

   a. Ergoty wheat shall be wheat which contains more than
      (1) 3.0 percent (2) 0.3 percent, or (3) 1.0 percent ergot.

PART B - JUDGING OF GRASS AND ALFALFA SMALL BALE FLAKES

1. Judging will consist of one class of grass forage and one class of alfalfa forage.

2. Each class will consist of four bale flakes to be placed 1,2,3,4.

3. Fifty (50) points/class will be allocated.

4. The following scorecard will be used for each class:

   A. Leaf capture ratio of leaves to stems. A high percentage of leaves is desirable. . . . . 20 points

   B. Texture-size of the stems - large stems may decrease quality. . . . . 20 points

   C. Color-bright green color present. Weathering and exposure results in bleaching. . . . . 10 points

   D. Maturity - seedbearing to immature. Maturity decreases quality. . . . . 20 points

   E. Foreign material - weeds and debris. noninjurious and injurious . . . . . 10 points
      Noninjurious: weeds, straw, etc.
      Injurious: sandbur poisonous plants, bearded grasses

   F. Purity - other forage or crop species . . . . . 10 points

   G. Condition - refers to soundness of hay (sour, odor, moldy, excess moisture) . . . . . 10 points

TOTAL 100 points

5. The following shall be used in the contest:

FORAGE JUDGING
Place the letter corresponding to your placing opposite the appropriate class listed below

a. 1-2-3-4	g. 2-1-3-4	m. 3-1-2-4	s. 4-1-2-3
b. 1-2-4-3	h. 2-1-4-3	n. 3-1-4-2	t. 4-1-3-2
c. 1-3-2-4	i. 2-3-1-4	o. 3-2-1-4	u. 4-2-1-3
d. 1-3-4-2	j. 2-3-4-1	p. 3-2-4-1	v. 4-2-3-1
e. 1-4-2-3	k. 2-4-1-3	q. 3-4-1-2	w. 4-3-1-2
f. 1-4-3-2	l. 2-4-3-1	r. 3-4-2-1	x. 4-3-2-1

PART C - ENTOMOLOGY CONTEST

The contestant will view 15 slides of insects and/or prepared insect specimens. For each slide and specimen, the contestant will be expected to know 1) the common name of the insect (or related anthropod), 2) the order of the insect, 3) its destructive or beneficial stage(s) (note that one or more stages of an insect's life cycle may be destructive or beneficial), 4) the mouthparts of the more destructive or beneficial stage(s) (possibly more than one correct response), and 5) the principle host of the insect (the plant or insect it feeds on). An example of the exam sheet is provided here. Information for each insect specimen is valued at 10 points; two points are allotted to each category. A half-point will be subtracted for mis-spelling in the first two categories. In categories three to five the contestant is to mark an "X" by each word in the list that is appropriate. A half-point will be subtracted for each wrong response (i.e, placing an "X" where it should not occur or not placing an "X" where it should occur). In no case will more than two points be deducted in each category.

SCORE **FFA STATE FINALS** **CONTESTANT**

Entomology

_____

Name: _____

Write in the name of the insect, order of the insect, and place an "X" in the most appropriate blank(s) in the appropriate columns. The identification number refers to the slide or mounted specimen you will review during the test. You will be given one minute per specimen to fill out the information requested.

	2 points	2 points	2 points	2 points	2 points
Identification Number	Common name of insect (or related anthropod)	Order of Insect	Destructive or Beneficial Stage(s)	Mouthpart type of Most Destructive or Beneficial Stage(s)	Principal Host
1		(Class if a non-insect anthropod)	_____larva _____nymph _____pupa _____adult	_____chewing _____rasping _____lapping _____siphoning _____sucking _____sponging	_____man _____livestock _____grain _____forest
2			_____larva _____nymph _____pupa _____adult	_____chewing _____rasping _____lapping _____siphoning _____sucking _____sponging	_____livestock _____alfalfa _____man _____corn _____other insects
3			_____larva _____nymph _____pupa _____adult	_____chewing _____rasping _____lapping _____siphoning _____sucking _____sponging	_____alfalfa _____stored grain _____livestock _____small grains
4			_____larva _____nymph _____pupa _____adult	_____chewing _____rasping _____lapping _____siphoning _____sucking _____sponging	_____corn _____cat _____livestock _____house (wood)
5			_____larva _____nymph _____pupa _____adult	_____chewing _____rasping _____lapping _____siphoning _____sucking _____sponging	_____livestock _____house (wood) _____small grains
6 7			_____larva _____nymph _____pupa _____adult	_____chewing _____rasping _____lapping _____siphoning _____sucking _____sponging	_____apples _____corn _____household _____alfalfa _____other insects

Entomology Contest

F.F.A. Insects and Related Anthropods

1. honey bee
2. leafcutter bee
3. Mormon cricket
4. Russian wheat aphid
5. spotted alfalfa aphid
6. sugarbeet root maggot
7. earwig
8. two-spotted spider mite
9. corn rootworm
10. blister beetle
11. alfalfa weevil
12. alfalfa looper
13. army cutworm
14. true armyworm
15. mountain pine beetle
16. leaf hopper
17. bandwinged grasshopper
18. slantfaced grasshopper
19. wireworm
20. parasitic wasp
21. lady bird beetle
22. syrphid fly
23. ground beetle
24. corn earworm
25. green lacewing
26. Mexican bean beetle
27. corn leaf aphid
28. flea beetle
29. sugarbeet root aphid
30. lygus bug

PART D - COMMERCIAL GRAIN GRADING

1. The commercial grading of grains will be based upon the standards of the Consumer and Marketing Service, Grain Division of the U.S. Department of Agriculture, as set forth in the Official Grain Standards of the United States Handbook - The latest handbook available on January 1 each year at (http://www.usda.gov/gipsa) will be used. A limited number (5) of handbooks may be obtained at no cost from Frank W. Kretzinger, 465 Custom House, Denver, Colorado 80202, or by telephone 303-297-4576. Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Handbooks will be provided at the contest.

2. The grading will consist of:

	Class	Subclass
a.	WHEAT Hard Red Winter	
	Hard Red Spring	Red Spring Wheat, Dark Northern Spring and Northern Spring Wheat
b.	CORN White Yellow Mixed	
c.	OATS White	
d.	RYE	
e.	MALT BARLEY Two-rowed	

Two problems, winter hard red winter and/or hard red spring wheat; oats; rye, malt barley and corn will be used to make up the grading phase of the contest.

No actual grain samples will be worked. Master sheets listing grading factors will be furnished to each contestant.

3. Only the following special grades may be used in the contest:

WHEAT			
smutty	garlicky	ergoty	
light smutty	treated		

OATS				
heavy	thin	garlicky		bleached
extra heavy	smutty	ergoty	bright	

RYE

ergoty	plump	light garlicky
light smutty*	smutty	weevily

CORN

flint	flint and dent	waxy*

MALT BARLEY

4. Grading will be done on two problems from card factors only. Approximately five minutes will be allowed for each problem.

5. The contestant must indicate with an "X" in the proper circle on the score sheet the correct grade, subclass, class and factors which apply for each problem. In addition, information will be furnished on the card whereby the contestant will be expected to determine percent dockage and special grade where applicable.

6. Grading factors: A reason why a grain goes down in grade. A grain which grades No. 1 has no grading factors and need be given none. A grain grading No. 2 or lower must have a factor or factors which bring it down. Only the factors which bring it down to the lowest grade should be marked.

Examples:

Problem No. 1 - Hard Red Winter Wheat

Card Information:

Test weight 56#, odor-natural, sprout damage 4.5% vitreous kernels 70%, dockage 1.3%

Answer:

The contestant will indicate by marking an "X" in the appropriate circle. Grade U.S. No. 3, Hard Winter Wheat, Dockage 1%; Grading factors, total damage 4.5%, test weight 56#.

Problem No. 2 - Hard Red Spring Wheat

Card Information:

Test weight 60#, foreign material 4%, odor-natural, 80% dark, hard vitreous kernels.

Answer:

Grade U.S. No. 5, Hard Northern Spring Wheat, Grading factor foreign material 4%.

Problem No. 3 - White Oats

Card Information:

Test weight 39#, odor-natural, barley 5%, wild oats 2%.

Answer:

Grade U.S. No. 3, heavy white oats; Grading factor, sound cultivated oats 93%.

Problem No. 4 - Rye

Card Information:

Test weight 55#, moisture, 14.5% foreign matter other than wheat 5%. Total damage 16%.

Answer:

U.S. Sample Grade Rye, tough, Grading factor, total damage 16%.

Problem No. 5 - Two-Rowed Malting Barley

Card Information:

0.2% frost damaged kernels.
0.1% mold damaged kernels.
1.0% wild oats.
6.0% skinned and broken.
10.0% passed through a 5.5/64 x 3/4 sieve.
2.0% foreign material.

Answer:

Grade U.S. No. 3; Grading factors, foreign material, thin barley.

7. Official rules for scoring contestant's papers on commercial grain grading (75 points/problem).

HARD RED SPRING WHEAT

Subclass		25 points.	wrong. 0
*Grade - right		30 points.	1 off 20 points
2 off		10 points.	3 off. 0
**Determining factors		20 points	
one factor:	1 right	20 points.	1 wrong. 0
two factors:	2 right	20 points.	2 wrong. 0
	1 right	16 points	
three factors:	3 right	20 points.	3 wrong. 0
	2 right	16 points	
	1 right	8 points	
four factors:	4 right	20 points.	4 wrong. 0
	3 right	16 points	
	2 right	12 points	
	1 right	8 points	

Over 4 factors cut 10 points

OATS, CORN, AND RYE

Class.		15 points
*Grade - right.		30 points
		1 off & & & &.20 points
		2 off. . . . . .10 points
		3 off. . . . . 0 points
**Determining factors.		30 points
one factor:	1 right	30 points. . . . . 1 wrong. 0
two factors:	2 right	30 points. . . . . 2 wrong. 0
	1 right	24 points
three factors:	3 right	30 points. . . . . 3 wrong. 0
	2 right	20 points
	1 right	10 points
four factors:	4 right	30 points. . . . . 4 wrong. 0
	3 right	22 points
	2 right	15 points
	1 right	8 points

MALT BARLEY

Grade & & & & & & & & &30 points
- 1 off 20 points
- 2 off 10 points
- 3 off 0 points

**Determining factors & & & & & & &.45 points

One factor:	1 right	45 points
Two factors	2 right	45 points
	1 right	30 points
Three factors:	3 right	45 points
	2 right	30 points
	1 right	15 points
Four factors:	4 right	45 points
	3 right	35 points
	2 right	20 points
	1 right	10 points

* If special grade is omitted, cut 5 points. If wrong special grade is included, cut 5 points.

** When determining factors are given and only one is actual, score as for two factors. When three determining factors are given and only two are actual, score as for three.

*** Cut 10 points on all factors over four.

COMMERCIAL GRAIN GRADING SCORE SHEET

Contestant No. _____ Total Score _____

Indicate your answer by an X in the proper bracket

HARD RED WINTER WHEAT

Grade	Subclass	Factors
U.S. No. 1 [ ]	[ ]	Minimum test weight per bushel [ ]
U.S. No. 2 [ ]		Damaged kernels: Total damaged kernels [ ]; Heat-damaged kernels [ ]
U.S. No. 3 [ ]	[ ]	
U.S. No. 4 [ ]		Foreign Materials [ ]
U.S. No. 5 [ ]		Wheat of other classes: Total [ ]; Contrasting Classes [ ]
U.S. Sample Grade [ ]		
	Special Grades	Shrunken and broken kernels [ ]
		Defects (Total) [ ]
Smutty [ ]		Dockage _____%
Light Smutty [ ]		
Garlicky [ ]		
Ergoty [ ]		Does not meet requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive [ ]
Treated [ ]		

COMMERCIAL GRAIN GRADING SCORE SHEET

Contestant No. _____ Total Score _____

Indicate your answer by an X in the proper bracket

HARD RED SPRING WHEAT

Grade	Subclass	Factors	
U.S. No. 1 [ ]	Dark Northern Spring Wheat [ ]	Minimum test weight per bushel [ ]	
U.S. No. 2 [ ]		Damaged kernels	Total damaged kernels [ ]
U.S. No. 3 [ ]	Northern Spring Wheat [ ]		Heat-damaged kernels [ ]
U.S. No. 4 [ ]		Foreign Material [ ]	
		Shrunken and broken kernels [ ]	
U.S. No. 5 [ ]	Red Spring Wheat [ ]	Total of above [ ]	
U.S. Sample grade [ ]		Wheat of other classes	Contrasting classes [ ]
	Special Grades	Defects (Total) [ ]	
Smutty [ ]			
Light Smutty [ ]		Dockage _____%	
Garlicky [ ]			
Ergoty [ ]			
Treated [ ]			

COMMERCIAL GRAIN GRADING SCORE SHEET

Contestant No. _____ Total Score _____

Indicate your answer by an X in the proper brackets

CORN

Grade		Class		Factors	
U.S. No. 1	[ ]	Yellow Corn	[ ]	Minimum test weight per bushel	[ ]
U.S. No. 2	[ ]			Moisture	[ ]
U.S. No. 3	[ ]	White Corn	[ ]	Broken corn and Foreign Material	[ ]
U.S. No. 4	[ ]				
U.S. No. 5	[ ]	Mixed Corn	[ ]	Damaged Kernels Total	[ ]
U.S. Sample Grade	[ ]			Heat-damaged kernels	[ ]
		Special Grade		Does not meet requirements for any of the grades form U.S. No. 1 to U.S. No. 5, inclusive	[ ]
Flint	[ ]				
Waxy	[ ]				
Flint and Dent	[ ]				

COMMERCIAL GRAIN GRADING SCORE SHEET

Contestant No. _____ Total Score _____

Indicate your answer by an X in the proper brackets

OATS

Grade		Special Grades		Factors	
U.S. No. 1	[ ]	Bright	[ ]	Test Weight per Bushel	[ ]
U.S. No. 2	[ ]	Heavy	[ ]	Sound Cultivated Oats	[ ]
U.S. No. 3	[ ]	Extra Heavy	[ ]	Heat-damaged Kernels	[ ]
U.S. No. 4	[ ]	Thin	[ ]	Foreign Material	[ ]
U.S. Sample Grade	[ ]	Smutty	[ ]	Wild Oats	[ ]
		Ergoty	[ ]	Oats of Other Colors	[ ]
		Garlicky	[ ]	Slightly Weathered Oats	[ ]
		Bleached	[ ]	Badly Stained or Materially Weathered Oats	[ ]
				Does not meet requirements for any of the grades from U.S. No. 1 to U.S. No. 4, inclusive.	[ ]

COMMERCIAL GRAIN GRADING SCORE SHEET

Contestant No. _____ Total Score _____

Indicate your answer by an X in the proper brackets

RYE

Grade		Special Grades			Factors	
U.S. No. 1	[ ]	Plump	[ ]	Damaged Kernels	Total	[ ]
U.S. No. 2	[ ]	Smutty	[ ]		Heat-damaged	[ ]
U.S. No. 3	[ ]	Light Garlicky	[ ]	Foreign Material	Total	[ ]
U.S. No. 4	[ ]	Garlicky	[ ]		Other than Wheat	[ ]
U.S. Sample Grade	[ ]	Ergotty	[ ]	Minimum test weight per bushel		[ ]
Dockage _____%		Light Smutty	[ ]	Thin Rye		[ ]
				Does not meet requirements for any of the grades from U.S. No. 1 to U.S. No. 4, inclusive.		[ ]

COMMERCIAL GRAIN GRADING SCORE SHEET

Contestant No. _____ Total Score _____

Indicate your answer by an X in the proper brackets.

TWO-ROWED MALTING BARLEY

Grade		Factors	
U.S. No. 1	[ ]	Test Weight Per Bushel	[ ]
U.S. No. 2	[ ]	Suitable Malting Types	[ ]
U.S. No. 3	[ ]	Sound Barley	[ ]
U.S. No. 4	[ ]	Wild Oats	[ ]
Does not meet any of the requirements for any of the above grades.	[ ]	Foreign Material	[ ]
		Skinned Or Broken Kernels	[ ]
		Thin Barley	[ ]
		Frost Damaged Kernels	[ ]
		Mold Damaged Kernels	[ ]
		Heat Damaged Kernels	[ ]
		Garlicky	[ ]
		Ergoty	[ ]
		Smutty	[ ]
		Infested	[ ]

PART E - PLANT AND SEED IDENTIFICATION

1. Identification - two 15 specimen classes
   (15 weed plants and 15 crop plants)
   4 points will be allowed for each correct identification. In seed identification, 20 seeds at 4 points each will be allowed.

2. Contestants will record common names only as listed. Other names than those on the list will be counted wrong.

3. One point will be taken off for incorrect spelling.

4. This section will be separated into two parts as shown below.

PLANT IDENTIFICATION

Contestant Name _____ Contestant No. _____

Crop Plants and Weed Plants

Seed Identification

F.F.A. PLANT MOUNTS, WEED PHOTOS (Weeds of the West Book) SEEDS

		Photo	Seed
A.	Noxious and/or Prohibited Weeds		
	1. Canada thistle	X	X
	2. Common burdock	X	
	3. Dalamtian toadflax	X	
	4. Field Bindweed	X	X
	5. Hoary Cress	X	
	6. Leafy spurge	X	
	7. Musk thistle	X	X
	8. Oxeye daisy	X	X
	9. Perennial pepperweed	X	
	10. Perennial sowthistle	X	
	11. Plumeless thistle	X	
	12. Quackgrass	X	X
	13. Russian knapweed	X	
	14. Scotch thistle	X	
	15. Skeletonleaf bursage	X	
	16. Yellow toadflax	X	
B.	Semi-harmful Weeds		
	17. Buckhorn plantain	X	X
	18. Blue lettuce	X	
	19. Field Dodder	X	X
	20. Puncturevine	X	X
	21. Common ragweed	X	X
	22. Povertyweed		X
	23. Swainsonpea		X
	24. Wild oats	X	X
	25. Jointed goatgrass	X	X
	26. Wild proso millet	X	
C.	Common Weeds		
	27. Barnyardgrass	X	X
	28. Blue mustard	X	
	29. Buffalobur	X	
	30. Bull thistle	X	
	31. Chicory	X	
	32. Common chickweed	X	
	33. Common sunflower	X	X
	34. Common cocklebur	X	
	35. Common yarrow	X	
	36. Curly dock	X	X
	37. Dandelion	X	X
	38. Downy brome	X	X
	39. Knotweed	X	
	40. Field sandbur	X	
	41. Field pennycress	X	X
	42. Smallseed falseflax	X	
	43. Foxtail barley	X	
	44. Green foxtail	X	X
	45. Canada goldenrod	X	X
	46. Western Sticktight	X	
	47. Horseweed	X	
	48. Venice mallow	X	
	49. Curlycup gumweed	X	
	50. Wild mustard	X	X
	51. Japanese brome	X	
	52. Kochia	X	X
	53. Common lambsquarters	X	X
	54. Marshelder	X	
	55. Mousear chickweed	X	
	56. Common salsify	X	
	57. Prickly lettuce	X	
	58. Annual pricklepoppy	X	
	59. Pigweed Spp.	X	X
	60. Nightshade Spp.	X	X
	61. Sheep Sorrel	X	X
	62. Russian thistle	X	X
	63. Shepherdspurse	X	X
	64. Skeletonweed	X	
	65. Pinnate tansymustard	X	X
	66. Tumblemustard	X	
	67. Wild buckwheat	X	
	68. Common purslane	X	X
D.	Poisonous Plants		
	70. Seaside arrowgrass	X	
	71. Deathcamas	X	
	72. Halogeton	X	
	73. Geyer larkspur	X	
	74. Tall larkspur	X	

	Photo	Seeds
75. Lupine	X	X
76. Princes plume	X	
77. Twogrooved milkvetch	X	
78. Western waterhemlock	X	
79. Woody aster	X	

E. Grasses	Mounts
80. Alkali sacaton	X
81. Bluebunch wheatgrass	X
82. Blue grama	X
83. Buffalograss	X
84. Canada wildrye	X
85. Crested wheatgrass	X
86. Giant wildrye	X
87. Green needlegrass	X
88. Idaho fescue	X
89. Indian ricegrass	X
90. Intermediate wheatgrass	X
91. Kentucky bluegrass	X
92. Meadow fescue	X
93. Needleandthread	X
94. Orchardgrass	X
95. Prairie sandreed	X
96. Redtop bent	X
97. Reed canarygrass	X
98. Red threeawn	X
99. Russian wildrye	X
100. Inland Saltgrass	X
101. Meadow foxtail	X
102. Slender wheatgrass	X
103. Smooth brome	X
104. Tall wheatgrass	X
105. Timothy	X
106. Western wheatgrass	X

F. Legumes, Cereals and Oil Crops	Mounts	Seed
107. Alfalfa	X	X
108. Alsike clover	X	X
109. Barley	X	X
110. Birdsfoot trefoil	X	X
111. White clover	X	X
112. Red clover	X	X
113. Sweetclover (white/yellow)	X	X
114. Cereal rye	X	X
115. Cicer milkvetch	X	X
116. Sainfoin	X	X

	Mounts	Seed
117. Safflower	X	X
118. Amber durum wheat	X	X
119. White wheat	X	X
120. Sorghum	X	X
121. Sudangrass	X	X
122. Foxtail millet	X	X
123. Flax	X	X
124. Triticale	X	X
125. Red Wheat	X	X
126. White Oat	X	X
127. Oat	X	X

PART F SOILS & LAND JUDGING

A. 1. Time 45 minutes

B. 2. Value 300 points

C. 3. Test

A. Determination of land capability class. (200 pts)
Land Classes I-VIII
(See Score Card)

B. Fertilizer and Soil
Amendments. (100 pts)
(See Score card)

FFA CULTIVATED LAND JUDGING CONTEST DESCRIPTION

The contestant will be supplied with the following materials for use during the contest.

1. A sample of the surface soil, which must be handtextured. This information will be used to select the surface textural class and the surface textural group in Part 1.

2. A textural triangle, which will be used to determine the texture of the subsoil from the data supplied on the scorecard for Part 1.

3. Two views (slides on a screen) of the soil to be judged in Part 1, which will be used to help determine Land Class and Vegetative Treatment.

4. A copy of the Guide to Wyoming Fertilizer Recommendations, which will be used with data in Part 2 of the exam, to determine fertilizer recommendations.

5. A two-page scorecard for entering the contestant s answers.

The following suggested procedures are intended to supplement the training procedures already in use by Wyoming vocational agriculture instructors. They are provided as an outline to be followed as the instructor feels would most benefit and facilitate his training program.

Four of the major areas of the Wyoming FFA Agronomy Contest are covered.
They include:

1. Forage Judging
2. Commercial Grain Grading
3. Plants and Seed Identification
4. Soils Judging
5. Entomology

Suggested Procedure for Teaching

FORAGE JUDGING

1. Students should be well trained in plant identification in order to identify injurious and noninjurious plants.

2. Create an interest in forage judging.
    a. Importance of high quality forages.
    b. Comparison between livestock judging and forage judging.
    c. Importance as part of agronomy contest.

3. Preliminary steps:
    a. Discuss forages to be judged.
    b. Review classification of weed plants.
    c. Learn descriptive terms.
    d. Learn to use evaluation sheets.
    e. Use Judging forms.
        1. Place example on board.
        2. Let students practice giving reason.

4. Start judging:
    a. Compare four (4) samples by general observation.
    b. Since no handling is allowed, examine each as closely as possible.
    c. Take notes on similarities and differences.
    d. A factor may be present in all samples but in varying degrees.
    e. After each sample has been carefully examined, an overall appraisal of four samples should be made.
    f. Make final placing.

5. Give a final forage judging test using the same types of samples that will be used during the state contest.

Suggested Procedure for Teaching

COMMERCIAL GRAIN GRADING

1. Create an interest in grain grading.
    a. Show the class the value of grain grading for actual marketing of grain and for an agronomy contest.
    b. The farmer can determine the value of his own grains from market quotations and it can aid in using production and handling methods suitable for a higher commercial grade.

2. Discuss the market classes of grain that are to be graded so that the student will recognize them.

3. Discuss the parts of the Official grain Standards Handbook that pertain to the classes to be graded until the students are familiar with this part.

4. Start grading of grain in the following manner:

    a. Write what would be found on a sample card on the board and show how to determine class, grade and grading factors and the relative values of each.

    b. Give each student a sample sheet of factors of a grain sample and explain how to determine class, grade and grading factors and relative values of each.

5. Give a final commercial grain grading contest. Use 10 samples and conduct the test in a similar manner to the contest to be conducted at the state level.

Suggested Procedure for Teaching

PLANT AND SEED IDENTIFICATION

1. Create an interest in plant and seed identification.
    a. Pass around a few samples of common seeds the students do not know to arouse their interest.
    b. Show the class the purposes of seed identification.
        1. To be able to recognize mixtures and to determine the kind and quantity of seeds in mixtures.
        2. To recognize and determine the seriousness of weed or plant seeds in planting seed.
        3. To avoid planting improper seed.
        4. To enable recognition of poisonous and harmful plants.
    c. Show the class the importance of seed and plant identification in the state agronomy contest.

2. Aids in identification:
    a. Have students bring in designated plants and seeds from their homes.
        1. This gives the students a chance to learn about plants in their natural habitat.
        2. This gives the students a chance to see a plant and seed at different sizes, shapes and conditions.
    b. Plants and seeds that are needed can be obtained from the University for a small fee.
        1. Not getting a plant or seed from the University, but finding and mounting them one's self helps an FFA chapter.
        2. Saves the chapter money.
        3. Mounting of plants and seeds could also be a good way for an FFA chapter to make money by selling these samples to less industrious chapters.

3. Go over the list of seeds with the class so that the students will be able to recognize them and pronounce their names.

4. Conduct a detailed study of seeds with special emphasis given to the seeds with similar markings.
    a. Explain the difference between similar seeds.
    b. Make drawings of the more difficult to illustrate variations.
    c. Have the students study small seeds under a magnifying glass. Small characteristics can usually be seen with the naked eye after they have once been found.

5. Have students study the seed samples individually.

6. Give an identification test with seeds poured out in plates.
    a. Grade tests with samples still out so that the students can check their mistakes.
    b. Have each student make a list of seeds incorrectly identified so that he may study them.

7. Tests should emphasize the seeds the students are having the most trouble with.

8. Crop and weed seeds and plants need to be studied in their separate divisions first, then gradually combined.

9. Give a final identification test, including all the samples and duplication of some. Check papers for correct spelling and identification.

Suggested Procedures for Teaching

SOILS JUDGING

1. Students should be familiar with the material in Chapter 11 of Our Soils and Their Management (Donahue, Follett and Tulloch, 1990, Interstate and in Publishers, Inc., Danville, Illinois) the Guide to Wyoming Fertilizer Recommendations (Available from the Soil Testing Laboratory at UW).

2. Students should recognize the appropriate agricultural or residential uses for the soil conditions presented which will protect the environment as well as provide profit.

3. Create an interest in soil judging.
   a. Identify aspects used to classify land use.
   b. Learn the field method. (Hard texturing) for determining textural class, and be able to use the textural triangle with laboratory data to determine textural class (handouts available from Soil Testing at UW).
   c. Use laboratory data in conjunction with the Guide to Wyoming Fertilizer Recommendations to make a fertilizer recommendation.

4. Preliminary Steps
   a. Discuss Soil textural properties and their effects
   b. Learn textural terms
   c. Learn to hand texture
   d. Learn to use textural triangle
   e. Learn factors which affect land capability class.
   f. Learn land classification for contest
   g. Practice determining land classification
   h. Review contents of fertilizer guide
   i. Practice Making Recommendations

Suggested Procedures for Teaching

ENTOMOLOGY

The information necessary to be successful on the test is found by reviewing the study slides and accompanying information sheets (these have been provided to each school) of each of the insects and related anthropods that may appear on the test. More general information on insect biology, classification, and management is found in the UW CES bulletin titled "Insect Resource Manual" by Michael Brewer. This resource manual is helpful in learning how these insects are related to each other (their life cycle, feeding habits, and body structure) and what type of management strategies are available to control insects. Additional information includes listings of reference books, suppliers of entomology equipment, guides on the collection and preservation of insect, and glossary of entomological terms. The study slides, information sheets, and resource manual provide sufficient information to allow a student to excel on the entomology section of the contest.

For the advanced student who wished to learn more, the student should be directed to the reference books listed in the "Insect Resource Manuals." The books written by R. Pfadt and L. Pedrgo are particularly strong in plant protection entomology.