AGRONOMY

3-4 Member Team

IMPORTANT NOTE

Please thoroughly read the General CDE Rules Section at the beginning of this handbook for complete rules and procedures that are relevant to State FFA Career Development Events.

I. PURPOSE

Oklahoma FFA Agronomy CDE promotes an interest and understanding of agronomy through the demonstration of skills and proficiencies.

II. OBJECTIVES

By participating in this contest, students will:

A. Demonstrate basic knowledge of agronomic principles and practices
B. Learn to identify agronomically important crops and weeds and measure grain quality using standard grain grading practices
C. Practice applying science and mathematics to solve real-world agricultural problems
D. Explore career opportunities, skills, and proficiencies in the agronomic industry
E. Experience challenges and find success.

III. EVENT RULES

These rules and regulations are official for the 2024 State FFA Interscholastic Career Development Event in Agronomy. They may be supplemented as necessary after consultation with Agricultural Education officials. Changes will be communicated at https://agriculture.okstate.edu/students/ffa/cde/agronomy-cde.html

A. Coordinators of district and invitational contests throughout the state are encouraged to follow these rules for their contests, but they are not required to do so. The sponsoring institutions are fully responsible for contest set-up, operation and supervision; interpretation of rules; scoring, tabulation, and awards; and announcing the location and time of district and invitational contests. The OSU Department of Plant and Soil Sciences will prepare contest materials for purchase by district contest sponsors only if requested by February 15, 2024. An order form is included in these rules as **Appendix A**. A digital order form can also be found at the following website: http://pss.okstate.edu/crops-judging-kits/ok-ffa-cde-materials.

B. Students attending any Oklahoma high school approved for competition by the Agriculture Division, Oklahoma State Department of Vocational/Technical Education may enter the contest. Any student entering the contest must be a regularly enrolled agricultural education student and eligible for competition under Oklahoma Secondary Schools Activities Association rules.
C. All participants will be assigned a contestant number. This number must be written on all answer sheets.

D. Participants will be divided into three groups. Each participant must stay with their assigned group until they are told otherwise by the contest supervisor.

E. The contest will be scored as follows:

Section	Amount	Value
Identification	60 Samples (5 pts each)	300 Points
Grain Grading	6 Samples (50 pts each)	300 Points
Agronomic Knowledge Exam	50 Questions (6 pts each)	300 Points
		Total Points: 900

F. Detailed instructions for identification and grain grading are found in **Appendixes B and C**, respectively.

G. The coaches will have the privilege of checking all materials used in the contest. A coach shall not object to anything being included in the contest because it was not secured for study.

H. The contestants will not communicate with anyone except contest officials while the contest is in progress. This includes verbal communication as well as telephone calls and text messages.

I. Legible writing and proper spelling are required and will be considered in scoring. Points will be deducted for misspelling.

J. In view of fairness to all schools, no team will be permitted to practice in the OSU crops teaching laboratory, except during supervised training workshops conducted prior to the contest. A list of resources is provided in **Appendix E.**

IV. FORMAT

A. The event consists of three sections:
   1. Identification (30 Minutes)
   2. Grain Grading (30 Minutes)
   3. Agronomic Knowledge Exam (30 Minutes)

V. EVENT FORMAT

A. Team Make-Up

1. A team will consist of three or four members. The top three scores will be counted for the team total. If an entire team is not entered, one or two individuals from a school may compete for individual honors.
2. If more than four students from a given school wish to participate, the additional students may compete and be scored as individuals but these scores will not count for the team scores even if their totals are higher than the assigned team members'.

B. Equipment

1. A contestant may take the following into the contest:
    i. magnifying lens, forceps, clipboard, pencil or pen, calculator, and watch
2. No outside grain grading sheets will be allowed in contest rooms as well as calculators that are capable of storing equations unless the home screen has been cleared and checked by proctors. Also, no watches that sync with cell phones or cell phones will be allowed in the testing areas. **If superintendents or proctors discover students using any prohibited material in testing areas, they are permitted to take up answer materials and disqualify the student's scores.**

All other needed materials, including answer sheets and grain grading worksheets will be provided by the contest superintendent.

C. Event Schedule

Each contestant shall complete the event in the time allotted.

D. Identification of Plant Materials (300 Points)

1. The contestant will identify a total of 60 plants, seeds, damages, insects, diseases, disorders, and machinery in 30 minutes. It is possible that the same species may occur more than one time in the contest. Each sample will be given a value of 5 points, for a total of 300 points. Students will be provided an official sheet of numbered ID specimens to help fill in the corresponding number with the sample on their scan sheet.
2. Plants will generally be shown in the reproductive stage (flower bud through seed maturity). Samples may be presented as preserved mounts, dried bundles or specimen, fresh cuttings, live specimen, photographs, or replicas. A magnifying lens is suggested to aid in identification.
3. A numbered list of the names of all samples on the official identification list arranged in alphabetical order (**Appendix B**) will be included with the official answer form used by the contestant. The contestant will identify each sample, select the appropriate number from the answer list, and record that number in a scan sheet provided. Both pages of the form must be turned in when the contestant is finished with the identification section.

E. Grain Grading (300 points)

1. Six samples of grain will be graded according to the Federal Grain Inspection Standards. This section is worth 300 points, with each sample worth 50 points; 30 points for recording the correct grade designation plus 20 points for recording the factors determining the grade (see the description of grain grading in **Appendix C** for additional scoring information).
2. The samples will be from the following classes: hard red winter wheat, hard white winter wheat, Durum wheat, mixed wheat; sorghum, white sorghum, tannin sorghum,

mixed sorghum, yellow corn, white corn, mixed corn, yellow soybeans, and mixed soybeans.

3. Samples will consist of cards with seeds glued to various areas representing a commercial grading sample which has already been separated. Each card will include a base sample of the grain to be graded, the necessary card factors, and up to six visual factors. The base sample must be examined to determine the predominating market class of the crop. Given factors are those which cannot be determined by the student, and for which values must be provided. These include test weight per bushel, odors, percent of material sieved from the sample, certain sample grade factors, and all factors determining the special grades. The visual factors are small quantities of materials which may affect the commercial quality of the grain. These are shown on the card with the percentage of the sample they comprise. Students must determine the effect of each factor on the grade of the sample. Other market classes that might cause the grain to be graded as class "mixed" may also be shown as visual factors. The contestant must consider all of the evidence accompanying each sample, and record the market grade designation, together with the factors which determine the designation on the scoring sheet as shown in the explanation and examples given in **Appendix C**.
4. Each contestant will be provided with a summary sheet containing the grade requirement table and for special grades, market classes, and grading factors as shown on the following pages. (These summary sheets are abbreviated and may sometimes differ from the actual Federal Grain Inspection Standards. For the Oklahoma event, the guidelines for grade and class determination on the provided summary sheets will apply.) Contestants will also be provided with a worksheet to use when determining the grade. Both handouts are available in **Appendix C**.

F. Agronomic Knowledge Exam (300 points)

1. The general agronomic examination will be comprised of 50 questions; multiple choice questions will be utilized for this year's event. Calculations will still be worked out but answer choices will be multiple choice. Answer choices will be filled out on the official scansheet.
2. Questions will be of general agronomic nature based on crops produced in Oklahoma, including but not limited to winter wheat, winter canola, alfalfa, cotton, peanut, soybean, sorghum. Topics will include but are not limited to crop biology and adaptation, planting, nutrient and water requirements, common pests, harvesting and storage.
3. Sample questions for study purposes are available as **Appendix D.**

VI. SCORING

Plant Identification..... 300 points
Grain Grading ..... 300 points
Knowledge Exam..... 300 points
Total Individual.....900 points
Total Team.....2700 points

VII. TIEBREAKERS

Ties will be broken based upon scores in identification. If the tie remains unbroken, grain grading then general agronomic knowledge exam will be used to break the tie.

VIII. AWARDS

Trophies and certificates for winners are presented by the OSU Division of Agricultural Sciences and Natural Resources. The Department of Plant and Soil Sciences offers a scholarship to the high individual in the state contest if he or she attends Oklahoma State University and majors in Plant and Soil Sciences.

Crops Judging Material Order Form

Date:
P.O. #:

Orders must be postmarked on or before February 15th, 2024

Ordered by:
[Name]
[School Name]
[Street Address]
[City, St, ZIP Code]
[Phone]
[Email]

Mail or Email to:
OSU Crops Judging Team
371 Agriculture Hall
Stillwater, OK 74074
405-744-3525
beatrix.haggard@okstate.edu

Items	Unit Cost	Quantity	Total
Set of Laminated Plant Mounts	$85.00		$-
Set of Seed Sheets	$70.00		$-
Set of Grain Grading Sheets	$35.00		$-
Complete Study Kit	$190.00		$-
Includes binder with one set of laminated plant mounts, one set of seed sheets, and one set of grain grading sheets			
Individual Plant Mounts	$1.25		$-
explain which plant in comments below			
Individual Seed Packets	$1.00		$-
explain which seeds in comments below			
Contest Kit	$135.00		$-
contest hosting colleges only			
		Total Cost	$-

Comments

Office Use

Authorized by *Date*

Thank you for supporting the OSU Crops Judging Team. Orders are normally completed and shipped a week after receiving an order. Any questions, concerns, or comments can be directed to Dr. Beatrix Haggard. Contact information is listed above.

IX. Appendixes

APPENDIX B

2015-2019 Plant, Seed, and Insect Identification List

	Crops	
1	alfalfa	both
2	barley	both
3	bermudagrass	both
4	big bluestem	both
5	buffalograss	seed
6	canola	both
7	confectionary sunflower	seed
8	corn	plant/ear/tassel
9	cotton	boll/seed/plant
10	crimson clover	both
11	dent corn	seed
12	durum wheat	seed
13	grain sorghum	seed
14	green mungbean	seed
15	hairy vetch	both
16	hard red winter wheat	seed
17	hard white wheat	seed
18	indiangrass	both
19	Kentucky bluegrass	both
20	Korean lespedeza	both
21	little bluestem	both
22	oat	both
23	oil sunflower	seed
24	orchardgrass	both
25	peanut	pod/seed/plant
26	perennial ryegrass	both
27	pinto fieldbean	seed
28	plains bluestem	plant
29	pop corn	seed
30	red clover	both
31	rice	both
32	rye	both
33	sericea lespedeza	plant
34	sesame	both
35	sideoats grama	plant
36	soft red winter wheat	seed
37	soft white wheat	seed
38	sweet corn	seed
39	sweetclover	both
40	switchgrass	both
41	tall fescue	plant
42	triticale	both
43	weeping lovegrass	both
44	wheat	plant
45	white clover	both
46	winter pea	plant
47	yellow soybean	both
	Weeds	
48	barnyard grass	both
49	buffalobur	both
50	bull thistle	both
51	cheat	both
52	common chickweed	plant
53	common cocklebur	both
54	common lambsquarters	both
55	common milkweed	seed
56	common ragweed	both
57	common sunflower	both
58	crabgrass	both
59	curly dock	both
60	dallisgrass	both

61	dandelion	both
62	dodder	plant
63	downy brome	both
64	field bindweed	both
65	giant ragweed	both
66	goosegrass	plant
67	green foxtail	both
68	henbit	both
69	horsenettle	both
70	horseweed	plant
71	Italian ryegrass	both
72	jimsonweed	seed
73	johnsongrass	both
74	jointed goatgrass	both
75	kochia	both
76	musk thistle	both
77	Pennsylvania smartweed	both
78	prostrate knotweed	plant
79	puncturevine	both
80	redroot pigweed	both
81	rescuegrass	both
82	Russian thistle	plant
83	sandbur	both
84	shepherdspurse	both
85	silverleaf nightshade	plant
86	tall morningglory	both
87	velvetleaf	both
88	Venice mallow	both
89	wild buckwheat	both
90	wild carrot	both
91	wild garlic	bulblet
92	wild oat	seed
93	yellow foxtail	both
94	yellow nutsedge	both

Insects

95	aphid
96	alfalfa weevil
97	bean leaf beetle
98	blister beetle
99	chinch bug
100	corn ear worm
101	corn rootworm
102	cricket
103	European corn borer
104	fall army worm
105	granary weevil
106	grasshopper
107	honeybee
108	lacewing
109	lady beetle
110	leafhopper
111	spider mite
112	stinkbug
113	wireworm

Machinery

114	air seeder drill
115	baler
116	center pivot
117	combine
118	corn harvester head
119	cotton picker
120	field cultivator
121	gauge wheel
122	GPS receiver and light bar
123	grain auger
124	grain moisture meter
125	grain storage bin/dryer
126	hay rake
127	hydraulic hose
128	mower
129	nozzle bodies (flat vs. hood)
130	plow
131	press wheel
132	ripper
133	rotary hoe
134	row crop planter
135	soil probe
136	sprayer
137	swather
138	tractor
139	yield monitor

Diseases, Disorders and Deficiencies	
140	bacterial blight of soybean
141	bacterial wilt of alfalfa
142	barley yellow dwarf virus
143	bean pod mottle virus
144	blacktip of wheat
145	blue eye mold
146	charcoal rot of sorghum
147	ergot
148	gibberella stalk rot
149	grey leaf spot
150	leaf rust
151	loose smut
152	nitrogen deficiency
153	northern corn leaf blight
154	phosphorus deficiency
155	Phytopthora root rot
156	potassium deficiency
157	purple stain of soybean
158	stem rust
159	wheat scab
160	wheat streak mosaic virus