# Agronomy CDE (March 2025)



### **PURPOSE**

The purpose of the Agronomy Career Development Event is to create interest and promote understanding in agronomy by providing opportunities for recognition through the demonstration of skills. It also gives students an opportunity to explore career opportunities available in agronomy and encourages students to pursue careers in agronomy.

### **ELIGIBILITY**

The participant must be an active member of a chartered West Virginia FFA Chapter and enrolled in grades 9, 10, 11, or 12. Each chapter may enter one team.

### **EVENT PROCEDURE**

The event will be a team event consisting of four students. All 4 team members' scores will be calculated in the team total. A team may compete with less than 4 members. FFA members will wear official dress or professional dress as it pertains to the profession.

Under no circumstances will any participates be allowed to handle any of the items in the identification portion of the practicums. Any infraction of this rule will result in team elimination from the event.

No FFA advisors/coaches will be allowed in the area of the contest, but arrangements will be made to view the specimens following the contest.

### **PRACTICUMS**

A general knowledge exam, identification, grain and seed judging practicum, and soils

### **EVENT MATERIALS**

### MATERIALS STUDENTS MUST PROVIDE

- Pencils
- Clipboards
- Electronic Calculator

### **IDENTIFICATION PRACTICUM**

### **CROP/WEED IDENTIFICATION-EVERY YEAR**

Crop Identification (30 samples). The student will record the common name (as it appears in the following list) of plant or seed specimens selected from the following groups. Plants will be fresh or mounted specimens. Seed will be either pure samples (in vials) or mixtures. If used in mixtures, the number of seeds will be used in about equal proportions and the number of kinds of seed indicated for each mixture. 4 Points will be awarded for every correct identification.

### PLANT DISORDER IDENTIFICATION-EVERY YEAR

Ten samples will be identified according to category, causal agent and damage location. Refer to the Agronomic Disorders Practicum Scorecard for the category, agent and damage location lists.

### **INSECT IDENTIFICATION-EVERY YEAR**

Ten samples will be identified according to insect name, life cycle, economic impact and mouth part. Refer to the Insect Identification Practicum Scorecard for additional details.

### GENERAL KNOWLEDGE EXAMINATION-EVERY YEAR

A 50 multiple choice question exam will be given that covers all areas of the agronomy industry. The test will focus on knowledge and understanding of fundamental crop production. Each question is worth 4 points. Participants will have a maximum of 40 minutes to complete the exam.

Test questions will come from a test bank provided by the contest coordinator.

### **Team Activity**

The team will be given a diagnostic scenario (one field, one crop from the region/crop list) that contains four potential causes. Potential causes fall into four categories: Nutrient Management, Soil and Water Management, Pest Management, and Crop Management. The Total Team Activity time (written and oral presentation) will be 90 minutes. Resources provided for the team activity may include but are not limited to seed tag information, tillage practices, pesticide labels, extension bulletins, fertility reports, tissue analysis, water management, seeding rates, variety information, trial data and application of information such as pesticide application, fertilizer application and irrigation application. Diagnostic scenario and the four potential causes may include but are not limited to pictures, video, audio, tables, graphs or other documents that outline potential field issues related to

### SKILLS PRACTICUM

### **SOILS-EVERY YEAR**

Each participant will be responsible for answering 20-25 questions for the following activities related to soils:

- Identify various soil structures: web soil survey, custom soil resource report, soil maps.
- Analyze web soil survey data and answer questions related to
  - o Relative drainage (e.g., poor, moderate, well).
  - o Relative topographic position (e.g., summit, slope, depression).
  - o Depth to water table.
  - o Frost free period.
  - o Identify the USDA land capability classes and answer problem-solving questions Related to various classes.
  - o Use soil survey to locate specific sites, use of suggested soil spots and questions related to the soil survey map.
  - o Interpret graphs and tables of data based on soil parameters.

### **SCORING**

ACTIVITY	INDIVIDUAL POINTS	TEAM POINTS
CROP/WEED IDENTIFICATION	120	480
PLANT DISORDER	100	400
INSECT IDENTIFICATION	100	400
GENERAL KNOWLEDGE EXAM	100	400
SOILS	100	400
TEAM EVENT		200
TOTAL	520	2580

### TIE BREAKERS

In the event of a tie in individual scores, the following events will be used in order to determine award recipients:

## **INDIVIDUAL**

1. INDIVIDUAL TOTAL ID SCORE

### **TEAM**

1. TEAM TOTAL ID SCORES

### **REFERENCES**

This list of references is not intended to be all-inclusive

- •Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation
- National FFA—Past CDE Q&A's,https://www.ffa.org/resources/cde/questions-and-answers

# IDENTIFICATION SPECIMEN LIST: (Can be plant or seed sample)

001. Flint Corn	031. Hairy vetch	061. Heal-all
002. Pop Corn	032. Korean lespedeza	062. Horse nettle
003. Sweet Corn	033. Red clover	063. Ironweed
004. White Dent Corn	034. Sericea lespedeza	064. Jimsonweed
005. Yellow Dent Corn	035. Sweetclover	065. Joy Pye
006. Bearded Wheat	036. White clover	066. Johnsongrass
007. Beardless Wheat	037. Buckwheat	067. Lambsquarters
008. Wheat (seed)	038. Soybeans	068. Morning Glory
009. Oats	039. Annual fleabane	069. Nutsedge
010. Barley (seed)	040. Barnyardgrass	070. Oxeye daisy
011. Hooded barley	041. Beggers tick	071. Peppergrass
012. Bearded barley	042. Broadleaf plantain	072. Pokeweed
013. Rye	043. Broomsedge	073. Poverty Grass
014. Canada bluegrass	044. Buckhorn plantain	074. Pigweed
015. Kentucky bluegrass	045. Canada thistle	075. Purslane
016. Orchardgrass	046. Cheat or chess	076. Quackgrass
017. Perennial ryegrass	047. Chicory	077. Ragweed
018. Redtop	048. Chickweed	078. Smartweed
019. Reed canarygrass	049. Cocklebur	079. Sorrel, sheep or red
020. Sudangrass	050. Corn cockle	080. Spanish Nettle
021. Sweet vernal	051. Crabgrass	081. Speedwell
022. Tall fescue	052. Dandelion	082. Three-seeded mercury
023. Tall meadow oatgrass	053. Dock	083. Velvet Leaf
024. Timothy	054. Dodder	084. Wild Carrot
025. Velvet Grass	055. Fall panicum	085. Wild Mustard
026. Alfalfa	056. Galinsoga	086. Wild Onion
027. Alsike clover	057. Goldenrod	087. Yarrow
028. Birdsfoot trefoil	058. Ground Ivy	088. Yellow Foxtail
029. Crimson clover	059. Giant Ragweed	
030. Crown Vetch	060. Green Foxtail	

ID#	Common Name	Latin Names, Order: Family for Possible Specimens		Economic Impact
11	Alfalfa weevil, adult or larva	Hyperica postica, Coleoptera:Curculionidae		V
12.	Aphid	various species, Homoptera:Aphididae		R
13.	Armyworm adult	Pseudaletia unipuncta, Lepidoptera:Noctuidae (true armyworm)	S	IS
		Spodoptera frugiperda, Lepidoptera:Noctuidae (fall armyworm)		
		Spodoptera exigua, Lepidoptera:Noctuidae (beet armyworm)		
14.	Armyworm larva	Pseudaletia unipuncta, Lepidoptera:Noctuidae (true armyworm)	С	V
		Spodoptera frugiperda, Lepidoptera:Noctuidae (fall armyworm)		
		Spodoptera exigua, Lepidoptera:Noctuidae (beet armyworm)		
15.	Bean leaf beetle	Cerotoma trifurcata, Coleoptera:Chrysomelidae	С	f&V
16.	Blister beetle	Epicauta pennsylvanica, Coleoptera:Meloidae (black blister beetle)	С	V
		Epicauta pestifera, Coleoptera:Meloidae (margined blister beetle)		
		Epicauta vittata, Coleoptera:Meloidae (striped blister beetle)		
17.	Boll weevil	Anthonomis grandis grandis, Coleoptera:Curculionidae		F
18.	Chinch bug	Blissus leucoptera, Hemiptera:Lygaeidae		R
19.	Colorado potato beetle, adult, or larva	Leptinotarsa decemlineata, Coleoptera:Chrysomelidae		V
20.	Corn Earworm adult	Helicoverpa zea, Lepidoptera:Noctuidae	S	IS
21.	Corn Earworm larva	Helicoverpa zea, Lepidoptera:Noctuidae	С	F&V
22.	Corn rootworm adult	Diabrotica barberi, Coleoptera:Chrysomelidae (northern)	С	F&V
		Diabrotica undecimpunctata howardii,Coleoptera:Chrysomelidae (southern)		
		Diabrotica vergifera, Coleoptera:Chrysomelidae (western)		
23.	Corn rootworm larva	Diabrotica sp., Coleoptera:Chrysomelidae	С	V
24.	Cutworm adult	Agrotis epsilon, Lepidoptera:Noctuidae (black cutworm)		1 S
		Peridroma saucia, Lepidoptera:Noctuidae (variegated cutworm)		
		Striacosta albicosta, Lepidoptera:Noctuidae (western bean cutworm)		
25.	Cutworm larva	Agrotis epsilon, Lepidoptera:Noctuidae (black cutworm)	С	V

		Perid	roma saucia, Lepidoptera:Noctuidae (variegated cutworm)		
			costa albicosta, Lepidoptera:Noctuidae (western cutworm)		
26.	European corn borer adult	Ostri	nia nubilalis, Lepidoptera:Pyralidae	S	IS
27.	European corn borer larva	Ostri	nia nubilalis, Lepidoptera:Pyralidae	С	F & V
28.	Field cricket	Gryll	us sp., Orthoptera:Gryllidae	С	F
29.	Flea beetle	Chaeto	ocnema pulicaria, Coleoptera:Chrysomelidae (corn fleabeetle	) C	V
		Systen	a blanda, Coleoptera:Chrysomelidae (palestriped flea beetle)		
		Phyllot	reta striolata, Coleoptera:Chrysomelidae (striped flea beetle	)	
30.	Grain weevil	Sitoph	ilus granarius, Coleoptera:Curculionidae (granary weevil)	С	F
		Sitoph	ilus oryzae, Coleoptera:Curculionidae (rice weevil)		
31.	Grasshopper	various	s species, Orthoptera:Acrididae	С	V
32.	Green lacewing	Chryso	pa sp., Neuroptera:Chrysopidae	С	В
33.	Honeybee	Apis m	Apis mellifera, Hymenoptera:Apidae		
34.	Imported cabbageworm	Pieris r	Pieris rapae, Lepidoptera:Pieridae		
35.	Japanese beetle	Popilla	japonica, Coleoptera:Scarabaeidae	С	F & V
				<u> </u>	
36.	Lady beetle adult or larva various species, Coleoptera:Coccinellidae			С	В
37.	Leafhopper		Empoasca fabae, Homoptera:Cicadellidae (potato leafhopper)	PS	R
38.	Mexican bean beetle, adult or	larva	Epilachna varivestis, Coleoptera:Coccinellidae	С	F&V
39.	Saltmarsh Caterpillar		Estigmene acrea, Lepidoptera:Arctiidae	С	V
40.	Spider mite		various species, Trombidiformes:Tetranychidae	PS	R
41.	Spittlebug various species, Hemiptera:Cercopidae		PS	R	
42.	2. Squash bug Anasa tristis, Hemiptera:Coreidae		Anasa tristis, Hemiptera:Coreidae	PS	R
43.	Stink bug various species, Hemiptera:Pentatomidae		PS	R	
44.	Striped cucumber beetle		Acalymma vittatum, Coleoptera:Chrysomelidae	С	F&V
45.	. Tarnished plant bug		Lygus lineolaris, Hemiptera:Miridae	PS	R
46.	Thrips		various species, Thysanoptera:Thripidae		R
47.	Tomato or tobacco hornworm		Manduca sp., Lepidoptera:Sphingidae	С	F&V
48.	whitefly		various species, Homoptera: Aleryodidae	RS	V

49.	wireworm	various species, Coleoptera: Elateridae	С	V
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C (chewing)

CL (chewing-lapping) PS (piercing sucking) RS (Rasping Sucking) S (siphoning)

B (Beneficial)

F (fruit/flower destruction) IS (indicator species)

R (removal of plant fluids)

V (vegetative part destruction

# Agronomic Disorders Practicum Scorecard

		Member Answer	Possible Points	Member Score	Causal Category
1.	Casual Category:		3		CASUAL
	Agent:		4		CATEGORY
	Part of Plant Displayed:		3		Biological (B)
2.	Casual Category:		3		Cultural (C)
	Agent:		4		Environmental (E)
	Part of Plant Displayed:		3		AGENTS
3.	Casual Category:		3		Bacteria (B) Chemical (Ch)
	Agent:		4		Compaction (Co)
	Part of Plant Displayed:		3		Drought (D)
					Frost damage (Fr)
4.	Casual Category:		3		Fungus (Fn)
	Agent:		4		Hail (Ha)
	Part of Plant Displayed:		3		Heat (Ht)
5.	Casual Category:		3		Insect (I)
	Agent:		4		Lightning (L)
	Part of Plant Displayed:		3		Mechanical (Me) Moisture (Mo)
6.	Casual Category:		3		Nematodes (Ne)
	Agent:		4		Nutritional (Nu)
	Part of Plant Displayed:		3		Pollution (P) Sun scald (S)
7.	Casual Category:		3		Virus (V)
	Agent:		4		Wind damage(W)
	Part of Plant Displayed:		3		Parts of Plant Displayed
8.	Casual Category:		3		Reproductive parts (R)
	Agent:		4		Vegetative parts (Ve)
	Part of Plant Displayed:		3		Vascular bundles (Va)  More than one (M)
9.	Casual Category:		3		more than one (ivi)
	Agent:		4		
	Part of Plant Displayed:		3		
10.	Casual Category:		3		
	Agent:		4		
	Part of Plant Displayed:		3		
	TOTAL POINTS EARNE	D OUT OF 100 PC	OSSIBLE		

# **Insect Identification Scorecard**

	Member Answer	Possible Points	Member Score	Identification  11. Alfalfa weevil, adult or larva
Identification:		4		12. Aphid
Economic Impact:		3		13. Armyworm adult 14. Armyworm larva
Mouth Part:		3		15. Bean leaf beetle 16. Blister beetle

Identification:	4	17. Boll weevil
Economic Impact:	3	18. Chinch bug 19. Colorado potato beetle, adult or larva 20.
Mouth Part:	3	Corn Earworm adult 21. Corn Earworm larva
Identification:	4	22. Corn rootworm adult
Economic Impact:	3	23. Corn rootworm larva 24. Cutworm adult
Mouth Part:	3	25. Cutworm larva
		26. European corn borer adult 27. European corn borer larva
Identification:	4	28. Field cricket
Economic Impact:	3	29. Flea beetle 30. Grain weevil
Mouth Part:	3	31. Grasshopper
Wiodin rait.	3	32. Green lacewing
Identification:	4	33. Honeybee
Faanamia Impacti	2	34. Imported cabbageworm
Economic Impact:	3	35. Japanese beetle 36. Lady beetle adult or larva
Mouth Part:	3	37. Leafhopper
I al a matificanti a m	4	38. Mexican bean beetle, adult or larva 39. 39.
Identification:	4	Saltmarsh caterpillar
Economic Impact:	3	40. Spider mite
Mouth Part:	3	41. Spittlebug 42. Squash bug
WOULH Part.	3	43. Stink bug
Identification:	4	44. Striped cucumber beetle
Economic Impact:	3	45. Tarnished plant bug 46. Thrips
Mouth Part:	3	47. Tomato or tobacco hornworm 48. Whitefly
Identification:	4	49. Wireworm
Economic Impact	3	<u>Economic Impact</u>
Mouth Part:	3	Must include all options in response B (Beneficial)
Identification:	4	F (fruit/flower destruction)
Economic Impact:	3	IS (indicator species)  R (removal of plant fluids)
Mouth Part:	3	V (vegetative part destruction)
	)	Mouth parts
Identification:	4	C (chewing) CL(chewing-lapping)
Economic Impact:	3	PS (piercing sucking)
Mouth Part:	3	RS (Rasping Sucking) S (siphoning)
TOTAL POINTS EAR	NED OUT OF 100 POSSIBLE	

## Agronomy Form #708-4

correct Marks Correct Mark

Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

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r		Identification	Economic Impact	Life Cycle	Mouth Parts
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