



Agronomy

Purpose

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

Objectives

Through participation in the national event, participants will be able to:

- Demonstrate knowledge and skills used in agronomic sciences.
- Explore career opportunities, skills and proficiencies in the agronomy industry.
- Determine the ability to identify agronomic:
 - Crops
 - Weeds
 - Seeds
 - Insects
 - Diseases
 - Plant nutrient deficiencies
 - Plant disorders
 - Crop grading and pricing
 - Equipment
 - Local, state and global issues
- Demonstrate understanding of sustainable agriculture and environmental stewardship through the use of integrated pest management and best management practices.

Event Rules

Team Make-up

- Four members will be on each team. All four members will be scored, and all four scores will count toward the team total.
- official FFA dress is not required for this event.
- All participants will be given an identification number by which they will be designated throughout the event.
- Under no circumstances will a participant be allowed to destroy any of the items in the identification portion of the practicums. Any infractions of this rule will be sufficient to eliminate a team from the event.
- Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.

Written Material

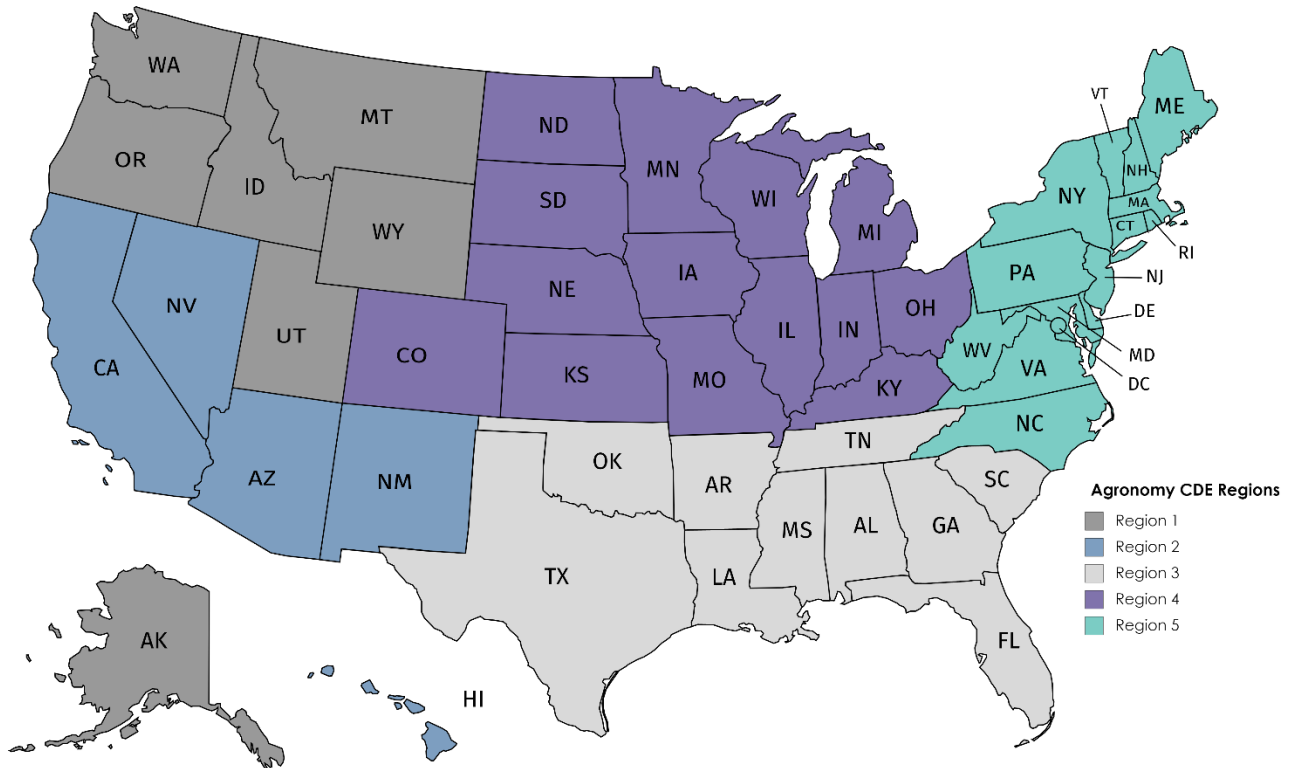
- All written material will be furnished for the event. No written materials such as tests, problems and worksheets should be removed from the site.
- Any participant in possession of an electronic device in the event area is subject to disqualification.

Event Format

Students must provide:

- Clean, free-of-notes clipboard.
- Two sharpened No. 2 pencils.
- Non-programmable electronic calculator.
 - The calculators used during the event are to be battery operated, non-programmable, and silent with large keys and large displays. The calculators should only have these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed during the event.

National FFA Agronomy CDE Regional Areas



Crops List

Region 1

2022
alfalfa
barley
canola
chickpea/Garbanzo
corn
dry beans
fescue
hops
lentil
peas
potatoes
ryegrass
safflower
sugar beet
timothy
wheat

Region 2

2023
alfalfa
bermudagrass
brassica
cantaloupe
corn
cotton
lettuce
onion
pepper
rice
safflower
sorghum
spinach
strawberry
Sudan grass
timothy
tomato
wheat
watermelon

Region 3

2024
bermudagrass
brassica
cantaloupe
corn
cotton
cucumber
fescue
peanuts
rice
sod
soybean
sugarcane
tomato
wheat
watermelon

Region 4

2025
alfalfa
barley
canola
corn
dry beans
flax
hops
peas
rye
safflower
sorghum
soybean
sugar beet
sunflower
tomato
wheat

Region 5

2021/2026
alfalfa
clover
cantaloupe
corn
cranberry
tall fescue
dry beans
orchardgrass
peas
potatoes
sorghum
squash
strawberry
timothy
tobacco
tomato
wheat
watermelon

Individual Practicums

General Knowledge Examination (120 points)

Fifty objective multiple-choice questions will be given to each participant. These 60 questions will be divided equally between 4 categories of Pest Management, Nutrient Management, Crop Management and Soil and Water Quality. These 4 categories have been adopted from the performance objectives of the International Certified Crop Advisor (ICCA) exam and may be accessed at <https://www.certifiedcropadviser.org/files/certifiedcropadviser/international-performance-objectives.pdf>. All questions will be based on a test bank of questions based on the ICCA performance objectives. 2019 was the last year that we could access the National Agronomy exam on ffa.org.

Identification (150 points)

Students will identify 50 weed and/or crop plants and/or seeds. Plants may be presented in any stage of growth following emergence. The [list](#) of possible specimens is in the reference section of the handbook.

Soils (100 points)

Each participant will be responsible 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
 - Relative drainage (e.g., poor, moderate, well).
 - Relative topographic position (e.g., summit, slope, depression).
 - Depth to water table.
 - Frost free period.
 - Identify the USDA land capability classes and answer problem-solving questions related to various classes.
 - Use soil survey to locate specific sites, use of suggested soil spots and questions related to the soil survey map.
 - Interpret graphs and tables of data based on soil parameters.

Commodity Evaluation (100 points)

Usability (Crop Quality) (100 points)

Two classes of crop samples, one of a forage, fiber or grain crop and one from another crop (see plant list) will be evaluated in 30 minutes (15 minutes per sample). Each class will consist of four samples of the same crop. Participants will rank each class.

Pest management (200 points)

Disorders (100 points)

- 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 (100 points)

- Ten samples will be identified according to insect name, economic impact and mouth part. Refer to the [Insect Identification Practicum Scorecard](#) for additional details.

Equipment and Machinery Identification (100 points)

Participants will be required to identify 20 specimens from the [list](#) in the reference section of the handbook. Samples may appear as actual equipment, scale models, toys or pictures.

Identification samples will be of the complete item. There will be no identification of individual parts/pieces.

The goal is to use names that are used by the manufacturers of the products. These names appear in literature, on websites, and are reflective of the terms used in industry market share classification. While not a public standard, there is a standard name set used in the industry. *Caution: Internet searches do not always produce the correct image so use internet image searches carefully.*

Event Scoring

Participant scores are the sum of the individual phases of the event, and team scores are the sum of the four participant scores plus the team activity.

Activities	Individual Points	Team Points
Written exam	50	200
Identification	150	600
Soils	100	400
Commodity Evaluation	100	400
Pest management	200	800
Equipment and machinery identification	100	400
TOTAL POINTS POSSIBLE	700	2,800

Tiebreakers

If ties occur for team awards, the following events will be used to determine the placings:

1. Total written exam.
2. Total Plant and Seed ID
3. Total Soils

If ties occur for individual awards, the following events will be used to determine the placings:

1. Written exam.
2. Plant and seed identification.
3. Soils.

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. Make sure to use discretion when selecting website references by only using reputable, proven sites. The following list contains references that may prove helpful during event preparation. The most current edition of resources will be used. Please note that universities frequently update or change their web servers which can invalidate the listed website.

Past CDE materials and other resources [FFA.org/participate/cdes/agronomy](https://www.ffa.org/participate/cdes/agronomy).

Plant Identification

- Flash cards for both seeds and plants are available through Wards Natural Science Establishment <https://wardsci.com/store/>
- Weeds of the Northeast, Comstock Books, by Richard H. Uva (Author), Joseph C. Neal (Author), Joseph M. Ditomaso (Author).
- Weeds of the Great Plains, Nebraska Department of Agriculture by James L Stubbendieck (Author).
- Weeds of the West, University of Wyoming Extension, by Tom D. Whitson (Editor).
- Common Weed Seedlings of the North Central States, Michigan State University Extension.
- Sunset Western Garden Book.
- An Illustrated Guide to Arizona Weeds, University of Arizona, <https://www.uapress.arizona.edu/onlinebks/WEEDS/TITLWEED.HTML>
- Weeds of California and Other Western States University of California.
- Interactive Encyclopedia of Weeds of North America, North Central Weed Science Society.
- <http://plants.usda.gov/java/>
- Agriculture/Pests-and-Diseases/Weeds/Virginia-Tech-Weed-Identification-Guide. <https://weedid.cals.vt.edu/>
- http://www.ipm.ucanr.edu/PMG/weeds_multi.html

- <http://wssa.net/weed/weed-identification/>

Seed Identification

- Illustrated Taxonomy Manual of Weed Seeds, North Central Weed Science Society.
- Weed Seeds of the Great Plains, University Press of Kansas.
<http://www.oardc.ohio-state.edu/seedid/> At site, enter common name or scientific name to find seed.
- <http://plants.usda.gov/java/>

Machinery Identification

Resources for machinery identification can be obtained online from various equipment manufacturers. A visit to an implement dealer in your area would be recommended. Farm toys can also be used.

Grain Grading

Teaching and CDE samples can be obtained by contacting Northeast Indiana Grain Inspection Service, Mr. Neil Reynolds at 260-341-7497 or neigi@eawifi.com.

- <https://www.gipsa.usda.gov/fqis/usstandards.aspx>
- https://www.gipsa.usda.gov/fqis/video_library.aspx for videos on grain grading

Hay Evaluation

- <http://pods.dasnr.okstate.edu/> In Search Box, type Hay Evaluation, hit enter and click on PSS-2588 document — “Evaluating Hay Quality Based on Sight, Smell, and Feel — Hay Judging”

Vegetable/Seed Evaluation and Placing

- <http://www.wyomingextension.org/agpubs/pubs/70501G.pdf>

Disease/Disorder

- <http://plantdiseasehandbook.tamu.edu>

Insects

- http://pest.ca.uky.edu/EXT/master_gardener/entbasics/mouthparts/mouthparts.shtml

Soils

- <http://www.nrcs.usda.gov/wps/portal/nrcs/soilsurvey/soils/survey/state/>

Team Event

- www.cdms.net

Written Exam

The Agronomy CDE has adopted these 4 categories from the performance objectives of the International Certified Crop Advisor (ICCA) exam. You may access these at <https://www.certifiedcropadviser.org/files/certifiedcropadviser/international-performance-objectives.pdf>.

There is no one resource for the exam.

- <http://ohioline.osu.edu/factsheet/HYG-1133>
- <http://www.extension.iastate.edu/Publications/SR48.html>
- <https://store.extension.iastate.edu> In Search Box, type “Soybean.”
- <https://gaps.cornell.edu>
- American Society of Agronomy, Inc., Performance Objectives for the International Certified Crop Advisor exam.
<https://www.certifiedcropadviser.org/files/certifiedcropadviser/international-performance-objectives.pdf>

Weeds List

Conforming with the Weed Science Society of America's standardized name list.

ID #	Weed Name	Form	Latin Name
100	amaranth, Palmer	plant only	<i>Amaranthus palmeri</i>
101	barnyardgrass	plant or seed	<i>Echinochloa crus-galli</i>
102	bindweed, field	plant or seed	<i>Convolvulus arvensis</i>
103	brome, downy	plant only	<i>Bromus tectorum</i>
104	buckwheat, wild	plant or seed	<i>Fallopia convolvulus</i>
105	carrot, wild	plant or seed	<i>Daucus carota</i>
106	cheat	plant or seed	<i>Bromus secalinus</i>
107	chickweed, common	plant or seed	<i>Stellaria media</i>
108	cocklebur, common	plant or seed as bur	<i>Xanthium strumarium</i>
109	crabgrass, large	plant or seed	<i>Digitaria sanguinalis</i>
110	crownvetch, trailing	plant or seed	<i>Securigera varia</i>
111	dandelion	plant or seed	<i>Taraxacum officinale</i>
112	dock, curly	plant or seed	<i>Rumex crispus</i>
113	dodder	plant or seed	<i>Cuscuta</i> spp.
114	foxtail, giant	plant or seed	<i>Setaria faberi</i>
115	foxtail, green	plant or seed	<i>Setaria viridis</i>
116	foxtail, yellow	plant or seed	<i>Setaria pumila</i>
117	goatgrass, jointed	plant or seed	<i>Aegilops cylindrica</i>
118	groundcherry	plant or seed	<i>Physalis</i> spp.
119	groundsel, cressleaf	plant or seed	<i>Packera glabella</i>
120	horsenettle	plant or seed	<i>Solanum carolinense</i>
121	horseweed (maretail)	plant only	<i>Conyza canadensis</i>
122	jimsonweed	plant or seed	<i>Datura stramonium</i>
123	johnsongrass	plant or seed	<i>Sorghum halpense</i>
124	knapweed, Russian	plant only	<i>Rhaponticum repens</i>
125	knotweed, prostrate	plant or seed	<i>Polygonum aviculare</i>
126	kochia	plant or seed	<i>Bassia scoparia</i>
127	kudzu	plant only	<i>Pueraria montana var lobata</i>
128	lambsquarters, common	plant or seed	<i>Chenopodium album</i>
129	lettuce, prickly	plant or seed	<i>Lactuca serriola</i>
130	mallow, common	plant or seed	<i>Malva neglecta</i>
131	milkweed, common	plant or seed	<i>Asclepias syriaca</i>
132	morningglory	plant or seed	<i>Ipomoea</i> spp.
133	mustard, wild	plant or seed	<i>Sinapis arvensis</i>
134	nightshade, black	plant or seed	<i>Solanum nigrum</i>
135	nightshade, silverleaf	plant or seed	<i>Solanum elaeagnifolium</i> Cav.
136	nutsedge	plant or seed as nutlet	<i>Cyperus</i> spp.
137	oat, wild	plant or seed	<i>Avena fatua</i>
138	onion/garlic, wild	plant or seed	<i>Allium</i> spp.
139	pennycress, field	plant or seed	<i>Thlaspi arvense</i>

Weeds List

Conforming with the Weed Science Society of America's standardized name list.

ID #	Weed Name	Form	Latin Name
140	pigweed, redroot	plant or seed	<i>Amaranthus retroflexus</i>
141	plantain, broadleaf	plant or seed	<i>Plantago major</i>
142	plantain, buckhorn	plant or seed	<i>Plantago lanceolata</i>
143	puncturevine	plant or seed	<i>Tribulus terrestris</i>
144	purslane, common	plant or seed	<i>Portulaca oleracea</i>
145	quackgrass	plant or seed	<i>Elymus repens</i>
146	ragweed, common	plant or seed	<i>Ambrosia artemisiifolia</i>
147	ragweed, giant	plant or seed	<i>Ambrosia trifida</i>
148	Russian-thistle	plant or seed	<i>Salsola tragus</i>
149	sandbur, field	plant or seed	<i>Cenchrus spinifex Cav.</i>
150	shepherd's-purse	plant or seed	<i>Capsella bursa-pastoris</i>
151	sicklepod	plant or seed	<i>Senna obtusifolia</i>
152	smartweed	plant or seed	<i>Persicaria spp.</i>
153	sowthistle	plant or seed	<i>Sonchus spp.</i>
154	spurge, leafy	plant or seed	<i>Euphorbia esula</i>
155	spurge, prostrate	plant only	<i>Euphorbia prostrata</i>
156	sunflower, common	plant or seed	<i>Helianthus annuus</i>
157	tansymustard	plant or seed	<i>Descurainia pinnata</i>
158	thistle, bull	plant or seed	<i>Cirsium vulgare</i>
159	thistle, Canada	plant or seed	<i>Cirsium arvense</i>
160	velvetleaf	plant or seed	<i>Abutilon theophrasti</i>
161	waterhemp	plant only	<i>Amaranthus tuberculatus</i>

Crops List

Conforming with the United States Department of Agriculture plant database.

ID #	Crop Name	Form	Scientific Name
200	alfalfa	plant or seed	<i>Medicago sativa</i>
201	barley	plant or seed	<i>Hordeum vulgare</i>
203	bermudagrass	plant or seed	<i>Cynodon dactylon</i>
204	black bean	seed only	<i>Phaseolus vulgaris</i>
205	broccoli	plant only	<i>Brassica oleracea</i> var. <i>italica</i>
260	buckwheat	plant or seed	<i>Fagopyrum sagittatum</i>
206	cabbage	plant only	<i>Brassica oleracea</i>
207	canola	plant or seed	<i>Brassica napus</i>
208	cantaloupe	plant or seed	<i>Cucumis melo</i> var. <i>cantalupensis</i>
209	carrot	root provided	<i>Daucus carota</i> L. var. <i>sativus</i>
210	cauliflower	plant only	<i>Brassica oleracea</i> var. <i>botrytis</i>
237	cereal rye	plant or seed	<i>Secale cereale</i>
211	chickpea	seed only	<i>Cicer arietinum</i>
212	chili pepper	plant or seed	<i>Capsicum annuum</i>
213	corn	plant only	<i>Zea mays</i>
214	cotton	plant or seed	<i>Gossypium hirsutum</i>
215	cranberry	plant only	<i>Vaccinium macrocarpon</i>
216	cucumber	plant or seed	<i>Cucumis sativus</i>
217	dent corn	seed only	<i>Zea mays</i> var. <i>indentata</i>
202	dry bean	plant only	<i>Phaseolus vulgaris</i>
218	durum wheat	seed only	<i>Triticum durum</i>
219	flax	plant or seed	<i>Linum usitatissimum</i>
220	hops	plant only	<i>Humulus lupulus</i>
221	Kentucky bluegrass	plant or seed	<i>Poa pratensis</i>
222	lentil	plant or seed	<i>Lens culinaris</i>
223	lettuce	plant or seed	<i>Lactuca sativa</i>
224	lima bean	seed only	<i>Phaseolus lunatus</i>
225	oat	plant or seed	<i>Avena sativa</i>
226	onion	plant or seed	<i>Allium cepa</i>
227	orchardgrass	plant or seed	<i>Dactylis glomerata</i>
229	pea	plant or seed	<i>Pisum Sativum</i>
228	peanut	plant or seed	<i>Arachis hypogaea</i>
230	pinto bean	seed only	<i>Phaseolus vulgaris</i>
231	popcorn	seed only	<i>Zea mays</i> var. <i>everta</i>
232	potato	plant only	<i>Solanum tuberosum</i>
233	red bean	seed only	<i>Phaseolus vulgaris</i>
234	red clover	plant or seed	<i>Trifolium pratense</i>
235	red wheat	seed only	<i>Triticum aestivum</i>
236	rice	plant or seed	<i>Oryza sativa</i>
238	safflower	plant or seed	<i>Carthamus tinctorius</i>
239	sorghum	plant or seed	<i>Sorghum bicolor</i>

Crops List

Conforming with the United States Department of Agriculture plant database.

ID #	Crop Name	Form	Scientific Name
240	soybean	plant or seed	<i>Glycine max</i>
241	spinach	plant or seed	<i>Spinacia oleracea</i>
242	squash	plant or seed	<i>Curcubita pepo</i>
243	strawberry	plant only	<i>Fragaria L.</i>
244	Sudangrass	seed only	<i>Sorghum bicolor</i>
245	sugar beet	plant or seed	<i>Beta vulgaris</i>
246	sugarcane	plant only	<i>Saccharum L.</i>
247	sunflower	plant or seed	<i>Helianthus annuus</i>
248	sweet corn	seed only	<i>Zea mays var. saccharata</i>
249	sweet potato	plant only	<i>Ipomoea batatas</i>
250	sweetclover	plant or seed	<i>Melilotus albus</i>
251	tall fescue	plant or seed	<i>Festuca arundinacea</i>
252	timothy	plant or seed	<i>Phleum pratense</i>
253	tobacco	plant or seed	<i>Nicotiana tabacum</i>
254	tomato	plant or seed	<i>Lycopersicon esculentum</i>
255	watermelon	plant or seed	<i>Citrullus lanatus</i>
256	wheat	plant only	<i>Triticum aestivum</i>
257	white bean	seed only	<i>Phaseolus vulgaris</i>
258	white clover	plant or seed	<i>Trifolium repens</i>
259	white wheat	seed only	<i>Triticum aestivum</i>

Machinery List

11. Air seeder (tool and air cart together)
12. Anemometer
13. Anhydrous applicator with tank
14. Articulated tractor (wheeled only type tractor)
15. Auger platform head for combine
16. Backpack sprayer
17. Bale wagon (kick or flat)
18. Bed shaper
19. Belt pickup head for combine
20. Broadcast fertilizer spreader
21. Chemigation unit for irrigation
22. Combine (may be displayed with harvesting head attached)
23. Conveyer/Elevator/Auger
24. Corn head for combine
25. Cotton picker
26. Cotton stripper
27. Rolling Harrow
28. Disk
29. Disk chisel
30. Draper head for combine or swather
31. Drawn planter
32. Dry fertilizer density scale
33. Field cultivator
34. Field shovel
35. Forage harvester (may be displayed with harvesting head attached)
36. GPS receiver

37. Grain bin/leg
38. Grain drill (includes no-till)
39. Grain dryer
40. Swather (drawn or self-propelled)
41. Gravity wagon
42. Hand hoe
43. Hay merger
44. Hay mower/conditioner (disk or reel/drawn, 3pt, or self-propelled)
45. Hay rake (reel or wheel)
46. Hearing protection
47. Hitch pin
48. Hydraulic cylinder/ hose
49. In-line ripper
50. Integral planter
51. Irrigation — lateral
52. Irrigation — traveling gun
53. Irrigation center-pivot
54. Liquid manure tank/applicator (includes draglines)
55. Manure sampling kit
56. Manure spreader
57. Module builder
58. Moldboard plow
59. Nurse tank trailer
60. Pea harvester
61. Peanut digger
62. Plastic layer

Machinery List

63. Potato harvester
64. PPE (all equipment)
65. Pressure gauge
66. PTO shaft
67. Rotary hoe
68. Round baler
69. Row crop cultivator
70. Row crop tractor (wheeled only tractor)
71. Row independent forage harvester head (kemper head)
72. Skid steer
73. Soil penetrometer
74. Soil probe (for collection of soil sample)
75. Soil sample bag
76. Soil thermometer

77. Specialty tractor (orchard, narrow, low profile, high clearance)
78. Sprayer
79. Sprayer nozzle
80. Square baler (large or small)
81. Strip tiller
82. Sugar beet harvester
83. Sweep net
84. Tensiometer
85. Tissue sample bag
86. Tracked tractor (any configuration of tracks on a tractor)
87. Vegetable transplanter
88. Virtual terminal/monitor/controller
89. V-Ripper
90. Wheel loader

National Insect List Official Guide

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

ID #	Common Name	Latin Names, Order: Family for Possible Specimens	Mouth parts	Economic Impact
28.	Field cricket	<i>Gryllus sp.</i> , Orthoptera:Gryllidae	C	F
29.	Flea beetle	<i>Chaetocnema pulicaria</i> , Coleoptera:Chrysomelidae (corn flea beetle)	C	V
		<i>Systema blanda</i> , Coleoptera:Chrysomelidae (palestriped flea beetle)		
		<i>Phyllotreta striolata</i> , Coleoptera:Chrysomelidae (striped flea beetle)		
30.	Grain weevil	<i>Sitophilus granarius</i> , Coleoptera:Curculionidae (granary weevil)	C	F
		<i>Sitophilus oryzae</i> , Coleoptera:Curculionidae (rice weevil)		
31.	Grasshopper	various species, Orthoptera:Acrididae	C	V
32.	Green lacewing	<i>Chrysopa sp.</i> , Neuroptera:Chrysopidae	C	B
33.	Honeybee	<i>Apis mellifera</i> , Hymenoptera:Apidae	CL	B
34.	Imported cabbageworm	<i>Pieris rapae</i> , Lepidoptera:Pieridae	C	F and V
35.	Japanese beetle	<i>Popilla japonica</i> , Coleoptera:Scarabaeidae	C	F and V
36.	Lady beetle adult or larva	various species, Coleoptera:Coccinellidae	C	B
37.	Leafhopper	<i>Empoasca fabae</i> , Homoptera:Cicadellidae (potato leafhopper)	PS	R
38.	Mexican bean beetle, adult or larva	<i>Epilachna varivestis</i> , Coleoptera:Coccinellidae	C	F and V
39.	Saltmarsh caterpillar	<i>Estigmene acrea</i> , Lepidoptera:Arctiidae	C	V
40.	Spider mite	various species, Trombidiformes:Tetranychidae	RS	V
41.	Spittlebug	various species, Hemiptera:Cercopidae	PS	R
42.	Squash bug	<i>Anasa tristis</i> , Hemiptera:Coreidae	PS	R
43.	Stink bug	various species, Hemiptera:Pentatomidae	PS	R
44.	Striped cucumber beetle	<i>Acalymma vittatum</i> , Coleoptera:Chrysomelidae	C	F and V
45.	Tarnished plant bug	<i>Lygus lineolaris</i> , Hemiptera:Miridae	PS	R
46.	Thrips	various species, Thysanoptera:Thripidae	RS	V
47.	Tomato or tobacco hornworm	<i>Manduca sp.</i> , Lepidoptera:Sphingidae	C	F and V
48.	whitefly	various species, Homoptera:Alceryodidae	RS	V
49.	wireworm	various species, Coleoptera:Elateridae	C	V

Mouth parts key:

- C (chewing)
- CL (chewing-lapping)
- PS (piercing sucking)
- RS (Rasping Sucking)
- S (siphoning)
- B (Beneficial)
- F (fruit/flower destruction)

Economic impact key:

- Must indicate all options in response*
- IS (indicator species)
 - R (removal of plant fluids)
 - V (vegetative part destruction)

