**Southern Illinois University**

**Invitational**

# Agronomy Career Development Event

## General Information

1. **Registration: Re**gistration will be available online using a google form.
2. **Team:** A team shall consist of four (5) participants. The top three (3) participants’ scores shall constitute the team score. You may enter as many practice as you wish.
3. **Placings/Scoring:** The career development event consists of Objective Test, Crop Identification, Weed Identification, Machinery/Equipment ID, corn ring judging, soybean ring judging, and an insect practicum. Official ring placings and reasons will be given immediately following the completion of the career development event.
4. **Scorecards:** We will use the same scantron used at the Illinois FFA Agronomy CDE

## Event Format

1. Written Test
2. 25 question objective test (25 questions @ 2 points each)
   1. Exam topics Weather and Crops, Cropping Systems, Water Quality, Water Management, Weed Management Small Grains & Grain Sorghum, Hay.Pasture, Managing Insect Pests, Managing Diseases, Nematodes,Corn, Soybeans, Managing Soil pH, Crop Nutrients, Managing Nitrogen, Soil Management and Tillage
3. Identification
4. No duplicate specimens will be used in any of the identification classes.

**Equipment/Machinery:** Identify 25 examples from the list of 55 items)

(25 specimens at 2 points each)

**Crops:** Identify 25 specimens from the list of 44 crops (25 specimens @ 2 points each)

**Weeds:** Identify 25 specimens from the list of 66 weeds (25 specimens @ 2 points each)

1. Pictures may include any combination of live plants, plant mount or seed – except where noted.
2. All grasses will include a mature plant, plant mount or seed if a seedling is used.

3. Judging Grain

A. Corn – To be judged as market corn 50 Points

B. Soybeans - To be judged as seed 50 Points

4. Practicums (20 questions @ 3 points each)

a. **Insects:** (10 questions @ 5 points each)

This practicum requires the participant to demonstrate two skills with each specimen.

- Identify 10 specimens from the list of 31 insects. 10 @ 3 pts

- Life Cycle – Complete, Incomplete, or None 10 @ 2pts

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| **Weed Identification 101 to 166** *Seed, plant, or plant part*  101 Barnyardgrass  *Echinochloa crus-galli*  102 Bitter nightshade\*  *Solanum dulcamara*  103 Broadleaf plantain\*  *Plantago major*  104 Buckhorn plantain  *Plantago lanceolata*  105 Bull thistle\*  *Cirsium vulgare*  106 Burdock  *Arctium minus*  107 Canada thistle\*  *Cirsium arvense*  108 Carpetweed\*  *Mollugo verticillata*  109 Cheat\*  *Bromus secalinus*  110 Chicory  *Cichorium intybus*  111 Common chickweed\*  *Stellaria media*  112 Common cocklebur  *Xanthium strumarium*  113 Common lambsquarters  *Chenopodium album*  114 Common mallow  *Malva neglecta*  115 Common milkweed  *Asclepias syriaca*  116 Common mullein  *Verbascum thaspus*  117 Common ragweed  *Ambrosia artemisiifolia*  118 Curly dock  *Rumex crispus*  119 Daisy fleabane\*  *Erigeron strigosus*  120 Dandelion  *Taraxacum officinale*  121 Eastern black nightshade\*  *Solanum ptycanthum*  122 Fall panicum  *Panicum dichotomiflorum*  \*Plant or plant part only. | 123 Field bindweed  *Convolvulus arvensis*  124 Field pennycress  *Thlaspi arvense*  125 Flower-of-an-hour (Venice mallow)\*  *Hibiscus trionum*  126 Foxtail barley\*  *Hordeum jubatum*  127 Giant foxtail  *Setaria faberi*  128 Giant ragweed  *Ambrosia trifida*  129 Goosegrass\*  *Eleusine indica*  130 Green foxtail  *Setaria viridis*  131 Hedge bindweed\*  *Calystegia sepium* ssp. *sepium*  132 Hemp dogbane\*  *Apocynum cannabinum*  133 Hemp (Marijuana)\*  *Cannabis sativa*  134 Honeyvine milkweed\*  *Cynanchum laeve*  135 Horsenettle\*  *Solanum carolinense*  136 Horseweed (Marestail)  *Conyza canadensis*  137 Ivyleaf morningglory  *Ipomoea hederacea*  138 Jimsonweed  *Datura stramonium*  139 Johnsongrass  *Sorghum halepense*  140 Ladysthumb smartweed  *Polygonum persicaria*  141 Large crabgrass  *Digitaria sanguinalis*  142 Musk thistle  *Carduus nutans*  143 Peppergrass  *Lepidium virginicum*  144 Perennial sowthistle\*  *Sonchus arvensis*  \*Plant or plant part only. | 145 Pigweeds (Redroot, Smooth)  *Amaranthus* species  146 Prickly lettuce\*  *Lactuca serriola*  147 Prickly sida  *Sida spinosa*  148 Prostrate knotweed\*  *Polygonum aviculare*  149 Purslane  *Portulaca oleracea*  150 Quackgrass  *Elymus repens*  151 Shattercane  *Sorghum bicolor*  152 Shepherd’s-purse  *Capsella bursa-pastoris*  153 Stinkgrass\*  *Eragrostis cilianensis*  154 Tall morningglory\*  *Ipomoea purpurea*  155 Velvetleaf  *Abutilon theophrasti*  156 Waterhemp  *Amaranthus tuberculatus*  157 Wild carrot  *Daucus carota*  158 Wild garlic\*  *Allium vineale*  159 Wild mustard  *Brassica kaber*  160 Wild parsnip  *Pastinaca sativa*  161 Wild sunflower  *Helianthus annuus*  162 Woolly cupgrass  *Eriochloa villosa*  163 Yarrow\*  *Achillea millefolium*  164 Yellow foxtail  *Setaria glauca*  165 Yellow nutsedge\*  *Cyperus esculentus*  166 Yellow woodsorrel\*  *Oxalis stricta*  \*Plant or plant part only. |

**Equipment/Machinery Identification**

01 Air compressor/hose 50 Sprayer

02 Air seeder (tool and air cart together) 51 Sprayer nozzle/nozzle body

03 Anemometer 52 Square baler (large or small)

04 Anhydrous applicator with tank 53 Sweep net

05 Articulated tractor 54 Tracked tractor (non-articulating)

06 Auger platform head for combine 55 V-Ripper

07 Bale wagon (kick or flat)

08 Bean harvester head

09 Belt pickup head for combine

10 Broadcast spreader

11 Chemigation unit for irrigation

12 Combine (may be displayed with harvesting head attached)

13 Conveyer/Elevator/Auger

14 Corn head for combine

15 Cultipacker

16 Disk

17 Disk chisel

18 Draper head for combine or swather

19 Drawn planter

20 Field cultivator

21 Forage harvester (maybe displayed with harvesting head attached)

22 Gauge wheel

23 GPS receiver

24 Grain bin/leg

25 Grain dryer

26 Hay mower conditioner (disk or reel/drawn, 3 pt, or self-propelled)

27 Hay rake (reel or wheel)

28 Hitch pin

29 Hydraulic cylinder/hose

30 In-line ripper

31 Irrigation - Lateral

32 Irrigation - Traveling gun

33 Irrigation Pivot

34 Liquid manure tank/applicator (includes draglines)

35 Manure spreader

36 Moldboard plow

37 Nurse tank trailer

38 PPE (all equipment)

39 Press wheel

40 Pressure gauge

41 Pressure regulator

42 PTO shaft

43 Rotary hoe

44 Round baler

45 Row crop cultivator

46 Row crop tractor

47 Soil probe

48 Soil sample bag

49 Soil thermometer

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| **Crop Identification  201 to 244** *Seed, plant, or plant part*  201 Alfalfa  202 Alsike clover  203 Barley  204 Birdsfoot trefoil  205 Broccoli  206 Bromegrass  207 Canola  208 Corn  209 Cotton  210 Cucumber  211 Fescue  212 Grain sorghum  213 Kentucky bluegrass  214 Ladino clover  215 Lettuce  216 Lespedeza  217 Lima bean  218 Muskmelon  219 Oats  220 Orchardgrass  221 Pea  222 Peanut  223 Perennial ryegrass  224 Popcorn  225 Potato\*  226 Pumpkin  227 Red clover  228 Redtop  229 Rice  230 Rye  231 Safflower  232 Soybean  233 Strawberry\*  234 Sudangrass  235 Sugar beet  236 Sunflower  237 Sweet clover  238 Sweet corn  239 Sweet potato\*  240 Timothy  241 Tomato  242 Vetch  243 Watermelon  244 Wheat  \*Plant or plant part only. | **Insect Identification 10 to 40**  10 Alfalfa weevil  11 Aphid  12 Armyworm larva  13 Assassin bug  14 Bean leaf beetle  15 Blister beetle  16 Chinch bug  17 Corn earworm larva  18 Corn rootworm larva  19 Cricket  20 Cutworm larva  21 European corn borer larva  22 Flea beetle  23 Grain weevil  24 Grasshopper  25 Green lacewing  26 Honeybee  27 Japanese beetle  28 Lady beetle larva  29 Leaf skeletonizer  30 Leafhopper  31 Mexican bean beetle  32 Scale  33 Spider mite  34 Spittlebug  35 Spotted cucumber beetle/Southern corn rootworm beetle  36 Stinkbug  37 Tobacco/tomato hornworm larva  38 Western corn rootworm beetle  39 White grub  40 Wireworm  **Life Cycle C, I or N** C Complete metamorphosis  I Incomplete metamorphosis  N None/no metamorphosis  **Economic Impact NP, F, V, or R** NP None or predatory  F Fruit/flower destruction  V Vegetative part destruction (roots and leaves)  R Removal of plant fluids |

## SUGGESTED REFERENCES

**University of Illinois - ITCS**

X880e Field Crop Scouting Manual (6th Ed.) (revised)  
CDR880e Field Crop Scouting Manual (6th Ed.) CD-ROM (revised)  
MDS709 Agronomic Crop Identification CD-ROM (new)  
 https://pubsplus.illinois.edu/MDS709.html  
AGRON-13 Agronomy CDE Resources Set (new)  
 https://pubsplus.illinois.edu/AGRON-13.html  
X905 Growth Stages of Agronomic Crops Manual (new)  
 https://pubsplus.illinois.edu/X905.html  
MDS405/U405 Introduction to Soil Science CD-ROM  
MDS707b Weed Identification CD-ROM  
J790 Crop Judging  
X860 Crop Plants (color photos and descriptions)  
U4073 The Weed Factor  
Z7002 Sample Grain Classes   
Z7003, NOW Z7003A Crop Seed Samples (revised)  
Z7004, NOW Z7004A Weed Seed Samples (revised)  
X880d Field Crop Scouting Manual (has been revised, see above)  
X900 Crop Sciences Laboratory Manual  
CDR900 Instructor Guide to Crop Sciences Laboratory Manual  
X840a Vegetative Identification of Common Row Crop Weeds  
U4052a, now U4052B Understanding Soil (revised)

A catalog of instructional materials is available from ITCS Instructional Materials at <https://pubsplus.illinois.edu/>. To place an order please call 1-800-345-6087, fax your order to 217-333-3917, or email pubsplus@illinois.edu

**CDE References available from Ohio Curriculum Materials Service**

1046K Agronomy Insect Set

1044K Agronomy Plant Set

**CDE Reference available from County Soil & Water Conservation Districts**

Soil survey

**CDE Reference available from Illinois Noxious Weed Law**

Section 220.210 Noxious Weed List <http://plants.usda.gov/java/noxious?rptType=State&statefips=17>