

# Agronomy Career Development Event

	Activity	Possible Score	Time Allowed (Minutes)
1.	Field crop seed identification	50	10
2.	Field crop plant identification	50	10
3.	Weed plant identification	50	10
4.	Weed seed identification	50	10
5.	Crop production equipment	50	10
6.	Insect identification	50	10
7.	Crop disorders	50	10
8.	Crop science test	50	10
9.	Agronomic scenario test	50	20
<b>TOTALS</b>		<b>450</b>	<b>100</b>

## FIELD CROP AND SEED IDENTIFICATION

Each contestant will identify 10 field crop plants and 10 samples of crop seeds. Field crop plant (either live or mounted) and seed will be selected from the following list. (Potential Score--100 points, 50 in each).

See attached Crops Identification list

## WEED PLANT IDENTIFICATION

Each contestant will identify 10 weed plants. Weed plants (either live or mounted) will be selected from the following list. (Potential Score, 50 pts.) For a document containing the weed pictures, go to:

[http://www.michiganffa.com/association/career/skills/crops\\_weeds.doc](http://www.michiganffa.com/association/career/skills/crops_weeds.doc) . \*There are no pictures for Plantain or Wild Carrot.

See attached Crops Identification list

## WEED SEED IDENTIFICATION

Each contestant will identify seeds of ten weed species. plants. Weed seeds will be selected from the following list. (Potential Score, 50 pts.) Weed seed collections are available from the national FFA office.

See attached Crops Identification list

## INSECT IDENTIFICATION

Each contestant will identify 10 insects. Insects will be selected from the following list. (Potential Score, 50 pts.) For a document containing the insect pictures, go to:

[http://www.michiganffa.com/association/career/skills/crops\\_insects.doc](http://www.michiganffa.com/association/career/skills/crops_insects.doc).

See attached Crop Identification list

## CROP SCIENCE TEST

Each contestant will complete a 25 question test. Multiple choice, true & false or matching questions will be used. Each question will be worth 2 points for a total of 50 possible points. Questions will be from the Michigan Agriscience and Natural Resource core unit 200, as well as Extension bulletins and manuals such as the Tri-state Fertilizer recommendations, the Pesticide Applicator manual, including pesticide labels.

Three sample questions follow:

1.)	Winter wheat is planted in:	
	a. May	b. July
	c. September	d. November
	e. February	

2.)	The preferred pH for crop production where most nutrients are available to the crop plants is:	
	a. 5.5	b. 7.5
	c. 6.5	d. 8.5
3.)	The signal word indicating the most toxic pesticide is:	
	a. danger	b. warning
	c. caution	d. stop

### AGRONOMIC SCENARIO QUESTIONS

Each high school contestant will read two scenarios and answer 5 questions on each, for a total of 10 multiple choice or true/false questions. Questions will be from the Michigan Agriscience and Natural Resource core unit 200, as well as Extension bulletins and manuals such as the Tri-state Fertilizer recommendations, the Pesticide Applicator manual, including pesticide labels.

### CROP PRODUCTION EQUIPMENT IDENTIFICATION

Most of the products we eat and use around the house contain grain or some type of plant fiber grown as a crop. Each contestant will be asked to identify 10 pieces of crop production equipment that are found and used around the farm. Each piece of equipment will be worth 5 points for a total of 50 possible points. The crop production equipment will be selected from the following list:

Air Seeder (Tool and cart together)	Hay merger
Anhydrous applicator with tank	Hay mower conditioner
Articulated tractor	Hay rake
Grain head for combine	Hearing protection
Back pack sprayer	Hydraulic cylinder/hose
Bale wagon (kick or flat)	Irrigation - Traveling gun
Baler	Irrigation Pivot
Bean harvester head	Liquid manure tank/applicator
Bed mulcher	Manure spreader
Bed shaper	Moldboard plow
Broadcast spreader	Potato harvester
Chemigation unit for irrigation	PPE (all equipment)
Combine (with or without harvesting head)	Press wheel
Conveyor/Elevator/Auger	Pressure regulator
Corn head for combine	PTO shaft
Cultipacker	Round baler
Cultivator	Row planter
Disk	Skid steer
Disk chisel	Sprayer
Draper head for combine or swather	Square baler
Field Cultivator	Sugar beet harvester
Forage harvester	Sweep net
GPS receiver	Vegetable transplanter
Grain bin/leg	Virtual terminal/monitor/controller
Grain drill	V-Ripper

**CROP DISORDERS**

Each contestant will identify 10 crop disorders. There will either be live plant specimens OR pictures of the various disorders. (Potential Score, 50 pts.)

Blight	Nitrogen deficiency
Cankers	Phosphorus deficiency
Drought	Potassium deficiency
Fusarium head blight (head scab)	Root rots
Galls	Rusts (wheat, corn, soybean)
Grey leaf spot (Corn)	Smut
Herbicide damage - 2,4-D	Soybean cyst nematode
Herbicide damage - Dicamba	Stalk rots (Gibberella and charcoal)
Herbicide damage - Glyphosate	Sudden death syndrome (soybean)
Iron deficiency	White mold
Manganese deficiency	Wilts (Verticillium wilt)
Mosaics (TMV)	Zinc deficiency

**TIE BREAKERS**

- 1) Agronomic scenario test
- 2) Written Exam

**REFERENCES**

MSU Bulletins NCR-89, 90, 91, 92 Weed Identification  
 MSU Bulletin E-0791 Problem Perennial Weeds of Michigan  
 Insect Fact Sheets--MECP/CES Bulletin single page, biology and management in front, 1991 chemical control recommendations on back.

MSU Bulletin E-2266	Managing Flea Beetles & Springtails in Sugar beets
MSU Bulletin E-2274	Black Cutworm Management in Sugar Beets
MSU Bulletin E-1582	Chemical Control of Insects and Nematodes in Field & Forage Crops, 1991 (\$2.50)

Picture Sheets are available from Roxanne Fandel, Extension Secretary, Department of Entomology, MSU (517) 353-3890.

Corn Insects above ground	Picture Sheet #4
Corn Insects below ground	Picture Sheet #5
Common Small Grain Insects	Picture Sheet #7
Common Vegetable Insects	Picture Sheet #9
Common Soybean Insects	Picture Sheet #6
Common Soybean Insects	Picture Sheet #8
Principle Stored Grain Insect	Picture Sheet #1

North Central Regional Publication 281 -- Weeds of the North Central States, MSU Bulletin Office  
 National Agricultural Supply Co., (NASCO), Ft. Atkinson, Wisconsin. Samples and audio-visual material may be purchased as listed in their catalog.

Hunger Signs in Crops, David McKay, Inc. 750 Third Ave., New York, N.Y. (Good but costly).

USDA Yearbook 1962--Seeds

Numerous commercial concerns may have information on nutrient deficiencies and other activities involved in the contest.

Michigan Agriscience and Natural Resources basis core. (200 Plant Science)

Available for loan from the AEE Resource Center, 10A Ag Hall, MSU.

A0438 Weed Identification (slide/script) -- A series of 122 slides on weeds, including descriptions, characteristics, and growth of grasses, broadleaves, and perennials

NOTE: Additional training materials will be supplied for identification of seed defects and grain defects to all teams that sign up for the contest.