

## Proposed Minnesota Agronomy CDE Rules

1. The contests will consist of the following parts for each individual. The top 3 scores will make up the team score. Total points will be 500 per person

A. Identification	50 samples at 6 points	300 points
B. Management Tests	45 questions at 3 points	135 points
C. Practicums	3 practicums at 60 points each	180 points

2. Each contestant will work individually and be scored individually. A team will consist of four members. The scores for the top three-team members will be the team's score.

3. Management Test Rotation: The following rotation of crops has been developed for use in the Management Test section of the CDE. Each crop will have 15 questions at 3 points per question. Questions will be related to any of the following for the following crops: morphology, production practices, harvesting and storage, quality, marketing, insects, diseases and agronomic terms.

Odd Convention Years- Soybeans, Wheat, Sugar beets.

Even Convention Years- Corn, Alfalfa, Oats

5. Practicums: will each be 10 questions at 5 points per question.

Practicums will be rotated the following years:

Every year-Soils practicum.

Odd Convention Years-Insects, fertilizer.

Even Convention Years-Plant Disorders, variety trials.

6. Scantron to be used as of 25 convention.

<https://ffa.app.box.com/s/oc7mf81s9hon6ytsqxqy0y6qnzorbw2/file/1022952005949>

7. Tiebreakers are as follows:

1-ID

2-Total practicum score

3-Total test score

8. References are found on page 5 for the agronomic test.

## Practicum Descriptions

### **Soils, Every year**

Students will use information off the soils web survey. <https://websoilsurvey.nrcs.usda.gov/app/>

Members will analyze a given soil and answer questions related to the survey such as

- 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

### **Fertilizer-Odd Convention Years**

Fertilizer questions will be based off 1 crop fertilizer guide of off <https://extension.umn.edu/nutrient-management/crop-specific-needs> . Students will interpret and answer questions related to the guide. 5 of the questions will come from tables/graphs.

## Insects Practicum Reference List-Odd Convention Years Resource

Vascular Bundles (Va)  
More than one (M)  
Insects Practicum

C=Chewing  
PS=Piercing Sucking  
RS=Rasping Sucking  
S=Siphoning

F=(Fruit/Flower destruction)  
IS= Indicator species  
R= Removal of plant fluids)  
V= Vegetative destruction

Sample #	Identification		Economic Impact				Mouth Parts						
	Tens Digit	Ones Digit	Beneficial	Fruit/Flower destruction	Vegetative part destruction	Fluid/Flower AND Vegetative part destruction	Indicator species	Removal of plant fluids	Chewing	Chewing-lapping	Piercing-sucking	Rasping-sucking	Siphoning
3	1	2											
7	0	1											
1	1	2											
2	1	2											
3	1	2											
4	1	2											
5	1	2											
6	1	2											
7	1	2											
8	1	2											
9	1	2											
10	1	2											

11. Alfalfa Weevil, Adult or Larva	C	V
12 Aphid	PS	R
13. Corn earworm, adult	S	IS
14. Corn earworm, larva	C	F & V
15 Corn rootworm, adult	C	F & V
16. Corn rootworm, larva	C	V
17. Cutworm adult	S	IS
18. Cutworm Larva	C	V
19. European corn borer, adult	S	IS
20. European corn borer, larva	C	F & V
21. Grasshopper	C	V
22. Japanese Beetle	C	F & V
23. Lady beetle, Adult or Larva	C	B
24. Leafhopper	PS	R
25. Spider mite	RS	V
26. Stink bug	PS	R
27. Wireworm	C	V

## Variety Trials-Even Convention Years

Variety trial questions will be based off 1 report (any crop) from the University of Minnesota Variety trials at <https://varietytrials.umn.edu/> . Members will answer questions related to information found in the report. 5 of the questions will come from tables/graphs.

## Disorders Practicum Reference List-Even convention years

Members will complete the casual category, agent, parts of plant displayed for the disorders list below. An example of the table on the scantron is shown below.

- Bacterial blight(B)
- Bacterial wilt on alfalfa(B)
- Black stem rust (Fn)
- Brown stem rot(Fn)
- Corn smut(Fn)
- Crown rust on oats(fn)
- Ergot(Fn)
- Eyespot (Fn)
- Goss wilt (B)
- Grey leaf spot(Fn)
- Leaf rust(Fn)
- Loose smut(Fn)
- Nitrogen deficiency(Nu)
- Northern leaf blight (Fn)
- Phosphorous deficiency(Nu)
- Phytophthora root rot(Fn)
- Potassium deficiency(Nu)
- Southern leaf blight(Fn)
- Tar Spot on Corn(Fn)
- White Mold(Fn)

#	Causal Category			Agents														Parts of Plant Damaged							
	Biological	Cultural	Environmental	Bacteria	Chemical	Compaction	Drought	Frost damage	Fungus	Hail	Heat	Insect	Lightning	Mechanical	Moisture	Nematodes	Nutritional	Other	Sun scald	Virus	Wind damage	Reproductive	Vegetative	Vascular Bundles	More than one
1	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
2	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
3	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
4	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
5	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
6	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
7	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
8	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
9	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M
10	B	C	E	B	Ch	Co	D	Fr	Fn	Ha	Hi	I	L	Me	Mo	Ne	Nu	P	S	V	W	R	Ve	VB	M

### Causal Category

- Biological (B)
- Cultural (C)
- Environmental (E)

### Agents

- Bacteria (B)
- Compaction (Co)
- Drought (D)
- Frost Damage (Fr)
- Fungus (Fn)
- Hail (Ha)
- Insect (I)
- Lightning (L)
- Mechanical (Me)
- Moisture (Mo)
- Nematodes (Ne)
- Nutritional (Nu)
- Virus (V)
- Wind damage(W)

### Parts of the Plant Damaged

- Reproductive parts (R)
- Vegetative parts (Ve)

## References

Bryson, C. T., & DeFelice, M. S. (2010). *Weeds of the Midwestern United States and Central Canada*. University of Georgia Press.

Davis, L. W. (1993). *Weed Seeds of the Great Plains: A handbook for identification*. University Press of Kansas.

Delorit, R. J. (1970). *An illustrated taxonomy manual of Weed Seeds*. Agronomy Publications.

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