# Minnesota FFA 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 615 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. The scores for the top three 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 6 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://www.judgingcard.com/ScanSheets/samples/708-5-Agronomy.pdf

7. Tiebreakers are as follows:
1-ID
2-Total practicum score
3-Total test score

8. Suggested references are found on page 5 for the agronomy contest.

# Practicum Information

**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
  - 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

**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. 5/10 of the questions will come from tables/graphs. 10 questions at 6 points per question.

**Insect/Pest Practicum-Odd Convention Years**

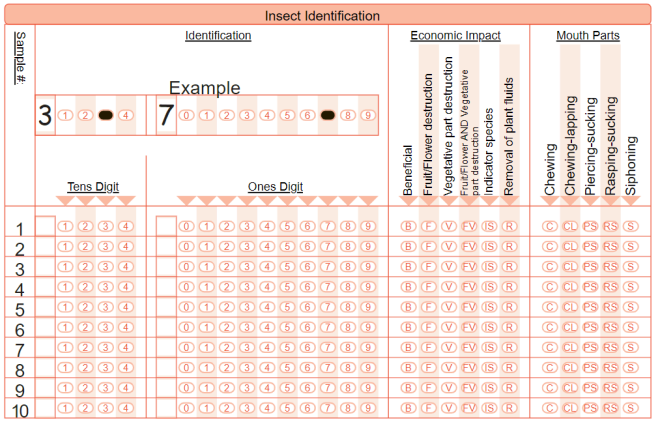
Ten samples will be identified according to insect name (2 points), economic impact (2 points) and mouth part (2 points).
Refer to the Insect Identification Practicum Scorecard for additional details.

**Insect/Pest Practicum Reference List-Odd Convention Years Resource**

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

**Economic Impact**

B=Beneficial
F =(Fruit/Flower destruction)
V= Vegetative destruction
FV= Fruit/flower andVegetative destruction
IS= Indicator species
R= Removal of plant fluids)




| Name of Insect/Pest | Mouthpart | Destruction |
|---|---|---|
| 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 | PS | R |
| 26. Stink bug | PS | R |
| 27. Wireworm | C | V |

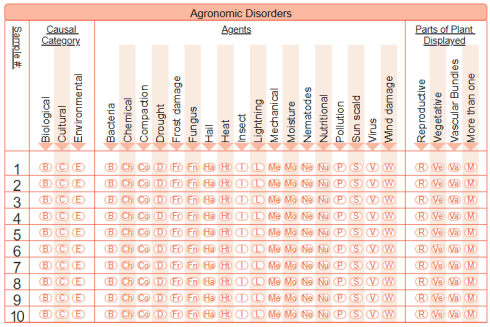
**Variety Trials-Even Convention Years**

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. 5/10 of the questions will come from tables/graphs.

**Disorders Practicum Reference List-Even convention years**

Ten samples will be identified according to category, causal agent, and damage location.
Refer to the Agronomic Disorders Practicum Scorecard for the category (2 points), agent (2 points) and damage location (2 points) lists. 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)
Phytopthora root rot(Fn)
Potassium deficiency(Nu)
Southern leaf blight(Fn)
Tar Spot on Corn(Fn)
White Mold(Fn)




**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)

**Suggested 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.

Dickinson, R., & Royer, F. (2014). *Weeds of North America*. The University of Chicago Press.

Martin, A. C., & Barkley, W. D. (2000). *Seed identification manual*. The Blackburn Press.

Sheaffer, C. C., & Moncada, K. M. (2009). *Introduction to agronomy: Food, crops, and environment*. Delmar Cengage Learning.

*Weeds of the North Central States*. (1960). . University of Illinois, College of Agriculture, Extension Service in Agriculture and Home Economics.

NDSU, University of Minnesota, SDSU, Iowa State and other midwest University/Extension handbooks and guides on a variety of agronomic crops. Example, NDSU's Sugar beet growing guide

Old soil web suvery examples can be found on the agronomy CDE page of National FFA