



IOWA

FFA ASSOCIATION

SOILS EVALUATION

Career Development Event

This is a Skills CDE

Table of Contents

<u>Section</u>	<u>Page</u>
General Skills Career Development Event Rules	2
Overview	4
AFNR Content Standards	4
Event Rules	4
Event Resources	5
Scoring and Ranking of Teams and Individuals	5
Awards	6
Event Materials	6

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**AG SKILLS CAREER DEVELOPMENT EVENT
GENERAL POLICIES, RULES, RESULTS AND STANDARDS**

***Violations of any of the following rules may be grounds for the disqualification of the participants.**

I. Board Policies

The following board policies (<http://www.iowaffa.com/ffaboardpolicies.aspx>) apply directly or in part to Skills CDEs:

- Board Policy #2: Changes in Judging Event Answer Keys
- Board Policy #3: Changes to Judging Event Results
- Board Policy #11: Substitution of Team Members
- Board Policy #25: Advancement of Teams to National FFA Competition
- Board Policy #27: Use of Electronic Storage/Transmission Devices

II. Eligibly of Chapters and Participants

1. Each state event is open to all FFA chapters in good standing with the Iowa FFA Association. (Exception: Soils Career Development Event is open to the top five teams from each district competition.)
2. Local FFA advisors or their designee entering teams in the state event must register their intent to have a team on Iowa FFA On-Line (<http://anfmp01.dmac.edu/fmi/webd#>) by the due dates and registration fees listed below:
 - a. Before 14 days prior the event No Charge
 - b. Between 14 days prior and day of the event \$50.00An invoice will be sent to the chapter for the appropriate entry fees at the end of the season.
3. A chapter may enter a separate team in each event held on a particular day. However, no member may participate in more than one Ag Skills Career Development Event on a particular day.
4. After an FFA Advisor registers the chapter's intent to enter a team, the names of the team members are expected to be entered on the Iowa FFA On-Line (<http://anfmp01.dmac.edu/fmi/webd#>) by noon three days prior to the event. Any member not listed on Iowa FFA On-Line will need to be registered as an FFA member using the National FFA MyFFA Account (<https://www.ffa.org>). Changes to online entries may be made the day of the event. State and National FFA Dues will be invoiced in accordance with Iowa FFA Association policies and by-laws.
5. A participant, at the time of his/her participation in the state event and selection as a national team member, must:
 - a. Be a current bona fide dues paying FFA member in good standing with the local chapter, state FFA Association and the National FFA Organization at the time of the career development event in which he/she participates.
 - b. Be a middle school or high school FFA member, (a graduating senior is considered eligible to compete in state and national career development events up to and including their first national convention following graduation). Middle school refers to students in grades 7-8 and high school refers to students in grades 9-12.
 - c. Have been enrolled in high school Agricultural Education during the current/most recent school year with the following exceptions: Meats, Livestock, Dairy Cattle and Milk Quality & Products-must have been enrolled the previous school year or be in grades 8-12 for the current year.
 - d. Currently be an active FFA member of the chapter making entry into the event.
6. A member may not participate in both a state 4-H and state FFA Career Development Event when said events are held on the same day.
7. Participation in one Ag Skills Career Development Event of its type will not exclude an active FFA member from participating in the future Ag Skills Career Development Event, if the participant still qualifies as a middle school or high school FFA member (Rule 5b) providing he/she was not on a state championship FFA CDE team or a national FFA participant in the said event.
8. No student may participate in more than one Career Development Event each year at the national level.

9. For the Soils Career Development Event, each district FFA advisor must email all results including a list of participants for each of the top five teams to the State FFA Executive Director within one business day of the district event.

III. Event Room Conditions

10. Any communication, verbal or non-verbal between participants during a career development event will be sufficient cause to eliminate the team member involved from the career development event. The only exception to this would be communication between team members during the team activity portion of a given career development event.
11. Any assistance given to a team member from any source other than the career development event officials or assistants will be sufficient cause to eliminate the team from the career development event.
12. No extra FFA members or other persons are permitted to view the state event until the completion of the event. The only people allowed in the event area during the event are participants and designated event workers. Observers and FFA advisors who are not working with the event will not be permitted in the event area while the event is in progress. The following are exceptions to this rule: the presentation portions of the Marketing Plan CDE and Ag Communications CDE at the Iowa FFA Leadership Conference.

IV. Participant Assignments

13. Each participant will be given an individual ID number by which he/she will be designated throughout the event. Contestant badges with identification numbers may be issued.
14. Teams will be divided into groups for individual activities. When possible, groups will be assigned to avoid having two participants on the same team in the same group.
15. Each participant will work on an individual basis throughout the event except during the FFA chapter team activity. Each team will submit one score card or product per team for the team activity.

V. Equipment and Dress Code

16. Participants are urged to bring and use clipboards during events to facilitate the holding of placing and grading cards. The clipboards are to be clean and free of markings. A few sheets of blank paper will be permitted for taking notes and recording results.
17. Calculators may be used with the FFA Career Development Events. They must be battery or solar operated, non-programmable and silent, unless otherwise listed in the specific Career Development Event rules.
18. Items needed for specific phases of each Career Development Event will be noted under their specific rules.
19. Participants are expected to observe the National FFA Code of Ethics and the Proper Use of the FFA Jacket during the career development events found in the Official FFA Manual (<https://www.ffa.org/about/who-we-are/official-manual>).
20. Official FFA dress is expected for all participants when appropriate. If official dress is not appropriate, official casual dress should be worn. Official casual dress shall consist of 1) FFA t-shirt or polo shirt and 2) khaki or nice denim pants or shorts.

VI. Event Results

21. In the event that ALL participants' scores are incorrect the board reserves the right to correct the results.
22. Each FFA advisor will receive the judging cards, score cards, answer sheets and results following a career development event and the presentation of awards. FFA advisors are not permitted to pick up event packets until after the awards presentation.

VII. AFNR Career Cluster Content Standards

AFNR Content Standards are specifically outlined within each respective Skills CDE.

Soils Evaluation

2019 Chairperson: Rick Swenson, Montezuma

Coordinator: Amber Anderson, Iowa State University

Committee Personnel: Brian Lowry, Sully; Andrew Johnson, Clarinda

I. Overview

- A. To motivate students to gain knowledge on surface features, the soil profile, land capability and productivity, evaluation of land use and management practices, and suitability of soils for nonagricultural uses.
- B. To develop the ability to observe selected soil properties and to interpret and evaluate these properties for recommendations for land use.

II. AFNR Content Standards

ESS.02. Standard: Evaluate the impact of public policies and regulations on environmental service system operations.

ESS.02.01. Indicator: Interpret and evaluate the impact of laws, agencies, policies and practices affecting environmental service systems.

ESS.03. Standard: Develop proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry and ecology.

ESS.03.02. Indicator: Apply soil science and hydrology principles to environmental service systems.

ESS.03.03.04.b. Intermediate Measurement: Apply best management techniques associated with the properties, classifications and functions of wetlands.

NRS.01. Standard: Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.

NRS.01.01 Indicator: Apply methods of classification to examine natural resource availability and ecosystem function in a particular region.

NRS.01.03. Indicator: Apply ecological concepts and principles to atmospheric natural resource systems.

NRS.02. Standard: Analyze the interrelationships between natural resources and humans.

NRS.02.02. Indicator: Assess the impact of human activities on the availability of natural resources.

III. Event Rules

- A. All district soil judging events shall be conducted at least 10 days in advance of the Iowa FFA Soil Judging Career Development Event.
- B. The state event is open to the top five FFA teams in each district; these teams shall be from Iowa schools with approved high school Agricultural Education programs.
- C. If one of the top five teams in a district is unable to participate in the state event, the sixth place team is permitted to advance. If the sixth place team is unable to participate, then the seventh, eighth, and so forth will be given this opportunity.
- D. Each school may enter a team composed of three or four participants with the top three scores determining the team score.
- E. A team is permitted a maximum of two substitutes between district and state events. If team members have a conflict and a team cannot secure the necessary one or two substitutes, the remaining team members may participate for individual event awards depending upon the decision of the team which originally earned the opportunity to advance to the state event.
- F. Participation in the district soil judging event by non-official FFA participants shall be left up to the discretion of each district.
- G. Each participant will participate in all phases of the event.
- H. All district events and the state event should not be held during regular school hours.
- I. If participants or FFA advisors visit pits any time prior to the event, the teams and individuals will be disqualified.

- J. If any members of the first, second, third, fourth, or fifth place teams qualify to judge in the National Land Judging event at Oklahoma, these same persons shall not participate in any future district, state, interstate or national FFA soil judging events.
- K. Any participant who does not provide his/her name and/or correct participant number on a judging card or answer sheet will receive no credit for the specific event site or the test when appropriate identification is omitted.
- L. The state event will be held within a 40 mile radius of Ames.
- M. Participants shall report to the state event chair between 8:00 a.m. and 8:30 a.m. on event day.
- N. Every FFA advisor must have a vehicle available to provide travel for participants to the state event site and pits.
- O. The official Iowa Soil Judging Score Card, PM 1107 and is available via a free download from the Iowa State University Extension and Outreach website (see resources section for website or the end of this document for the form).
- P. Teams will be notified in advance as to the common meeting place; however, the exact location of pits shall not be announced until event day.
- Q. There will be a FFA advisors' meeting at 8:30 a.m.
- R. Participants will bring the following items to the Soils events:
 - 1. tape measures, yard stick, or meter stick
 - 2. knives for picking face of pit walls
 - 3. clean clip boards
 - 4. pencil (No. 2 only)
- S. Items provided at each pit will include:
 - 1. score cards
 - 2. area of pit to be judged will be identified with appropriate markers
 - 3. water bottle
 - 4. 10% HCL Acid
- T. Twenty-five (25) minutes will be the maximum time allowed at each of the four soil pits. A maximum of 30 minutes will be allowed for the written test.
- U. The first event activity will be a 40 multiple choice question test over "Soil Judging in Iowa," PM 1106.
- V. Four soil pits dug to a minimum of four feet will be judged and official placings will be done by a qualified soil scientist and a qualified soil conservationist. Judges will critique each pit following the event.
- W. Land area for judging parts III, IV, and V on the score card will be marked by the official judges.
- X. Slope determination:
 - 1. Stakes will be located on the slope to be judged.
 - 2. Distance between stakes will be in multiples of 25 feet.
 - 3. Difference in elevation between the stakes will be indicted to nearest tenth of a foot at each site.
 - 4. Participants will calculate percent slope. Calculators will be permitted.

IV. Event Resources

- A. Soil Judging in Iowa, PM 1106 and PM 1107.
(<https://store.extension.iastate.edu/ItemDetail.aspx?ProductID=4435>)
- B. County Soil Survey Report for those counties where a soil survey report has been published since 1960.

V. Scoring and Ranking of Teams and Individual

<u>Phases</u>	<u>Scoring</u>
Judging 4 Pits - 40 points each	160
Multiple Choice Test	40
Total Individual Score	200
Total Team Score Possible (3 Individuals)	600

- A. Team and individual ties shall be broken by giving preference to the participant or team with the higher score at site number 1. If there is also a tie at site number 1, then site 2 may be used and so forth. If any ties are still unbroken, the sites shall be given priority in order—site 1 through 4 with the preference given successively to item 1, 2, 3, and so forth to item 40. If there is still a tie, the test score will be used to break it.
- B. Teams will be ranked into groups designated “Gold Emblem,” “Silver Emblem,” and “Bronze Emblem.” Teams which violate any rule will receive a “Participation” rating.
- C. The team winner on the four pits and multiple choice question test combined will be designated the “Iowa Champion FFA Soil Team.”
- D. The top five teams will be Iowa’s official representatives in the National Land & Range Judging Event at Oklahoma City, Oklahoma.
- E. All teams eligible to participate in the National Land & Range Judging Event must notify the State FFA Staff on or before March 1 prior as to their intentions to participate. Those which cannot participate in the advanced event will not be substituted by lower placed teams.

VI. Awards

Awards Sponsored Through the Iowa FFA Foundation

Champion Team	State Winning Plaque
Reserve Champion Team	Plaque
Top Five Teams	Cash Award for Travel to National Land Judging Event
Top Ten Teams	Rosettes
Members of Top 10 Teams	Rosettes
Top Ten Individuals	Rosettes
1st and 2nd Place Individuals	Plaques
Top Team and Top Individual	Plaques
a. Judging Pits	
b. Written Examination	
All Teams/Individuals	Certificates

All awards are subject to available sponsorship.

VII. Event Materials

- A. Iowa Soil Judging Score Card (PM-1107)

Iowa Soil Judging Score Card

See Soil Judging in Iowa, PM 1106, for interpretation of this form. Mark only one box per question.

Part I. Surface Features (2 points)

1. Landscape Position	Upland	a
	Intermittent drainageways	b
	Footslope	c
	Terrace	d
	Bottomland	e
2. Slope	Nearly level, 0-2%	a
	Gently sloping, 2-5%	b
	Moderately sloping, 5-9%	c
	Strongly sloping, 9-14%	d
	Steep, greater than 14%	e

Part I Total

Part II. Soil Features—The Profile (17 points)

3. Moist Color of A1 or Ap	Dark	a
	Moderately dark	b
	Light	c
	Very light	d
4. E Horizon Present	Yes	a
	No	b
5. Thickness of A Horizon or A+E Horizons	Thick, more than 12"	a
	Moderately thick, 7-12"	b
	Moderately thin, 3-7"	c
	Thin, less than 3"	d
6. Texture of A Horizon	Coarse	a
	Moderately coarse	b
	Medium	c
	Moderately fine	d
	Fine	e
7. B Horizon Present	Yes	a
	No	b
8. Moist Color of B Horizon (or C Horizon if B is absent)	Uniform brown or dark brown or strong brown	a
	Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features	b
	Grayish brown or olive gray, no redox features	c
	Grayish brown or olive gray with gray or rust redox features	d
	None of the above	e
9. Moist color of B Horizon (or C Horizon if B is absent)	Gray with redox features	a
	Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores	b
	Black. May contain few rust redox	c
	None of the above	d

Soil Site No. _____ Contestant Name _____

Contestant No. _____ School Name _____

Part II. (continued)

10. Texture of B Horizon (or C Horizon if B is absent or buried A if 24" overwash)	Coarse	a
	Moderately coarse	b
	Medium	c
	Moderately fine	d
	Fine	e
11. Soil Depth	Deep, more than 40"	a
	Moderately deep, 30-40"	b
	Moderately shallow, 20-30"	c
	Shallow, less than 20"	d
12. Soil Parent Material	Glacial drift or local sediments from glacial drift	a
	Loess	b
	Alluvium or colluvium	c
	Residuum	d
	Peat or organic	e
13. Native Vegetation	Forest	a
	Transition	b
	Prairie	c
	Marsh	d
14. Surface Drainage	Rapid	a
	Medium	b
	Slow	c
	Ponded	d
15. Internal Drainage	Excessively drained	a
	Well drained	b
	Somewhat poorly drained	c
	Poorly drained	d
	Very poorly drained	e
16. Erosion Class	Overwash	a
	Uneroded or slightly eroded	b
	Moderately eroded	c
	Severely eroded	d
	Gullied land	e
17. Calcareous Surface Soil	Yes	a
	No	b
18. Calcareous B Horizon (or C Horizon if B is absent)	Yes	a
	No	b
19. Stoniness or Rockiness	Yes	a
	No	b

Part II Total

Part III. Land Capability Classification and Productivity Potential (4 points)

20. Land Capability Class	I. Few limitations	a	
	II. Some limitations	b	
	III. Severe limitations	c	
	IV. Very severe limitations	d	
	None of the above	e	
21. Land Capability Class	V. Noncropland	a	
	VI. Unsited for cultivation	b	
	VII. Restricted for agric.	c	
	VIII. Nonagricultural	d	
	None of the above	e	
22. Land Capability Subclass	None	a	
	e erosion	b	
	w wetness	c	
	s soil	d	
	c climate	e	
23. Productivity Potential	High	a	
	Medium	b	
	Low	c	
	Unsuited	d	
Part III Total			<input type="text"/>

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes	a	
	No	b	
25. Subsurface drainage	Yes	a	
	No	b	
26. Grass waterway	Yes	a	
	No	b	
27. Contouring	Yes	a	
	No	b	
28. Strip cropping	Yes	a	
	No	b	
29. Terracing	Yes	a	
	No	b	
30. Conservation tillage	Yes	a	
	No	b	
Part IV Total			<input type="text"/>

Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

31. Bedrock	Yes	a	
	No	b	
32. Evidence of water table	Yes	a	
	No	b	
33. Flooding	Yes	a	
	No	b	
34. Shrink-swell	Yes	a	
	No	b	

Limitations for conventional septic tank absorption fields

35. Bedrock	Yes	a	
	No	b	
36. Flooding	Yes	a	
	No	b	
37. Evidence of water table	Yes	a	
	No	b	

Source of topsoil

38. Texture group	Suitable	a	
	Not Suitable	b	
39. Thickness of A horizon	Suitable	a	
	Not Suitable	b	
40. Evidence of water table	Suitable	a	
	Not Suitable	b	

Part V Total

Scoring Summary

Part I	<input type="text"/>
Part II	<input type="text"/>
Part III	<input type="text"/>
Part IV	<input type="text"/>
Part V	<input type="text"/>
Total Score	<input type="text"/>

IOWA STATE UNIVERSITY
Extension and Outreach

Prepared by Gerald A. Miller, extension agronomist.
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