

Soils Career Development Event

Revised 10/18

1. The soils contest can consist of judging 4 land areas using the “FFA Land Judging Scorecard” and instructions. The information in the “FFA Land Judging Scorecard Instructions” will be the subject matter guide.
2. Teams will be composed of four members with the top three scores counting.
3. Contestants will record their answers from their soils scorecard onto a scantron form to be computer scored. Each contestant will receive multiple choice questions relating to the judged pits. The correct answers for each soil site used may be available after completion of the contest and will be posted on the FFA Web Site. The winners will be announced at the Awards Ceremony
4. Tiebreakers- The official judge or faculty chair shall determine the order of total pit scores that will be used to break ties.
5. 1st Place team or alternate may represent Minnesota at the National Soil Contest in Oklahoma.
6. Materials available for FFA Land Judging are posted on the FFA website- <https://cde.ffa.umn.edu/>
 - a. Minnesota FFA Land Judging Score Card (2017)
 - b. FFA Land Judging Instructions – (2006)
 - c. Land Judging Placard – (2006)

GRADING THE SCORECARD

Several general rules apply to grading the scorecard. A master scorecard is used to indicate acceptable answers. Never record a minus score for any part.

- Parts 1, 2, & 3 A. The point assignment is two points for correctly recording each depth with a range of 1" above and 1" below being correct. Where boundaries are indistinct or variable, the official judge will allow for appropriate variation in the answers.
B. – Allow four points for correctly identifying the correct color in parts 1 & 2.
C. - Allow 5 pts for identifying the correct texture in parts 1, 2 & 3.
D. - Allow 2 pts for identifying the correct gravel and rock.
- Part 4 Allow 3 pts each for identifying the correct steepness and correct landscape position. If the wrong box is checked or if a correct answer is not marked, the score for that part is zero. Judges may allow an alternative choice or award partial credit if the choice is considered difficult or borderline.
- Part 5 Allow six points if the correct class number is circled. If more than one number is circled, the score is zero. If the circle is one class from the correct answer, allow three points credit. No credit allowed between classes IV and V and between V and VI. Three points is allowed between class IV and VI.
- Part 6 A. thru D. Allow 2 pts each for identifying the correct answer. If the wrong box is checked or if a correct answer is not marked, the score for that part is zero.
E. – Allow 1 pt. For each correct answer in 1-a.b.c; and 2-a.b.c. Allow 4 pts. for 3 and 6 pts for 4. If the wrong box is checked or if a correct answer is not marked, the score for that part is zero
- Part 7 Allow two points each for parts A. Amount of erosion and B. Kind of erosion. If the wrong box is checked or if a correct answer is not marked, the score for that part is zero.
- Part 8 Allow 3 pts each for A. Water Erosion and 3 pts for B. Wind Erosion. Only one answer is allowed in each section. If the wrong box is checked, if two boxes are checked, or if a correct answer is not marked, the score for that part is zero.
- Part 9 Allow 5 pts. for identifying the correct Drainage Required. If the wrong box is checked or if a correct answer is not marked, the score for that part is zero.
- Part 10 Allow two pts each for identifying the correct fertilizer and lime recommendations. If the wrong box is checked or if a correct answer is not marked, the score for that part is zero.
- Part 11 Land Use Limitations

Each USE will be scored and totaled individually as follows:

Limitations - Allow three points for correct answers.

Land Features - Allow one point for every correct answer in each column.

If the wrong box is checked or if a correct answer is not marked, the score for that part is zero.

Minnesota FFA Soils Scorecard

Name _____

School _____

Number _____

9/18

Part 1: Surface Soil -																		Part 3 Parent Material - Continued																																		
A. Thickness in Inches																		B. Texture																																		
2	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18																	5	<input type="checkbox"/> Coarse																																	
	<input type="checkbox"/>																		<input type="checkbox"/> Moderately Coarse																																	
2	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36>																	5	<input type="checkbox"/> Medium																																	
	<input type="checkbox"/>																		<input type="checkbox"/> Fine																																	
<i>Allow 1 inch either way on thickness</i>																		C. Gravel																																		
B. Color																		A. Steepness of Slope																																		
4	<input type="checkbox"/> Dark																	2	<input type="checkbox"/> None to Few																																	
	<input type="checkbox"/> Medium																		<input type="checkbox"/> Gravelly																																	
	<input type="checkbox"/> Light																		<input type="checkbox"/> Very Gravelly																																	
C. Texture																			Extremely Gravelly																																	
5	<input type="checkbox"/> Coarse																	3	<input type="checkbox"/> Nearly level - 2% or less																																	
	<input type="checkbox"/> Moderately Coarse																		<input type="checkbox"/> Gently sloping - 3 - 6 %																																	
	<input type="checkbox"/> Medium																		<input type="checkbox"/> Moderately sloping - 7-12%																																	
	<input type="checkbox"/> Fine																		<input type="checkbox"/> Strongly sloping - 13 to 18 %																																	
<input type="checkbox"/> Very Fine																	<input type="checkbox"/> Steep - Greater than 18 %																																			
D. Gravel and Rock																		B. Landscape Position																																		
2	<input type="checkbox"/> None to Few																	3	<input type="checkbox"/> Upland																																	
	<input type="checkbox"/> Gravelly																		<input type="checkbox"/> Terrace - Footslope																																	
	<input type="checkbox"/> Very Gravelly																		<input type="checkbox"/> Bottom land - Flood Plains																																	
	<input type="checkbox"/> Extremely Gravelly																		<input type="checkbox"/> Depressional Area - No Outlet																																	
Part 2: Subsurface Soil																		Part 5 - Land Capability Classification																																		
A. Thickness in Inches																		Class I																																		
2	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18																	6	<input type="checkbox"/>																	Land suitable for Cultivated Crops Land suitable for Permanent Vegetation																
	<input type="checkbox"/>																		<input type="checkbox"/> Class II																																	
2	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36>																		<input type="checkbox"/>																		Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.															
	<input type="checkbox"/>																		<input type="checkbox"/> Class III																																	
<i>Allow 1 inch either way on thickness</i>																			Class IV																																	
B. Color																			Class V																																	
4	<input type="checkbox"/> Bright																		<input type="checkbox"/>																																	
	<input type="checkbox"/> Mottled																		<input type="checkbox"/>																																	
	<input type="checkbox"/> Dull																	<input type="checkbox"/>																																		
C. Texture																		Class VI																																		
5	<input type="checkbox"/> Coarse																	<input type="checkbox"/>																																		
	<input type="checkbox"/> Moderately Coarse																	<input type="checkbox"/>																																		
	<input type="checkbox"/> Medium																	<input type="checkbox"/>																																		
	<input type="checkbox"/> Fine																	<input type="checkbox"/>																																		
<input type="checkbox"/> Very Fine																	<input type="checkbox"/>																																			
D. Gravel and Rock																		Class VII																																		
2	<input type="checkbox"/> None to Few																	<input type="checkbox"/>																																		
	<input type="checkbox"/> Gravelly																	<input type="checkbox"/>																																		
	<input type="checkbox"/> Very Gravelly																	<input type="checkbox"/>																																		
	<input type="checkbox"/> Extremely Gravelly																	<input type="checkbox"/>																																		
Part 3: Underlying Material																		Part 6 Interpretation of Soil Features																																		
A. Thickness in Inches																		A. Type of Material that Lim its Depth																																		
2	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18																	2	<input type="checkbox"/> None- No limiting materials																																	
	<input type="checkbox"/>																		<input type="checkbox"/> Bedrock - Soft or hard																																	
2	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36>																		<input type="checkbox"/>																	<input type="checkbox"/> Hardpan - Cemented																
	<input type="checkbox"/>																		<input type="checkbox"/>																	<input type="checkbox"/> Very gravelly sand or high water table																
<i>Allow 1 inch either way on thickness</i>																		B. Parent Material																																		
C. Depth Favorable for Roots & Water Penetration																		C. Depth Favorable for Roots & Water Penetration																																		
2	<input type="checkbox"/>																	2	<input type="checkbox"/> Bedrock - Soft or hard																																	
	<input type="checkbox"/>																		<input type="checkbox"/> Alluvium /Outwash/Lacustrine																																	
	<input type="checkbox"/>																		<input type="checkbox"/> Till/Loess/Aeolian Sand																																	
	<input type="checkbox"/>																		<input type="checkbox"/> Organic materials - Peat or muck																																	
D. Air and Water Movement (Subsoil Permeability)																		D. Air and Water Movement (Subsoil Permeability)																																		
<input type="checkbox"/> Very Rapid																		<input type="checkbox"/> Very Rapid																																		
<input type="checkbox"/> Rapid																		<input type="checkbox"/> Rapid																																		
<input type="checkbox"/> Moderate																		<input type="checkbox"/> Moderate																																		
<input type="checkbox"/> Slow																		<input type="checkbox"/> Slow																																		

E. Total Available Water capacity
1. Available water in horizon 1 per inch of soil

1	0.05	a. Surface Horizon	Calculation Area
	0.15		
	0.20		
1	0.05	b. Subsoil	
	0.15		
	0.20		
1	0.05	c. Underlying Material	
	0.15		
	0.20		

2. Available Water Capacity per Horizon

a. Surface Horizon									
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->
b. Subsoil									
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->
c. Underlying Material									
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->

3. Total available water capacity in five feet of soil

Very low - Less than 3 inches
 Low - 3.1 to 6.0 inches
 Moderate - 6.1 to 9.0 inches
 High - over 9.0 inches

4. Internal Drainage

Well Drained
 Moderately well drained
 Somewhat poorly drained
 Poorly or very poorly drained

Part 7 Accelerated Erosion

A. Amount of Erosion

2 No erosion evident (less than 2 inches)
 Deposition (2 inches or greater)
 Erosion present (2 inches or greater)

B. Kind of Erosion

2 None
 Active gully
 Wind erosion
 Sheet or rill

Part 8 - Need for Erosion Control

A. Water Erosion

3 None to slight
 Crop cover, sod cover, and conservation tillage
 Contour, strip crop and conservation tillage
 Grass waterways and gully control
 Woodland or permanent pasture
 Wildlife or recreation

B. Wind Erosion

3 None to slight
 Mulch tillage, cover crop

Part 9 Drainage Required

5 None required
 Surface and/or tile

Part 10 - Fertilizer and Lime Recommendations

2 Nitrogen pounds per acre
 2 Phosphorous pounds per acre
 2 Potassium pounds per acre
 2 Lime tons per acres

Part 11 - Land use Limitation (Points are for each section)

Use	Limitation	3 Pts Each			1 Point Each				
		% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)	
9 Dwellings (lawns), foundations, basements	Slight	<input type="checkbox"/> 0 to 6.0	<input type="checkbox"/> medium, moderate, coarse	<input type="checkbox"/> None	<input type="checkbox"/> well drained, mod. well drained		<input type="checkbox"/> more than 60	<input type="checkbox"/> coarse, mod. coarse, medium	
	Moderate	<input type="checkbox"/> 6.1 to 12.0	<input type="checkbox"/> coarse, fine, very fine				<input type="checkbox"/> 40 to 60	<input type="checkbox"/> fine texture	
	Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained		<input type="checkbox"/> less than 40	<input type="checkbox"/> very fine texture	
8 Septic tank absorption fields	Slight	<input type="checkbox"/> 0 to 6.0		<input type="checkbox"/> None	<input type="checkbox"/> well to mod well drained	<input type="checkbox"/> very rapid to rapid	<input type="checkbox"/> more than 60		
	Moderate	<input type="checkbox"/> 6.1 to 12.0				<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60		
	Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained	<input type="checkbox"/> slow to very slow	<input type="checkbox"/> less than 40		
8 Farm lagoons and holding basins	Slight	<input type="checkbox"/> 0 - 2.0		<input type="checkbox"/> None	<input type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input type="checkbox"/> more than 60		
	Moderate	<input type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60		
	Severe	<input type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input type="checkbox"/> Rapid to very rapid	<input type="checkbox"/> less than 40		

FFA LAND JUDGING PLACARD – MINNESOTA – FFA

Pit Number _____

Lime Area _____ **Flooding** _____

pH _____ **SMP Buffer Index** _____ **Assumed Field Size** _____ **Acres**

P Test _____ **lb./acres available phosphorus**

Subsoil Phosphorus Level _____

K Test _____ **lb./acres exchangeable potassium**

Subsoil Potassium Level _____ **Manure Applied** _____ **Tons/Acre**

Corn Yield Goal _____ **bu./acres**

Crop to be planted _____

Past Crop _____

Original Surface Soil Depth _____ **inches**

Slope Length _____ **feet**

Depth to permanent water table _____

Minnesota Soils Scorecard Questions for Pits 1 - 4 Scantron # 105481

Use your soils scorecard to fill out the answers on your scantron
Bubble in the front side of the sheet for Pit 1 (# 1-45) and Pit 2 (#51-95) and
Bubble in the back side of the sheet for Pit 3 (# 1-45) and Pit 4 (51-95)

Pits 1 & 3 Questions

Part 1: Surface soil

1. Surface Soil: Thickness in inches (2 pts)

- A.
- B. Answers to be determined
- C. by pit and placard
- D. with a 3 inch range.
- E.

2. Surface Soil Color (4 pts)

- A. Dark
- B. Medium
- C. Light

3. Surface: Soil Texture (5 pts)

- A. Coarse
- B. Moderately Coarse
- C. Medium
- D. Fine
- E. Very Fine

4. Surface: Gravel and Rock (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 2: Subsurface Soil

5. Subsurface Soil: Thickness in inches (2 pts)

- A.
- B. Answers to be determined
- C. by pit and placard
- D. with a 3 inch range
- E.

6. Subsurface: Soil Color (4 pts)

- A. Bright
- B. Mottled
- C. Dull

7. Subsurface: Texture (5 pts)

- A. Coarse
- B. Moderately coarse
- C. Medium
- D. Fine
- E. Very Fine

8. Subsurface: Gravel and Rock (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 3: Underlying Material

9. Parent Material: Thickness in inches (2pts)

- A.
- B. Answers to be determined
- C. by pit and placard
- D. with a 3 inch range
- E.

10. Underlying Material: Texture (5 pts)

- A. Coarse
- B. Moderately coarse
- C. Medium
- D. Fine
- E. Very Fine

11. Underlying Material: Gravel (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 4: Topography

12. Steepness of slope (3 pts)

- A. Nearly level – 2% or less
- B. Gently sloping - 3 – 6 %
- C. Moderately sloping - 7 – 12 %
- D. Strongly sloping - 13 - 18 %
- E. Steep – Greater than 18 %

13. Landscape position (3 pts)

- A. Upland
- B. Terrace – Footslope
- C. Bottom land – Flood Plains
- D. Depressional Area – No outlet

Part 5: Land Classification

14. Land Capability Classification (6 pts)

- A. Class I or II
- B. Class III
- C. Class IV
- D. Class V
- E. Class VI, VII, or VIII

Part 6: Interpretation of Soils Features

15. Type of Material that Limits Depth (2 pts)

- A. None- No limiting materials
- B. Bedrock – Soft or hard
- C. Hardpan – Cemented
- D. Very gravelly sand or high water table

16. Parent Material (2 pts)

- A. Bedrock – Soft or hard
- B. Alluvium/ Outwash/ Lacustrine
- C. Till/ Loess/ Aeolian Sand
- D. Organic Materials – Peat or Muck

17. Depth favorable for roots & water (2 pts)

- A. Very deep- 60 inches or more
- B. Deep- 40 – 59 inches
- C. Moderately Deep- 20 – 39 inches
- D. Shallow- less than 20 inches

18. Air and water movement (2 pts)

- A. Very Rapid
- B. Rapid
- C. Moderate
- D. Slow

E. Total Available Water Capacity

Available water in horizon/ inch of soil

19. a. Surface Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

20. b. Subsoil Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

21. c. Underlying material Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

Available Water Capacity per Horizon

22. a. Surface Horizon (1 pt)

- A. 0.0- 2.0
- B. 2.1 – 4.0
- C. 4.1 – 6.0
- D. 6.1 – 8.0
- E. over 8.0

23. b. Subsoil Horizon (1 pt)

- A. 0.0- 2.0
- B. 2.1 – 4.0
- C. 4.1 – 6.0
- D. 6.1 – 8.0
- E. over 8.0

24. c. Underlying material (1 pt)

- A. 0.0- 2.0
- B. 2.1 – 4.0
- C. 4.1 – 6.0
- D. 6.1 – 8.0
- E. over 8.0

25. 3. Total available water capacity
(5 ft. of soil) (4 pts.)

- A. Very low – less than 3 inches
- B. Low – 3.1 to 6 inches
- C. Moderate – 6.1 to 9 inches
- D. High – Over 9 inches

26. 4. Internal drainage (4 pts.)

- A. Well drained
- B. Moderately well drained
- C. Somewhat poorly drained
- D. Poorly or very poorly drained

Part 7 – Accelerated erosion

27. Amount of erosion (2 pt.)

- A. No erosion evident (less than 2 inches)
- B. Deposition (2 inches or greater)
- C. Erosion present (2 inches or greater)

28. Kind of erosion (2 pts.)

- A. None
- B. Active gully
- C. Wind erosion
- D. Sheet or rill

Part 8 – Need for erosion control

29. Water erosion (3 pts.)

- A. None to slight
- B. Crop cover, sod cover and conservation tillage
- C. Contour, strip crop and conservation tillage
- D. Grass waterways and gully control
- E. Woodland/perm. pasture, wildlife or recreation

30. Wind erosion (3 pts.)

- A. None to slight
- B. Mulch tillage, cover crop

Part 9

31. Drainage required (5 pts.)

- A. None required
- B. Surface and/or tile

Part 10 – Fertilizer and lime recommendations

32. Nitrogen pounds per acre (2 pts)

- A. Over 161
- B. 121- 160
- C. 81- 120
- D. 41- 80
- E. 0- 20

33. Phosphorous pounds per acre (2 pts.)

- A. Over 81
- B. 61- 80
- C. 41- 60.
- D. 21- 40
- E. 0- 20

34. Potassium pounds per acre (2 pts.)

- A. Over 181
- B. 136- 180
- C. 96- 135
- D. 46- 90
- E. 0- 45

35. Lime tons per acre (2 pts.)

- A. 8.5 or more
- B. 6.5- 8.0
- C. 4.5- 6.0
- D. 2.5- 4.5
- E. 0.0- 2.0

Part 11 – Land Use limitation

36. Dwellings (lawns), foundations, basements (3 pts)

- A. Slight
- B. Moderate
- C. Severe

Use limitation

37 Septic tank absorption fields (3 pts.)

- A. Slight
- B. Moderate
- C. Severe

Use limitation

38. Farm lagoons and holding basins (3 pts.)

- A. Slight
- B. Moderate
- C. Severe

39. % Slope (3 pts.)

- A. Zero to 2.0
- B. 2.1 to 6.0
- C. 6.1 to 12.0
- D. More than 12.0

40. Surface Soil Texture (1 pt.)

- A. Medium, moderate, coarse
- B. Coarse, fine, very fine

41. Flooding (3 pts.)

- A. None
- B. Any flooding

42. Internal Drainage Class (3 pts.)

- A. Well drained, moderate well drained
- B. Somewhat poorly drained
- C. Poorly drained

43. Permeability Class (2 pts)

- A. Vary rapid to rapid
- B. Moderate
- C. Slow to Very slow

44. Depth to Bedrock (Inches) (3 pts)

- A. More than 60
- B. 40 to 60
- C. Less than 60

45. Underlying Material (Shrink swell) (1pt)

- A. Coarse, mod. coarse, medium texture
- B. Fine texture
- C. Very fine texture

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Bubble in the back side of the sheet for Pit 3 (# 1-45) and Pit 4 (51-95)

Pits 2 & 4 Questions

Part 1: Surface soil

51. Surface Soil: Thickness in inches (2 pts)

- A.
- B. Answers to be determined
- C. by pit and placard
- D. with a 3 inch range.
- E.

52. Surface Soil Color (4 pts)

- A. Dark
- B. Medium
- C. Light

53. Surface: Soil Texture (5 pts)

- A. Coarse
- B. Moderately Coarse
- C. Medium
- D. Fine
- E. Very Fine

54. Surface: Gravel and Rock (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 2: Subsurface Soil

55. Subsurface Soil: Thickness in inches (2 pts)

- A.
- B. Answers to be determined
- C. by pit and placard
- D. with a 3 inch range
- E.

56. Subsurface: Soil Color (4 pts)

- A. Bright
- B. Mottled
- C. Dull

57. Subsurface: Texture (5 pts)

- A. Coarse
- B. Moderately course
- C. Medium
- D. Fine
- E. Very Fine

58. Subsurface: Gravel and Rock (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 3: Underlying Material

59. Parent Material: Thickness in inches (2pts)

- A.
- B. Answers to be determined
- C. by pit and placard
- D. with a 3 inch range
- E.

60. Underlying Material: Texture (5 pts)

- A. Coarse
- B. Moderately course
- C. Medium
- D. Fine
- E. Very Fine

61. Underlying Material: Gravel (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 4: Topography

62. Steepness of slope (3 pts)

- A. Nearly level – 2% or less
- B. Gently sloping - 3 – 6 %
- C. Moderately sloping - 7 – 12 %
- D. Strongly sloping - 13 - 18 %
- E. Steep – Greater than 18 %

63. Landscape position (3 pts)

- A. Upland
- B. Terrace – Foothlope
- C. Bottom land – Flood Plains
- D. Depressional Area – No outlet

Part 5: Land Classification

64. Land Capability Classification (6 pts)

- A. Class I or II
- B. Class III
- C. Class IV
- D. Class V
- E. Class VI, VII, or VIII

Part 6: Interpretation of Soils Features

65. Type of Material that Limits Depth (2 pts)

- A. None- No limiting materials
- B. Bedrock – Soft or hard
- C. Hardpan – Cemented
- D. Very gravelly sand or high water table

66. Parent Material (2 pts)

- A. Bedrock – Soft or hard
- B. Alluvium/ Outwash/ Lacustrine
- C. Till/ Loess/ Aeolian Sand
- D. Organic Materials – Peat or Muck

67. Depth favorable for roots & water (2 pts)

- A. Very deep- 60 inches or more
- B. Deep- 40 – 59 inches
- C. Moderately Deep- 20 – 39 inches
- D. Shallow- less than 20 inches

68. Air and water movement (2 pts)

- A. Very Rapid
- B. Rapid
- C. Moderate
- D. Slow

E. Total Available Water Capacity

Available water in horizon/ inch of soil

69. a. Surface Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

70. b. Subsoil Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

71. c. Underlying material Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

Available Water Capacity per Horizon

72. a. Surface Horizon (1 pt)

- A. 0.0- 2.0
- B. 2.1 – 4.0
- C. 4.1 – 6.0
- D. 6.1 – 8.0
- E. over 8.0

73. b. Subsoil Horizon (1 pt)

- A. 0.0- 2.0
- B. 2.1 – 4.0
- C. 4.1 – 6.0
- D. 6.1 – 8.0
- E. over 8.0

74. c. Underlying material (1 pt)

- A. 0.0- 2.0
- B. 2.1 – 4.0
- C. 4.1 – 6.0
- D. 6.1 – 8.0
- E. over 8.0

**75. 3. Total available water capacity
(5 ft. of soil) (4 pts.)**

- A. Very low – less than 3 inches
- B. Low – 3.1 to 6 inches
- C. Moderate – 6.1 to 9 inches
- D. High – Over 9 inches

76. 4. Internal drainage (4 pts.)

- A. Well drained
- B. Moderately well drained
- C. Somewhat poorly drained
- D. Poorly or very poorly drained

Part 7 – Accelerated erosion

77. Amount of erosion (2 pt.)

- A. No erosion evident (less than 2 inches)
- B. Deposition (2 inches or greater)
- C. Erosion present (2 inches or greater)

78. Kind of erosion (2 pts.)

- A. None
- B. Active gully
- C. Wind erosion
- D. Sheet or rill

Part 8 – Need for erosion control

79. Water erosion (3 pts.)

- A. None to slight
- B. Crop cover, sod cover and conservation tillage
- C. Contour, strip crop and conservation tillage
- D. Grass waterways and gully control
- E. Woodland/perm. pasture, wildlife or recreation

80. Wind erosion (3 pts.)

- A. None to slight
- B. Mulch tillage, cover crop

Part 9

81. Drainage required (5 pts.)

- A. None required
- B. Surface and/or tile

Part 10 – Fertilizer and lime recommendations

82. Nitrogen pounds per acre (2 pts)

- A. Over 161
- B. 121- 160
- C. 81- 120
- D. 41- 80
- E. 0- 20

83. Phosphorous pounds per acre (2 pts.)

- A. Over 81
- B. 61- 80
- C. 41- 60.
- D. 21- 40
- E. 0- 20

84. Potassium pounds per acre (2 pts.)

- A. Over 181
- B. 136- 180
- C. 96- 135
- D. 46- 90
- E. 0- 45

85. Lime tons per acre (2 pts.)

- A. 8.5 or more
- B. 6.5- 8.0
- C. 4.5- 6.0
- D. 2.5- 4.5
- E. 0.0- 2.0

Part 11 – Land Use limitation

86. Dwellings (lawns), foundations, basements

(3 pts)

- A. Slight
- B. Moderate
- C. Severe

Use limitation

87 Septic tank absorption fields (3 pts.)

- A. Slight
- B. Moderate
- C. Severe

Use limitation

88. Farm lagoons and holding basins (3 pts.)

- A. Slight
- B. Moderate
- C. Severe

89. % Slope (3 pts.)

- A. Zero to 2.0
- B. 2.1 to 6.0
- C. 6.1 to 12.0
- D. More than 12.0

90. Surface Soil Texture (1 pt.)

- A. Medium, moderate, coarse
- B. Coarse, fine, very fine

91. Flooding (3 pts.)

- A. None
- B. Any flooding

92. Internal Drainage Class (3 pts.)

- A. Well drained, moderate well drained
- B. Somewhat poorly drained
- C. Poorly drained

93. Permeability Class (2 pts)

- A. Vary rapid to rapid
- B. Moderate
- C. Slow to Very slow

94. Depth to Bedrock (Inches) (3 pts)

- A. More than 60
- B. 40 to 60
- C. Less than 60

95. Underlying Material (Shrink swell) (1pt)

- A. Coarse, mod. coarse, medium texture
- B. Fine texture
- C. Very fine texture