

SPRING
2015

FFA LAND JUDGING PLACARD - MINNESOTA

Pit Number 1 Blue Card
Lime Area 1 Flooding NONE
pH 7.0 SMP Buffer Index — Assumed Field Size 100 Acres
P Test 7 lb./acres available phosphorus
Subsoil Phosphorus Level LOW
K Test 70 lb./acres exchangeable potassium
Subsoil Potassium Level LOW Manure Applied NONE Tons/Acre
Corn Yield Goal N/A bu./acres
Crop to be planted WHEAT
Past Crop CORN
Original Surface Soil Depth 16 inches
Slope Length 100 feet
Depth to permanent water table >60"
LAST HORIZON CONTAINES TO 60"

PIT #1

SPRING 2015 - KEY

Minnesota FFA Soils Scorecard

Name _____

School _____

Number _____

5/13

Part 1: Surface Soil -

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2																	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Dark
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Light

C. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2																	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Bright
	<input type="checkbox"/>	Mottled
	<input type="checkbox"/>	Dull

C. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2																	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

Part 3 Parent Material - Continued

B. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

C. Gravel

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope

3	<input checked="" type="checkbox"/>	Nearly level - 2% or less
	<input type="checkbox"/>	Gently sloping - 3 - 6 %
	<input type="checkbox"/>	Moderately sloping - 7-12%
	<input type="checkbox"/>	Strongly sloping - 13 to 18 %
	<input type="checkbox"/>	Steep - Greater than 18 %

B. Topography

3	<input checked="" type="checkbox"/>	Upland
	<input type="checkbox"/>	Terrace - Footslope
	<input type="checkbox"/>	Bottomland - Flood Plains
	<input type="checkbox"/>	Depressional Area - No Outlet

Part 5 - Land Capability Classification

6	<input checked="" type="checkbox"/>	Class I	Land suitable for for Cultivated Crops	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"/>	Class II		
	<input type="checkbox"/>	Class III		
	<input type="checkbox"/>	Class IV		
	<input type="checkbox"/>	Class V	Land suitable for Permanent Vegetation	
	<input type="checkbox"/>	Class VI		
	<input type="checkbox"/>	Class VII		
	<input type="checkbox"/>	Class VIII		

Part 6 Interpretation of Soil Features

A. Type of Material that Limits Depth

2	<input checked="" type="checkbox"/>	None- No limiting materials
	<input type="checkbox"/>	Bedrock - Soft or hard
	<input type="checkbox"/>	Harpan - Cemented
	<input type="checkbox"/>	Very gravelly sand or high water table

B. Parent Material

2	<input checked="" type="checkbox"/>	Bedrock - Soft or hard
	<input checked="" type="checkbox"/>	Alluvium/Outwash/Lacustrine
	<input type="checkbox"/>	Till/Loess/Aeolian Sand
	<input type="checkbox"/>	Organic materials - Peat or muck

Both

C. Depth Favorable

2	<input checked="" type="checkbox"/>	Very Deep - 60 inches or more
	<input type="checkbox"/>	Deep - 40 through 59 inches
	<input type="checkbox"/>	Moderately Deep - 20 through 39 inches
	<input type="checkbox"/>	Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2	<input checked="" type="checkbox"/>	Very Rapid
	<input type="checkbox"/>	Rapid
	<input type="checkbox"/>	Moderate
	<input type="checkbox"/>	Slow

E Total Available Water capacity

1. Available water in horizon per inch of soil

1	<input type="checkbox"/> 0.05	a. Surface Horizon	Calculation Area $16 \times .2 = 3.2$ $13 \times .15 = 1.95$ $0 \times .05 = 0$
	<input type="checkbox"/> 0.15		
	<input checked="" type="checkbox"/> 0.20		
1	<input type="checkbox"/> 0.05	b. Subsoil	
	<input type="checkbox"/> 0.15		
	<input checked="" type="checkbox"/> 0.20		
1	<input type="checkbox"/> 0.05	c. Underlying Material	
	<input type="checkbox"/> 0.15		
	<input checked="" type="checkbox"/> 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	8.1-9.0

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	8.1-9.0

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	8.1-9.0

3. Total available water capacity in five feet of soil

4 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

4 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	80	Nitrogen pounds per acre
2	50	Phosphorous pounds per acre
2	95	Potassium pounds per acre
2	0	Lime tons per acres

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

	Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)
9	Dwellings (lawns), foundations, basements	<input checked="" type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input checked="" type="checkbox"/> coarse, mod.coarse, medium
		<input type="checkbox"/> 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
		<input type="checkbox"/> 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	<input checked="" type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input checked="" type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60	
		<input type="checkbox"/> Moderate	<input type="checkbox"/> 6.1 to 12.0				<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		<input type="checkbox"/> 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	<input type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60	
		<input type="checkbox"/> Moderate	<input type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		<input checked="" type="checkbox"/> Severe	<input type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input checked="" type="checkbox"/> Rapid to very rapid	<input type="checkbox"/> less than 40	

SPRING

2015

FFA LAND JUDGING PLACARD - MINNESOTA

Pit Number 2 LIGHT YELLOW CARD

Lime Area 1 Flooding NONE

pH 6.2 SMP Buffer Index - Assumed Field Size 200 Acres

P Test 22 lb./acres available phosphorus

Subsoil Phosphorus Level LOW

K Test 113 lb./acres exchangeable potassium

Subsoil Potassium Level LOW Manure Applied NONE Tons/Acre

Corn Yield Goal N/A bu./acres

Crop to be planted Managed Wood lot

Past Crop Managed Wood lot

Original Surface Soil Depth 9 inches

Slope Length 70 feet

Depth to permanent water table >60 inches

Last horizon continues to 60"

8/24/2012

PIT #2

SPRING
2015
- KEY

Minnesota FFA Soils Scorecard

Name _____

School _____

Number _____

5/13

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Air and Water Movement (Subsoil Permeability)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="4" style="width:30px; text-align:center; vertical-align:middle;">2</td> <td style="width:15px;">Very Rapid</td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>Rapid</td> <td></td> </tr> <tr> <td>Moderate</td> <td></td> </tr> <tr> <td>Slow</td> <td></td> </tr> </table>	5	Coarse		Moderately Coarse		Medium		Fine		Very Fine		2	None to Few		Gravelly		Very Gravelly		Extremely Gravelly		3	Nearly level - 2% or less		Gently sloping - 3 - 6 %		Moderately sloping - 7-12%		Strongly sloping - 13 to 18 %		Steep - Greater than 18 %		3	Upland		Terrace - Footslope		Bottomland - Flood Plains		Depressional Area - No Outlet		6	Class I	Land suitable for for Cultivated Crops	Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.	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E Total Available Water capacity

1. Available water in horizon per inch of soil

1	0.05	a. Surface Horizon	Calculation Area $8 \times .05 = .4$
	0.15		
	0.20		
1	0.05	b. Subsoil	$16 \times .05 = .8$
	0.15		
	0.20		
1	0.05	c. Underlying Material	$36 \times .05 = 1.8$
	0.15		
	0.20		

3.0

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	B.▷
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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	B.▷
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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	B.▷
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3. Total available water capacity in five feet of soil

4 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

4 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	30	Nitrogen pounds per acre
2	30	Phosphorous pounds per acre
2	80	Potassium pounds per acre
2	0	Lime tons per acres

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

	Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)
9	Dwellings (lawns), foundations, basements	<input checked="" type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input checked="" type="checkbox"/> coarse, mod.coarse, medium
		<input type="checkbox"/> 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
		<input type="checkbox"/> 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	<input checked="" type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input checked="" type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60	
		<input type="checkbox"/> Moderate	<input type="checkbox"/> 6.1 to 12.0				<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		<input type="checkbox"/> 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	<input type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60	
		<input type="checkbox"/> Moderate	<input type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		<input checked="" type="checkbox"/> Severe	<input type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input checked="" type="checkbox"/> Rapid to very rapid	<input type="checkbox"/> less than 40	

SPRING
2015

FFA LAND JUDGING PLACARD - MINNESOTA

Pit Number 3 GRAY CARD

Lime Area 1 Flooding NONE

pH 5.9 SMP Buffer Index 6.7 Assumed Field Size 160 Acres

P Test 18 lb./acres available phosphorus

Subsoil Phosphorus Level Medium

K Test 59 lb./acres exchangeable potassium

Subsoil Potassium Level Medium Manure Applied NONE Tons/Acre

Corn Yield Goal 205 bu./acres

Crop to be planted CORN

Past Crop SOY BEANS

Original Surface Soil Depth 15 inches

Slope Length 50 feet

Depth to permanent water table >60"

LAST HORIZON CONTINUES
to 60"

SPRING 2015

KEY

3

Minnesota FFA Soils Scorecard

Name _____

School _____

Number _____

5/13

Part 1: Surface Soil -

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2																	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Dark
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Light

C. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2																	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Bright
	<input type="checkbox"/>	Mottled
	<input type="checkbox"/>	Dull

C. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2																	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

Part 3 Parent Material - Continued

B. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

C. Gravel

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope

3	<input checked="" type="checkbox"/>	Nearly level - 2% or less
	<input type="checkbox"/>	Gently sloping - 3 - 6 %
	<input type="checkbox"/>	Moderately sloping - 7-12%
	<input type="checkbox"/>	Strongly sloping - 13 to 18 %
	<input type="checkbox"/>	Steep - Greater than 18 %

B. Topography

3	<input checked="" type="checkbox"/>	Upland
	<input type="checkbox"/>	Terrace - Foothlope
	<input type="checkbox"/>	Bottomland - Flood Plains
	<input type="checkbox"/>	Depressional Area - No Outlet

Part 5 - Land Capability Classification

6	<input checked="" type="checkbox"/>	Class I	Land suitable for for Cultivated Crops	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"/>	Class II		
	<input type="checkbox"/>	Class III		
	<input type="checkbox"/>	Class IV		
	<input type="checkbox"/>	Class V	Land suitable for Permanent Vegetation	
	<input type="checkbox"/>	Class VI		
	<input type="checkbox"/>	Class VII		
	<input type="checkbox"/>	Class VIII		

Part 6 Interpretation of Soil Features

A. Type of Material that Limits Depth

2	<input checked="" type="checkbox"/>	None- No limiting materials
	<input type="checkbox"/>	Bedrock - Soft or hard
	<input type="checkbox"/>	Harpan - Cemented
	<input type="checkbox"/>	Very gravelly sand or high water table

B. Parent Material

2	<input checked="" type="checkbox"/>	Bedrock - Soft or hard
	<input checked="" type="checkbox"/>	Alluvium/Outwash/Lacustrine
	<input checked="" type="checkbox"/>	Till/Loess/Aeolian Sand
	<input type="checkbox"/>	Organic materials - Peat or muck

Both

C. Depth Favorable

2	<input checked="" type="checkbox"/>	Very Deep - 60 inches or more
	<input type="checkbox"/>	Deep - 40 through 59 inches
	<input type="checkbox"/>	Moderately Deep - 20 through 39 inches
	<input type="checkbox"/>	Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2	<input checked="" type="checkbox"/>	Very Rapid
	<input type="checkbox"/>	Rapid
	<input type="checkbox"/>	Moderate
	<input type="checkbox"/>	Slow

E Total Available Water capacity

1. Available water in horizon per inch of soil

1	<input type="checkbox"/> 0.05	a. Surface Horizon	Calculation Area $.2 \times 15'' = 3.0''$
	<input checked="" type="checkbox"/> 0.15		
	<input type="checkbox"/> 0.20		
1	<input type="checkbox"/> 0.05	b. Subsoil	$.2 \times 15'' = 3.0''$
	<input checked="" type="checkbox"/> 0.15		
	<input type="checkbox"/> 0.20		
1	<input type="checkbox"/> 0.05	c. Underlying Material	$.05 \times 30'' = 1.5''$
	<input checked="" type="checkbox"/> 0.15		
	<input type="checkbox"/> 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->
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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

4 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

4 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

2 160 Nitrogen pounds per acre
 2 60 Phosphorous pounds per acre
 2 110 Potassium pounds per acre
 2 3.5 Lime tons per acres

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

Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)
9 Dwellings (lawns), foundations, basements	<input checked="" type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input checked="" type="checkbox"/> coarse, mod.coarse, medium
	<input type="checkbox"/> 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
	<input type="checkbox"/> 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	<input type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60	
	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 6.1 to 12.0				<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
	<input type="checkbox"/> 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	<input type="checkbox"/> Slight	<input type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60	
	<input checked="" type="checkbox"/> Moderate	<input checked="" type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
	<input type="checkbox"/> 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	

SPRING 2015

FFA LAND JUDGING PLACARD - MINNESOTA

Pit Number 4 PURPLE CARD
Lime Area 1 Flooding NONE
pH 5.2 SMP Buffer Index 6.1 Assumed Field Size 30 Acres
P Test 30 lb./acres available phosphorus
Subsoil Phosphorus Level Low
K Test 150 lb./acres exchangeable potassium
Subsoil Potassium Level Medium Manure Applied NONE Tons/Acre
Corn Yield Goal N/A bu./acres
Crop to be planted SOYBEANS
Past Crop CORN
Original Surface Soil Depth 15 inches
Slope Length 100 feet
Depth to permanent water table >60"

LAST horizon CONTINUES to 60"

SPRING 20

- KEY

Pit #11

Minnesota FFA Soils Scorecard

Name

School

Number

5/13

Part 1: Surface Soil -

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Dark
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Light

C. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Bright
	<input type="checkbox"/>	Mottled
	<input type="checkbox"/>	Dull

C. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

Part 3 Parent Material - Continued

B. Texture

5	<input checked="" type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

C. Gravel

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope

3	<input checked="" type="checkbox"/>	Nearly level - 2% or less
	<input type="checkbox"/>	Gently sloping - 3 - 6 %
	<input type="checkbox"/>	Moderately sloping - 7-12%
	<input type="checkbox"/>	Strongly sloping - 13 to 18 %
	<input type="checkbox"/>	Steep - Greater than 18 %

B. Topography

3	<input checked="" type="checkbox"/>	Upland
	<input type="checkbox"/>	Terrace - Foothlope
	<input type="checkbox"/>	Bottomland - Flood Plains
	<input type="checkbox"/>	Depressional Area - No Outlet

Part 5 - Land Capability Classification

6	<input checked="" type="checkbox"/>	Class I	Land suitable for for Cultivated Crops
	<input type="checkbox"/>	Class II	
	<input type="checkbox"/>	Class III	
	<input type="checkbox"/>	Class IV	Land suitable for Permanent Vegetation
	<input type="checkbox"/>	Class V	
	<input type="checkbox"/>	Class VI	
	<input type="checkbox"/>	Class VII	
	<input type="checkbox"/>	Class VIII	

Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.

Part 6 Interpretation of Soil Features

A. Type of Material that Limits Depth

2	<input checked="" type="checkbox"/>	None - No limiting materials
	<input type="checkbox"/>	Bedrock - Soft or hard
	<input type="checkbox"/>	Harpan - Cemented
	<input type="checkbox"/>	Very gravelly sand or high water table

B. Parent Material

2	<input checked="" type="checkbox"/>	Bedrock - Soft or hard
	<input type="checkbox"/>	Alluvium/Outwash/Lacustrine
	<input type="checkbox"/>	Till/Loess/Aeolian Sand
	<input type="checkbox"/>	Organic materials - Peat or muck

C. Depth Favorable

2	<input checked="" type="checkbox"/>	Very Deep - 60 inches or more
	<input type="checkbox"/>	Deep - 40 through 59 inches
	<input type="checkbox"/>	Moderately Deep - 20 through 39 inches
	<input type="checkbox"/>	Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2	<input checked="" type="checkbox"/>	Very Rapid
	<input type="checkbox"/>	Rapid
	<input type="checkbox"/>	Moderate
	<input type="checkbox"/>	Slow

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

1	<input checked="" type="checkbox"/> 0.05 <input type="checkbox"/> 0.15 <input type="checkbox"/> 0.20	a. Surface Horizon
1	<input type="checkbox"/> 0.05 <input checked="" type="checkbox"/> 0.15 <input type="checkbox"/> 0.20	b. Subsoil
1	<input type="checkbox"/> 0.05 <input type="checkbox"/> 0.15 <input checked="" type="checkbox"/> 0.20	c. Underlying Material

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

Calculation Area
 $.15 \times 14'' = 2.1''$
 $.2 \times 16'' = 3.2''$
 $.2 \times 30'' = 6.0''$

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	0	Nitrogen pounds per acre
2	0	Phosphorous pounds per acre
2	60	Potassium pounds per acre
2	6.5	Lime tons per acres

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

Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)
9 Dwellings (lawns), foundations, basements	<input checked="" type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input checked="" type="checkbox"/> coarse, mod.coarse, medium
	<input type="checkbox"/> 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
	<input type="checkbox"/> 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	<input type="checkbox"/> Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60	
	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 6.1 to 12.0				<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
	<input type="checkbox"/> 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	<input type="checkbox"/> Slight	<input type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60	
	<input checked="" type="checkbox"/> Moderate	<input checked="" type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
	<input type="checkbox"/> 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	