SPRING 2017

FFA LAND JUDGING PLACARD – MINNESOTA

Pit Number (1) BLUE CARD

Lime Area 2 Flooding NONE

pH 7.0 SMP Buffer Index — Assumed Field Size 240 Acres

P Test 37 lb./acres available phosphorus

Subsoil Phosphorus Level HIGH

K Test 280 lb./acres exchangeable potassium

Subsoil Potassium Level MEDIUM Manure Applied — Tons/Acre

Corn Yield Goal 220 bu./acres

Crop to be planted CORN

Past Crop SOYBEANS

Original Surface Soil Depth 18 inches

Slope Length 60 feet

Depth to permanent water table >60"

LAST HORIZON CONTINUES TO 60"

SPRING 2017 - KEY

Minnesota FFA Soils Scorecard

Name _____ School _____ Number 1 5/12

Part 1: Surface Soil -

A. Thickness in Inches

2 — 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
- [X] Dark
- [ ] Medium
- [ ] Light

C. Texture

5
- [ ] Coarse
- [ ] Moderately Coarse
- [X] Medium — silt loam
- [ ] Fine
- [ ] Very Fine

D. Gravel and Rock

2
- [X] None to Few
- [ ] Gravelly
- [ ] Very Gravelly
- [ ] Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches

2 — 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
- [ ] Bright
- [X] Mottled
- [ ] Dull

C. Texture

5
- [ ] Coarse
- [ ] Moderately Coarse
- [ ] Medium
- [X] Fine — silty clay loam
- [ ] Very Fine

D. Gravel and Rock

2
- [X] None to Few
- [ ] Gravelly
- [ ] Very Gravelly
- [ ] Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches

2 — 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
- [ ] Coarse
- [ ] Moderately Coarse
- [ ] Medium
- [X] Fine — silty clay loam
- [ ] Very Fine

C. Gravel

2
- [X] None to Few
- [ ] Gravelly
- [ ] Very Gravelly
- [ ] Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope

3
- [X] Nearly level - 2% or less
- [ ] Gently sloping - 3 - 6 %
- [ ] Moderatley sloping - 7-12%
- [ ] Strongly sloping - 13 to 18 %
- [ ] Steep - Greater than 18 %

B. Topography

3
- [ ] Upland
- [ ] Terrace - Footslope
- [ ] Bottomland - Flood Plains
- [X] Depressional Area - No Outlet

Part 5 - Land Capability Classification

6
- [ ] Class I
- [X] Class ~~III~~ II — Land suitable for for Cultivated Crops
- [ ] Class III
- [ ] Class IV
- [ ] Class V
- [ ] Class VI — Land suitable for Permanent Vegetation
- [ ] Class VII
- [ ] 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
- [X] None- No limiting materials
- [ ] Bedrock - Soft or hard
- [ ] Harpan - Cemented
- [ ] Very gravelly sand or high water table

B. Parent Material

2
- [ ] Bedrock - Soft or hard
- [ ] Alluvium/Outwash/Lacustrine
- [X] Till/Loess/Aeolian Sand
- [ ] Organic materials - Peat or muck

C. Depth Favorable

2
- [X] Very Deep - 60 inches or more
- [ ] Deep - 40 through 59 inches
- [ ] Moderately Deep - 20 through 39 inches
- [ ] Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2
- [ ] Very Rapid
- [ ] Rapid
- [X] Moderate
- [ ] Slow

E. Total Available Water capacity

1. Available water in horizon per inch of soil

1	0.05 / 0.15 / [X] 0.20	a. Surface Horizon	Calculation Area: 22 x .2 = 4.4
1	0.05 / 0.15 / [X] 0.20	b. Subsoil	10 x .2 = 2.0
1	0.05 / 0.15 / [X] 0.20	C. Underlying Material	28 x .2 = 5.6
			12.0

2. Available Water Capacity per Horizon

a. Surface Horizon

	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>
1					[X]				

b. Subsoil

	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>
1		[X]							

c. Underlying Material

	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>
1						[X]			

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
- [X] High - over 9.0 inches

4. Internal Drainage

4
- [ ] Well Drained
- [ ] Moderately well drained
- [X] Somewhat poorly drained
- [ ] Poorly or very poorly drained

Part 7 Accelerated Erosion

A. Amount of Erosion

2
- [ ] No erosion evident (less than 2 inches)
- [X] Deposition (2 inches or greater)
- [ ] Erosion present (2 inches or greater)

B. Kind of Erosion

2
- [ ] None
- [ ] Active gully
- [ ] Wind erosion
- [X] Sheet or rill

Part 8 - Need for Erosion Control

A. Water Erosion

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

B. Wind Erosion

3
- [X] None to slight
- [ ] Mulch tillage, cover crop

Part 9 Drainage Required

5
- [ ] None required
- [X] Surface and/or tile

Part 10 - Fertilizer and Lime Recommendations

2	160	Nitrogen pounds per acre
2	30	Phosphorous pounds per acre
2	0	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	[ ] Slight	[X] 0 to 6.0	[X] medium, moderate, coarse	[X] None	[ ] well drained, mod. well drained		[X] more than 60	[X] coarse, mod.coarse, medium
		[ ] Moderate	[ ] 6.1 to 12.0	[ ] coarse, fine, very fine				[ ] 40 to 60	[ ] fine texture
		[X] Severe	[ ] More than 12.0		[ ] Any flooding	[X] somewhat poorly to poorly drained		[ ] less than 40	[ ] very fine texture
8	Septic tank absorption fields	[ ] Slight	[X] 0 to 6.0		[X] None	[ ] well to mod well drained	[ ] very rapid to rapid	[X] more than 60	
		[ ] Moderate	[ ] 6.1 to 12.0				[X] Moderate	[ ] 40 to 60	
		[X] Severe	[ ] More than 12.0		[ ] Any flooding	[X] somewhat poorly to poorly drained	[ ] slow to very slow	[ ] less than 40	
8	Farm lagoons and holding basins	[ ] Slight	[X] 0 - 2.0		[X] None	[ ] well to mod well drained	[ ] Slow	[X] more than 60	
		[X] Moderate	[ ] 2.1 - 6.0			[X] somewhat poorly drained	[X] Moderate	[ ] 40 to 60	
		[ ] Severe	[ ] More than 6.0		[ ] Any Flooding	[ ] poorly drained	[ ] Rapid to very rapid	[ ] less than 40	

SPRING 2017

FFA LAND JUDGING PLACARD – MINNESOTA

Pit Number (2) TAN CARD

Lime Area 1 Flooding NONE

pH 6.5 SMP Buffer Index — Assumed Field Size 150 Acres

P Test 11 lb./acres available phosphorus

Subsoil Phosphorus Level LOW

K Test 40 lb./acres exchangeable potassium

Subsoil Potassium Level LOW Manure Applied NONE Tons/Acre

Corn Yield Goal 190 bu./acres

Crop to be planted CORN

Past Crop CORN

Original Surface Soil Depth 18 inches

Slope Length 75 feet

Depth to permanent water table > 60"

SPRING 2017 - KEY

Minnesota FFA Soils Scorecard

(2)

Name _____ School _____ Number _____ 5/12

Part 1: Surface Soil -

A. Thickness in Inches

2 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 [X]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 — [X] Dark; [ ] Medium; [ ] Light

C. Texture

5 — [ ] Coarse; [ ] Moderately Coarse; [X] Medium; [ ] Fine; [ ] Very Fine — loam

D. Gravel and Rock

2 — [X] None to Few; [ ] Gravelly; [ ] Very Gravelly; [ ] Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches

2 — 1 2 3 4 5 6 7 8 9 10 11 [X]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 — [X] Bright; [ ] Mottled; [ ] Dull

C. Texture

5 — [ ] Coarse; [X] Moderately Coarse; [ ] Medium; [ ] Fine; [ ] Very Fine — (fine) Sandy loam

D. Gravel and Rock

2 — [X] None to Few; [ ] Gravelly; [ ] Very Gravelly; [ ] Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches

2 — 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 [X]30 31 32 33 34 35 36>

Allow 1 inch either way on thickness

Part 3 Parent Material - Continued

B. Texture

5 — [X] Coarse — (medium) Sand; [ ] Moderately Coarse; [ ] Medium; [ ] Fine; [ ] Very Fine

C. Gravel

2 — [ ] None to Few; [ ] Gravelly; [X] Very Gravelly — 40-45% rock; [ ] Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope

3 — [ ] Nearly level - 2% or less; [X] Gently sloping - 3 - 6 %; [ ] Moderatley sloping - 7-12%; [ ] Strongly sloping - 13 to 18 %; [ ] Steep - Greater than 18 %

B. Topography

3 — [X] Upland; [ ] Terrace - Footslope; [ ] Bottomland - Flood Plains; [ ] Depressional Area - No Outlet

Part 5 - Land Capability Classification

6 — [ ] Class I; [X] Class II; [ ] Class III; [ ] Class IV — Land suitable for for Cultivated Crops; [ ] Class V; [ ] Class VI; [ ] Class VII; [ ] Class VIII — Land suitable for Permanent Vegetation

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 — [ ] None- No limiting materials; [ ] Bedrock - Soft or hard; [ ] Harpan - Cemented; [X] Very gravelly sand or high water table

B. Parent Material

2 — [ ] Bedrock - Soft or hard; [X] Alluvium/Outwash/Lacustrine; [X] Till/Loess/Aeolian Sand (over) Both; [ ] Organic materials - Peat or muck

C. Depth Favorable

2 — [ ] Very Deep - 60 inches or more; [ ] Deep - 40 through 59 inches; [X] Moderately Deep - 20 through 39 inches; [ ] Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2 — [ ] Very Rapid; [X] Rapid; [ ] Moderate; [ ] Slow

E. Total Available Water capacity

1. Available water in horizon per inch of soil

1	0.05 / 0.15 / X 0.20	a. Surface Horizon	Calculation Area: 18 x .2 = 3.6
1	X 0.05 / 0.15 / 0.20	b. Subsoil	12 x .15 = 1.8
1	X 0.05 / 0.15 / 0.20	C. Underlying Material	0 x .05 = 0 / 5.4

2. Available Water Capacity per Horizon

a. Surface Horizon

	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>
1									

b. Subsoil

	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>
1									

c. Underlying Material

	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>
1									

3. Total available water capacity in five feet of soil

4
- [ ] Very low - Less than 3 inches
- [X] Low - 3.1 to 6.0 inches
- [ ] Moderate - 6.1 to 9.0 inches
- [ ] High - over 9.0 inches

4. Internal Drainage

4
- [X] Well Drained
- [ ] Moderately well drained
- [ ] Somewhat poorly drained
- [ ] Poorly or very poorly drained

Part 7 Accelerated Erosion

A. Amount of Erosion

2
- [X] No erosion evident (less than 2 inches)
- [ ] Deposition (2 inches or greater)
- [ ] Erosion present (2 inches or greater)

B. Kind of Erosion

2
- [X] None
- [ ] Active gully
- [ ] Wind erosion
- [ ] [redacted] — None

Part 8 - Need for Erosion Control

A. Water Erosion

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

B. Wind Erosion

3
- [X] None to slight
- [ ] Mulch tillage, cover crop

Part 9 Drainage Required

5
- [X] None required
- [ ] Surface and/or tile

Part 10 - Fertilizer and Lime Recommendations

2	170	Nitrogen pounds per acre
2	80	Phosphorous pounds per acre
2	140	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	X Slight	X 0 to 6.0	X medium, moderate, coarse	X None	X well drained, mod. well drained		X more than 60	X coarse, mod.coarse, medium
		Moderate	6.1 to 12.0	coarse, fine, very fine				40 to 60	fine texture
		Severe	More than 12.0		Any flooding	somewhat poorly to poorly drained		less than 40	very fine texture
8	Septic tank absorption fields	X Slight	X 0 to 6.0		X None	X well to mod well drained	X very rapid to rapid	X more than 60	
		Moderate	6.1 to 12.0				Moderate	40 to 60	
		Severe	More than 12.0		Any flooding	somewhat poorly to poorly drained	slow to very slow	less than 40	
8	Farm lagoons and holding basins	Slight	0 - 2.0		X None	X well to mod well drained	Slow	X more than 60	
		Moderate	X 2.1 - 6.0			somewhat poorly drained	Moderate	40 to 60	
		X Severe	More than 6.0		Any Flooding	poorly drained	X Rapid to very rapid	less than 40	

SPRING 2017

FFA LAND JUDGING PLACARD – MINNESOTA

Pit Number 3 GRAY CARD

Lime Area 1 Flooding NONE

pH 5.8 SMP Buffer Index 6.6 Assumed Field Size 30 Acres

P Test 39 lb./acres available phosphorus

Subsoil Phosphorus Level MEDIUM

K Test 200 lb./acres exchangeable potassium

Subsoil Potassium Level LOW Manure Applied 2 Tons/Acre

Corn Yield Goal NONE bu./acres

Crop to be planted SOY BEANS

Past Crop CORN

Original Surface Soil Depth 13 inches

Slope Length 50 feet

Depth to permanent water table >60"

SPRING 2013 - KEY

Minnesota FFA Soils Scorecard

Name _____ School _____ Number 3 5/12

Part 1: Surface Soil -

A. Thickness in Inches — 2

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
- [X] Dark
- [ ] Medium
- [ ] Light

C. Texture — 5
- [ ] Coarse
- [X] Moderately Coarse (fine) Sandy loam
- [ ] Medium
- [ ] Fine
- [ ] Very Fine

D. Gravel and Rock — 2
- [X] None to Few
- [ ] Gravelly
- [ ] Very Gravelly
- [ ] Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches — 2

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
- [X] Bright
- [ ] Mottled
- [ ] Dull

C. Texture — 5
- [ ] Coarse
- [ ] Moderately Coarse
- [ ] Medium
- [X] Fine
- [ ] Very Fine

silty clay loam

D. Gravel and Rock — 2
- [X] None to Few
- [ ] Gravelly
- [ ] Very Gravelly
- [ ] Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches — 2

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
- [ ] Coarse
- [ ] Moderately Coarse
- [X] Medium silt loam
- [ ] Fine
- [ ] Very Fine

C. Gravel — 2
- [X] None to Few
- [ ] Gravelly
- [ ] Very Gravelly
- [ ] Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope — 3
- [ ] Nearly level - 2% or less
- [X] Gently sloping - 3 - 6 %
- [ ] Moderatley sloping - 7-12%
- [ ] Strongly sloping - 13 to 18 %
- [ ] Steep - Greater than 18 %

B. Topography — 3
- [X] Upland
- [ ] Terrace - Footslope
- [ ] Bottomland - Flood Plains
- [ ] Depressional Ares - No Outlet

Part 5 - Land Capability Classification — 6

Land suitable for for Cultivated Crops
- [X] Class I
- [ ] Class II
- [ ] Class III
- [ ] Class IV

Land suitable for Permanent Vegetation
- [ ] Class V
- [ ] Class VI
- [ ] Class VII
- [ ] 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
- [X] None- No limiting materials
- [ ] Bedrock - Soft or hard
- [ ] Harpan - Cemented
- [ ] Very gravelly sand or high water table

B. Parent Material — 2
- [ ] Bedrock - Soft or hard
- [ ] Alluvium/Outwash/Lacustrine
- [X] Till/Loess/Aeolian Sand
- [ ] Organic materials - Peat or muck

C. Depth Favorable — 2
- [X] Very Deep - 60 inches or more
- [ ] Deep - 40 through 59 inches
- [ ] Moderately Deep - 20 through 39 inches
- [ ] Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability) — 2
- [ ] Very Rapid
- [ ] Rapid
- [X] Moderate
- [ ] Slow

E. Total Available Water capacity

1. Available water in horizon per inch of soil

1	X 0.20	a. Surface Horizon	Calculation Area
1	0.20	b. Subsoil	
1	0.20	C. Underlying Material	

10 X .15 = 1.5
24 X .2 = 4.8
26 X .2 = 5.2
11.5

2. Available Water Capacity per Horizon

a. Surface Horizon

	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>
1		X							

b. Subsoil

	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>
1					X				

c. Underlying Material

	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>
1						X			

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
- X High - over 9.0 inches

4. Internal Drainage

4
- X 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)
- X Erosion present (2 inches or greater)

B. Kind of Erosion

2
- None
- Active gully
- Wind erosion
- X Sheet or rill

Part 8 - Need for Erosion Control

A. Water Erosion

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

B. Wind Erosion

3
- X 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	30	Potassium pounds per acre
2	4	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	X Slight	X 0 to 6.0	X medium, moderate, coarse	X None	X well drained, mod. well drained		X more than 60	X coarse, mod.coarse, medium
		Moderate	6.1 to 12.0	coarse, fine, very fine				40 to 60	fine texture
		Severe	More than 12.0		Any flooding	somewhat poorly to poorly drained		less than 40	very fine texture
8	Septic tank absorption fields	Slight	X 0 to 6.0		X None	X well to mod well drained	very rapid to rapid	X more than 60	
		X Moderate	6.1 to 12.0				X Moderate	40 to 60	
		Severe	More than 12.0		Any flooding	somewhat poorly to poorly drained	slow to very slow	less than 40	
8	Farm lagoons and holding basins	Slight	0 - 2.0		X None	X well to mod well drained	Slow	X more than 60	
		X Moderate	X 2.1 - 6.0			somewhat poorly drained	X Moderate	40 to 60	
		Severe	More than 6.0		Any Flooding	poorly drained	Rapid to very rapid	less than 40	

SPRING 2017

FFA LAND JUDGING PLACARD – MINNESOTA

Pit Number 4 PURPLE CARD

Lime Area 1 Flooding NONE

pH 5.0 SMP Buffer Index 6.2 Assumed Field Size _____ Acres

P Test 12 lb./acres available phosphorus

Subsoil Phosphorus Level LOW

K Test 65 lb./acres exchangeable potassium

Subsoil Potassium Level LOW Manure Applied — Tons/Acre

Corn Yield Goal N/A bu./acres

Crop to be planted ALFALFA (ESTABLISHED)

Past Crop CORN (2 YEARS PRIOR)

Original Surface Soil Depth 10 inches

Slope Length 25 feet

Depth to permanent water table >60"

SPRING 2017 - KEY

Minnesota FFA Soils Scorecard

Name _____ School _____ Number 4 5/12

Part 1: Surface Soil -

A. Thickness in Inches

2 — 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 — [ ] Dark [X] Medium [ ] Light

C. Texture — loamy Sand

5 — [X] Coarse [ ] Moderately Coarse [ ] Medium [ ] Fine [ ] Very Fine

D. Gravel and Rock

2 — [X] None to Few [ ] Gravelly [ ] Very Gravelly [ ] Extremely Gravelly

Part 2: Subsurface Soil

A. Thickness in Inches

2 — 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 — [X] Bright [ ] Mottled [ ] Dull

C. Texture — M. Sand

5 — [X] Coarse [ ] Moderately Coarse [ ] Medium [ ] Fine [ ] Very Fine

D. Gravel and Rock

2 — [X] None to Few [ ] Gravelly [ ] Very Gravelly [ ] Extremely Gravelly

Part 3: Subsurface Soil

A. Thickness in Inches

2 — 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 — M. Sand

5 — [X] Coarse [ ] Moderately Coarse [ ] Medium [ ] Fine [ ] Very Fine

C. Gravel

2 — [X] None to Few [ ] Gravelly [ ] Very Gravelly [ ] Extremely Gravelly

Part 4 A Steepness of Slope

A. Steepness of Slope

3 — [X] Nearly level - 2% or less [ ] Gently sloping - 3 - 6 % [ ] Moderatley sloping - 7-12% [ ] Strongly sloping - 13 to 18 % [ ] Steep - Greater than 18 %

B. Topography

3 — [X] Upland [ ] Terrace - Footslope [ ] Bottomland - Flood Plains [ ] Depressional Area - No Outlet

Part 5 - Land Capability Classification

6 — [ ] Class I, [ ] Class II, [ ] Class III, [X] Class IV — Land suitable for for Cultivated Crops; [ ] Class V, [ ] Class VI, [ ] Class VII, [ ] Class VIII — Land suitable for Permanent Vegetation

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 — [X] None- No limiting materials [ ] Bedrock - Soft or hard [ ] Harpan - Cemented [ ] Very gravelly sand or high water table

B. Parent Material

2 — [ ] Bedrock - Soft or hard [X] Alluvium/Outwash/Lacustrine [ ] Till/Loess/Aeolian Sand [ ] Organic materials - Peat or muck

C. Depth Favorable

2 — [X] Very Deep - 60 inches or more [ ] Deep - 40 through 59 inches [ ] Moderately Deep - 20 through 39 inches [ ] Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2 — [X] Very Rapid [ ] Rapid [ ] Moderate [ ] Slow

E. Total Available Water capacity

1. Available water in horizon per inch of soil

1	[X] 0.05 [ ] 0.15 [ ] 0.20	a. Surface Horizon	Calculation Area: 11 x .05 = .55
1	[X] 0.05 [ ] 0.15 [ ] 0.20	b. Subsoil	26 x .05 = 1.3
1	[X] 0.05 [ ] 0.15 [ ] 0.20	C. Underlying Material	23 x .05 = 1.15 = 3.0

2. Available Water Capacity per Horizon

a. Surface Horizon

	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>
1									

b. Subsoil

	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>
1									

c. Underlying Material

	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>
1									

3. Total available water capacity in five feet of soil

4 — [ ] Very low - Less than 3 inches; [X] Low - 3.0 to 6.0 inches; [ ] Moderate - 6.1 to 9.0 inches; [ ] High - over 9.0 inches

4. Internal Drainage

4 — [X] Well Drained; [ ] Moderately well drained; [ ] Somewhat poorly drained; [ ] Poorly or very poorly drained

Part 7 Accelerated Erosion

A. Amount of Erosion

2 — [X] No erosion evident (less than 2 inches); [ ] Deposition (2 inches or greater); [ ] Erosion present (2 inches or greater)

B. Kind of Erosion

2 — [X] None; [ ] Active gully; [ ] Wind erosion; [ ] Sheet or rill

Part 8 - Need for Erosion Control

A. Water Erosion

3 — [X] 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; [X] Mulch tillage, cover crop

Part 9 Drainage Required

5 — [X] None required; [ ] Surface and/or tile

Part 10 - Fertilizer and Lime Recommendations

2	0	Nitrogen pounds per acre
2	80	Phosphorous pounds per acre
2	240	Potassium pounds per acre
2	8.0	Lime tons per acres — Alkali

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	[ ] Slight	[X] 0 to 6.0	[ ] medium, moderate, coarse	[X] None	[X] well drained, mod. well drained		[X] more than 60	[X] coarse, mod.coarse, medium
		[X] Moderate	[ ] 6.1 to 12.0	[X] coarse, fine, very fine				[ ] 40 to 60	[ ] fine texture
		[ ] Severe	[ ] More than 12.0		[ ] Any flooding	[ ] somewhat poorly to poorly drained		[ ] less than 40	[ ] very fine texture
8	Septic tank absorption fields	[X] Slight	[X] 0 to 6.0		[X] None	[X] well to mod well drained	[X] very rapid to rapid	[X] more than 60	
		[ ] Moderate	[ ] 6.1 to 12.0				[ ] Moderate	[ ] 40 to 60	
		[ ] Severe	[ ] More than 12.0		[ ] Any flooding	[ ] somewhat poorly to poorly drained	[ ] slow to very slow	[ ] less than 40	
8	Farm lagoons and holding basins	[ ] Slight	[X] 0 - 2.0		[X] None	[X] well to mod well drained	[ ] Slow	[X] more than 60	
		[ ] Moderate	[ ] 2.1 - 6.0			[ ] somewhat poorly drained	[ ] Moderate	[ ] 40 to 60	
		[X] Severe	[ ] More than 6.0		[ ] Any Flooding	[ ] poorly drained	[X] Rapid to very rapid	[ ] less than 40	