Conservation Plan

Westridge Dairy
2114 Ames Rd.
Red Bud, Il 62278

FSA Farm #3699

Field #14

Conservation Crop Rotation – Corn Silage/ Wheat silage/ Soybeans -- is the planned rotation.
Tillage Practice – In preparation for the corn crop, manure will be applied, then the field will be worked with a field cultivator once. The corn will planted in 30 inch rows, following silage removal the field will be planted to wheat. The surface residue prediction following silage removal is 33%. The wheat will be no-tilled in the silage field in 7 inch rows. The following spring the wheat will be chopped for silage. The surface residue predication following wheatlage removal is 34%. Following silage removal the field will be no-tilled to soybeans. The soybeans will be planted in 15 inch rows using a no-till planter. After the harvest of the soybeans the field will be planted to wheat again. The wheat will be used as a cover crop for the winter between the soybean and corn crop rotation. The field will then lay idle until the next spring. The surface residue prediction following the wheat planting is 73%. In years of no manure application, anhydrous ammonia will be applied.

Manure Applications – will be planned for this field in accordance with the Waste Utilization Plan – applications will occur via slurry box spreader, and then incorporated into soil.
Manure Application Limitations – There is a stream near the field which requires a 200 foot setback in these areas. This field sits within a 10 year flood plain so that livestock waste may not be applied unless the injection or incorporation method of application is used. A waterway is located within this field and should not have manure applied in it. Additionally areas of this field contain slopes of more than 5% which may not have manure applied on them when the ground is snow covered or frozen.

Soil Loss Calculation
Net C Factor RUSLE 2 – 0.12, 0.14
Soil Conditioning Index – 0.1, 0.3
STIR Value – 26.73

Soil Type 515C3 Calculated T Loss – 3.9	Acceptable T Loss – 4.00
Soil Type 517B Calculated T Loss – 2.9	Acceptable T Loss – 3.00
Soil Type 3333A Calculated T Loss – 1.4	Acceptable T Loss – 5.00

Targeted crop nutrient needs will be achieved by means of manure applications in years designated in the Waste Utilization Plan and by means of commercial fertilizer in years of no manure applications. Refer to Nutrient Budget located behind each years Waste Application Tab.

USDA NRCS Natural Resources Conservation Service

RUSLE2 Profile Erosion Calculation Record

Info: Field #14

File: Plan: Profile (Temp. scenario[1]) of Westridge Dairy*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Monroe County
Soil: 515C3 Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded\Bunkum silty clay loam 90%
Slope length (horiz): 100 ft
Avg. slope steepness: 7.0 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Corn, silage	tons	25.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Wheat, winter silage	tons	11.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Soybean, mw 15 - 20 in rows	bu	44.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Wheat, winter cover	pounds	4000.0

Contouring: c. perfect contouring no row grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 4.0 t/ac/yr
Soil loss erod. portion: 3.9 t/ac/yr
Detachment on slope: 3.9 t/ac/yr
Soil loss for cons. plan: 3.9 t/ac/yr
Sediment delivery: 3.9 t/ac/yr
Net C factor: 0.12
Net K factor: 0.36

Crit. slope length: 100 ft
Surf. cover after planting: --

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
4/4/0	Manure spreader, solid and semi-solid		55
4/5/0	Cultivator, field w/ spike points		65
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, silage	67
9/28/0	Harvest, silage		33
10/1/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter silage	34

5/1/1	Harvest, silage		34
5/3/1	Planter, double disk opnr w/fluted coulter, 15 inch row spacing	Soybean, mw 15 - 20 in rows	35
10/1/1	Harvest, killing crop 50pct standing stubble		75
10/2/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter cover	73

Soil conditioning index (SCI): 0.1
STIR value: 26.73
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

The SCI is the Soil Conditioning Index rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The STIR value is the Soil Tillage Intensity Rating. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

USDA NRCS Natural Resources Conservation Service

RUSLE2 Profile Erosion Calculation Record

Info: Field #14

File: Plan: Profile (Temp. scenario[1]) of Westridge Dairy*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Monroe County
Soil: 517B Marine silt loam, 2 to 5 percent slopes\Marine silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Corn, silage	tons	25.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Wheat, winter silage	tons	11.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Soybean, mw 15 - 20 in rows	bu	44.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Wheat, winter cover	pounds	4000.0

Contouring: c. perfect contouring no row grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 3.0 t/ac/yr
Soil loss erod. portion: 2.9 t/ac/yr
Detachment on slope: 2.9 t/ac/yr
Soil loss for cons. plan: 2.9 t/ac/yr
Sediment delivery: 2.9 t/ac/yr
Net C factor: 0.12
Net K factor: 0.42

Crit. slope length: 150 ft
Surf. cover after planting: --

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
4/4/0	Manure spreader, solid and semi-solid		55
4/5/0	Cultivator, field w/ spike points		65
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, silage	67
9/28/0	Harvest, silage		33
10/1/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter silage	34

9/1/1	Harvest, silage		34
4/3/1	Planter, double disk opnr w/fluted coulter, 15 inch row spacing	Soybean, mw 15 - 20 in rows	35
10/1/1	Harvest, killing crop 50pct standing stubble		75
10/2/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter cover	73

Soil conditioning index (SCI): 0.1
STIR value: 26.73
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

The SCI is the Soil Conditioning Index rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The STIR value is the Soil Tillage Intensity Rating. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: Field #14

File: Plan: Profile (Temp. scenario[1]) of Westridge Dairy*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Monroe County
Soil: 3333A Wakeland silt loam, 0 to 2 percent slopes, frequently flooded\Wakeland silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 1.0 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Corn, silage	tons	25.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Wheat, winter silage	tons	11.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Soybean, mw 15 - 20 in rows	bu	44.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb	Wheat, winter cover	pounds	4000.0

Contouring: c. perfect contouring no row grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 1.4 t/ac/yr
Detachment on slope: 1.4 t/ac/yr
Soil loss for cons. plan: 1.4 t/ac/yr
Sediment delivery: 1.4 t/ac/yr
Net C factor: 0.14
Net K factor: 0.42

Crit. slope length: 150 ft
Surf. cover after planting: --

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
4/4/0	Manure spreader, solid and semi-solid		55
4/5/0	Cultivator, field w/ spike points		65
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, silage	67
9/28/0	Harvest, silage		33
10/1/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter silage	34

5/1/1	Harvest, silage		34
i/3/1	Planter, double disk opnr w/fluted coulter, 15 inch row spacing	Soybean, mw 15 - 20 in rows	35
10/1/1	Harvest, killing crop 50pct standing stubble		75
10/2/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter cover	73

Soil conditioning index (SCI): 0.3
STIR value: 26.73
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

The SCI is the Soil Conditioning Index rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The STIR value is the Soil Tillage Intensity Rating. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

Application Field Detail Sheet

Westridge Dairy

Field #	14
Field Name	Ruez Park South 30
Land Owner	Ralph & Janet Henry
FSA Farm #	3699
FSA Tract #	10212
Tillable Acres	28.82
Application Acres	23.38
County	Monroe
Township	Precinct 9
Section	25

Proximity Location

- ☐ Residence
- ☐ Non-Farm Business
- ☐ Common Place of Assembly
- ☑ Streams
- ☐ Wells
- ☐ Lake
- ☐ Ponds
- ☐ Rivers
- ☐ Other Water Sources
- ☑ 10 yr Flood Plain
- ☑ Waterways
- ☐ Drainage Ditches

Provisions

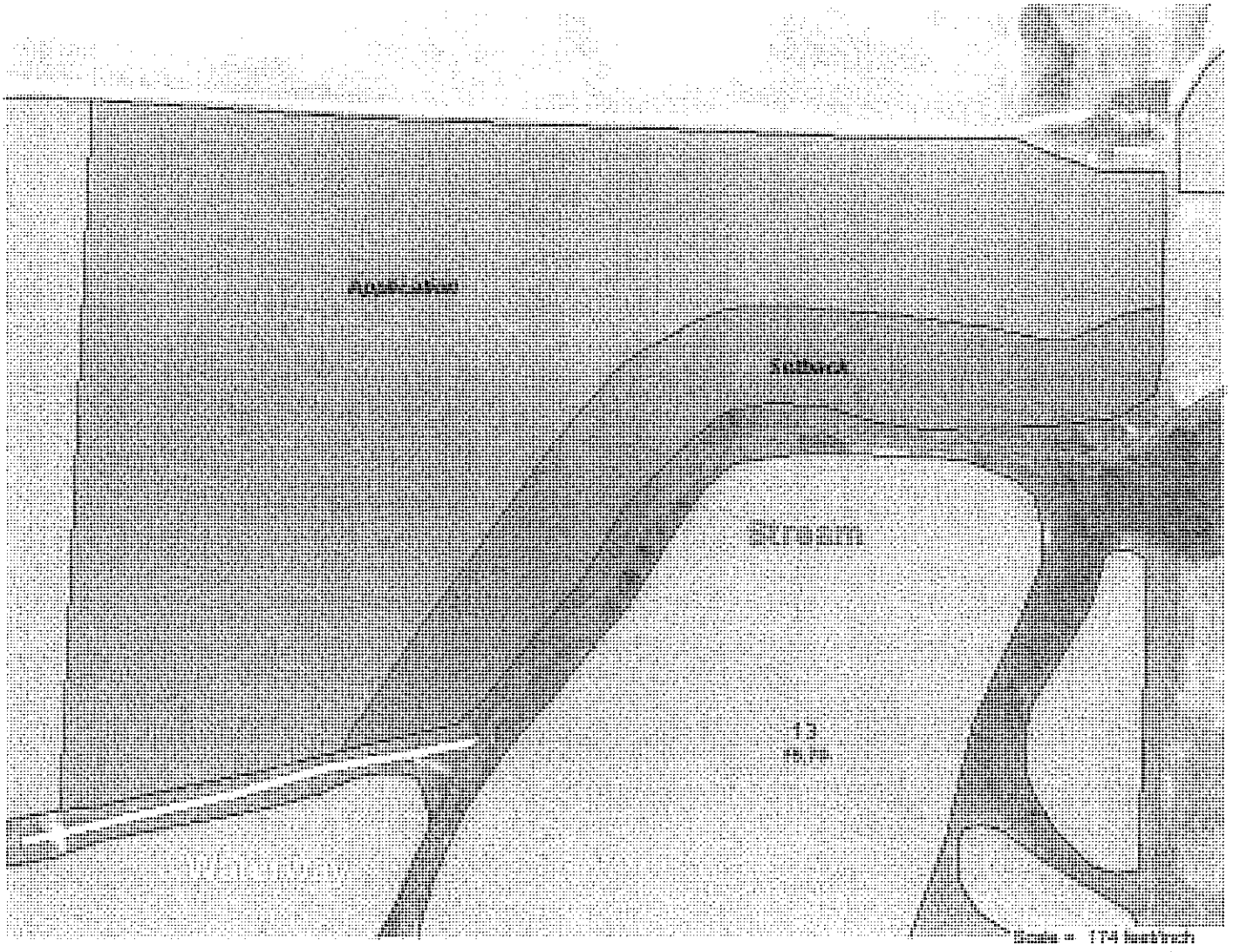
☐ A - Residence within 1/4 mile - incorporation required	*LMFA Section 900.803.o*
☑ B - Application site within 200' of surface water or 150' of a potable well	*LMFA Section 900.803.p*
☑ C - Located in a 10 year Flood Plain	*LMFA Section 900.803.q*
☑ D - Livestock waste may not be applied in waterways or drainage ditches in the field	*LMFA Section 900.803.r*
☑ E - Frozen or snow covered ground may not be applied to with a Slope Over 5%	*LMFA Section 900.803.s*
☑ F - No application during rainfall or to saturated soils	*LMFA Section 900.803.u*

Planting Intentions

Crop Year	Acres	Crop	Crop 2
2008	28.82	Corn Silage	
2009	28.82	Wheatlage	Soybeans
2010	28.82	Corn Grain	
2011	28.82	Wheatlage	Soybeans

Effingham Equity
Application Restrictions

Prepared For: Westridge Dairy	**County:** Monroe, IL
Farm:	**Twp Rng Sec:** Precinct 9 25
Field: 14	**Directions:** Ruez Park South 30
Crop Zone:	
Crop Year:	**Acres:** 28.82



Layer Summary

Layer: Setbacks
Attribute: Application Restrictions

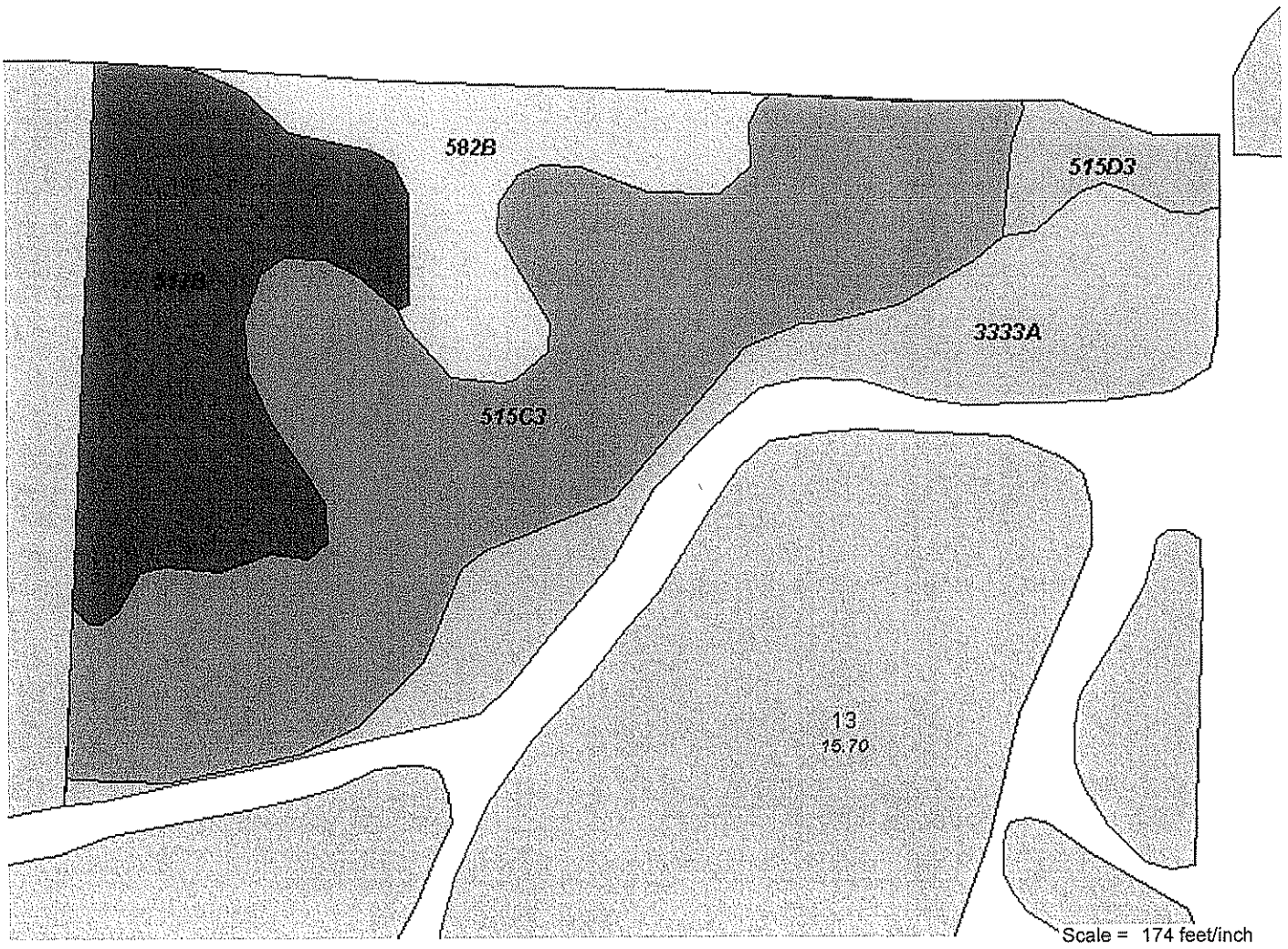
Acres:	28.81
Average:	
Weighted Average:	
Minimum:	
Maximum:	

Application Restrictions	Acres
Setback	5.43
Application	23.38

EFFINGHAM EQUITY AG SERVICES

MUSYM

Prepared For:	Westridge Dairy	**County:**	Monroe, IL
Farm:		**Twp Rng Sec:**	Precinct 9 25
Field:	14	**Directions:**	Ruez Park South 30
Crop Zone:			
Crop Year:		**Acres:** 28.82	



Layer Summary

Layer: Soil Type
Attribute: MUSYM

Acres: 28.81
Average:
Weighted Average:
Minimum:
Maximum:

MUSYM	Acres
582B	3.48
517B	6.17
515D3	.97
515C3	13.00
3333A	5.19

Effingham Equity
Soil Test Results

Prepared For: Westridge Dairy	**County:** Monroe, IL
Farm:	**Twp Rng Sec:**
Field: 14	**Directions:**
Crop Zone:	
Crop Year: **Acres:** 28.82	

Layer Name: 2007 -- Fertility Sites **Date Sampled:** November 19, 2007

SampleID	LabID	pH	P1	K
	none	none	LbsPerAcre	LbsPerAcre
1		7.5	189	491
2		7.5	237	628
3		7.2	232	438
4		7.2	89	523
5		7.4	206	398
6		7.5	158	538
7		7.4	196	517
8		7.5	225	374
9		7.3	222	570
10		7.3	189	511
Average:		7.4	194	499

Field # 14

Solution Runoff Class Matrix

Hydrologic Soil Group			
A	B	C	D
Low	Medium	High	High

P Input Matrix

	Application Rate		
Application Method	**<= UI Recommendations**	**>UI - 150% UI**	**>150% UI**
Incorporation or injection > 3" below surface	Low	Low	Low
Shallowly incorporated surface applications <3 inches	Low	Medium	High
Non-incorporated surface applications	Medium	High	High

The table below identifies specific risk factors that may be present in a given field. No attempt should be made to "average" the factors and assign a composite rating for the field. It is recognized that the risk factors do not act independently to influence phosphorus loss from agricultural fields and P loading into water resources. Simple averaging however, assumes that all risk factors have the same amount of influence. Attempts to objectively weigh some factors more or less than others would be desirable but difficult without supporting data. The phosphorus assessment procedure is not a process based or empirical model. The procedure was developed as a conservation planning tool. The tool is designed to provide guidance to select and plan conservation measures that will lower the potential for phosphorus loss from agricultural fields and P loading into water resources.

Phosphorus Risk Potential	
Risk Factor	**Site Value**
Soil Erosion	<T
Proximity to water	High
Solution Runoff Potential	High
Soil Test Phosphorus	High
Phosphorus Inputs	Low

References:

* Sharpely, A.N., Determining An Environmentally Sound Soil Phosphorus Value Journal of Soil and Water Conservation, 1996.

* Sharpely, A.N., T. Daniel, T. Sims, J. Lemunyon, R. Stevens, And R. Parry, 1999 Agricultural Phosphorus and Eutrophication. U.S. Department of Agriculture, Agricultural Research Service, ARS-149, 42 pp.

Table 1. Nitrogen Risk Assessment

Nitrate loss potentials based on soil texture, timing, and nitrification inhibitors			
Application Timing[1]	**Soil Texture[2]**		
	Coarse	**Medium**	**Fine**
Fall with an inhibitor > 60°F	High	High	High
Fall with an inhibitor < 60°F	High	Medium	Medium
Fall without an inhibitor > 50°F	High	High	High
Fall without an inhibitor < 50°F	High	Medium	Medium
Spring without an inhibitor	Medium	Medium	Medium-Low
Spring with an inhibitor	Medium-Low	Low	Low
Spring split applied or sidedress	Medium-Low	Low	Low

Foot Notes:

1. Temperatures refer to soil temperature measured at a depth of 4 inches. For this assessment, inhibitors refer to nitrification inhibitors.

2. Soil Texture: Coarse - sand, loamy sand, sandy loam
   Medium - silt, silt loam, loam
   Fine - silty clay loam, silty clay, clay, clay loam, sandy clay, loam, sandy clay

When developing recommendations to be included in a nutrient management plan, the planner needs to use the results of the assessment above with knowledge of locally significant transport processes.

For example, in large areas of northern and central Illinois, nitrates are detected in surface water resources at concentrations above 10 parts per million. Soils in much of the region only have a moderate nitrogen loss potential. The presence of extensive tile drainage, however, increases the risk of nitrate transport to surface water resources.

By contrast, in southern Illinois, there are large areas of level, poorly drained soil. The climate is warmer and there is more rainfall than in northern and central Illinois. The conditions favor the formation of nitrate. The loss of nitrate, however, is primary to the atmosphere due to denitrification.