

## Conservation Plan

Westridge Dairy  
2114 Ames Rd.  
Red Bud, IL 62278

|                |
|----------------|
| FSA Farm #3699 |
|----------------|

### Field #4

**Conservation Crop Rotation** – Corn Silage/ Soybeans -- is the planned rotation.

**Tillage Practice** – In preparation for the corn crop, the field will be worked with a field cultivator once. The corn will be planted in 30 inch rows, following silage removal the field will be planted to wheat to provide a cover crop for the winter. 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 field will be planted to soybeans. The soybeans will be planted in 15 inch rows using a no-till drill. After the harvest of the soybeans the field will have manure applied to it using a slurry box spreader. Following manure application wheat 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 soybean harvest 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 residence within ¼ mile of this application field which under LMFA regulations requires soil incorporation within 24 hours of application. A waterway is located within this field and should not have manure applied in it. Also there is a drainage ditch near the field which requires a 150 foot setback in these areas. 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 – 0.098, 0.10  
Soil Conditioning Index – 0.3  
STIR Value – 28.77

Soil Type 515C3 Calculated T Loss – 3.1  
Soil Type 582B Calculated T Loss – 2.2

Acceptable T Loss – 4.00  
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.

## RUSLE2 Profile Erosion Calculation Record

Info: Field #4

**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-sb w-cover | Corn, silage                | tons        | 25.000             |
| CMZ 16\c.Other Local Mgt Records\Westridge cs-sb w-cover | Wheat, winter cover         | pounds      | 4000.0             |
| CMZ 16\c.Other Local Mgt Records\Westridge cs-sb w-cover | Soybean, mw 15 - 20 in rows | bu          | 44.000             |
| CMZ 16\c.Other Local Mgt Records\Westridge cs-sb w-cover | 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: 3.1 t/ac/yr  
 Detachment on slope: 3.1 t/ac/yr  
 Soil loss for cons. plan: 3.1 t/ac/yr  
 Sediment delivery: 3.1 t/ac/yr  
 Net C factor: 0.098  
 Net K factor: 0.36

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

| Date   | Operation   | Vegetation                  | Surf. res. cov. after op, % |
|--------|---|-----------------------------|-----------------------------|
| 4/5/0  | Cultivator, field w/ spike points                   |                             | 63                          |
| 4/6/0  | Planter, double disk opnr w/fluted coulter          | Corn, silage                | 65                          |
| 9/28/0 | Harvest, silage                                     |                             | 33                          |
| 10/2/0 | Drill or airseeder, double disk, w/ fluted coulters | Wheat, winter cover         | 35                          |
| 5/15/1 | Planter, double disk opnr w/fluted coulter          | Soybean, mw 15 - 20 in rows | 59                          |
| 10/1/1 | Harvest, killing crop 50pct standing stubble        |                             | 85                          |

|       |   |                     |    |
|-------|---|---------------------|----|
| 0/2/1 | Manure spreader, solid and semi-solid                   |                     | 89 |
| 0/3/1 | Drill or airseeder, double disk opener, w/ fert openers | Wheat, winter cover | 82 |

Soil conditioning index (SCI): 0.3

STIR value: 28.77

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.

## RUSLE2 Profile Erosion Calculation Record

Info: Field #4

**File:** Plan: Profile (Temp. scenario[1]) of Westridge Dairy\*  
**Access Group:** R2\_NRCS\_Fld\_Office

### Inputs:

Location: Illinois\Monroe County  
 Soil: 582B Homen silt loam, 2 to 5 percent slopes\Homen 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-sb w-cover | Corn, silage                | tons        | 25.000             |
| CMZ 16\c.Other Local Mgt Records\Westridge cs-sb w-cover | Wheat, winter cover         | pounds      | 4000.0             |
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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: 2.2 t/ac/yr  
 Detachment on slope: 2.2 t/ac/yr  
 Soil loss for cons. plan: 2.2 t/ac/yr  
 Sediment delivery: 2.2 t/ac/yr  
 Net C factor: 0.10  
 Net K factor: 0.42

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

| Date   | Operation   | Vegetation                  | Surf. res. cov. after op, % |
|--------|---|-----------------------------|-----------------------------|
| 4/5/0  | Cultivator, field w/ spike points                   |                             | 63                          |
| 4/6/0  | Planter, double disk opnr w/fluted coulter          | Corn, silage                | 65                          |
| 9/28/0 | Harvest, silage                                     |                             | 33                          |
| 10/2/0 | Drill or airseeder, double disk, w/ fluted coulters | Wheat, winter cover         | 35                          |
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Soil conditioning index (SCI): 0.3

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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 # 4  
Field Name Faust Road  
Land Owner Ralph & Janet Henry  
FSA Farm # 3699  
FSA Tract # 10218  
Tillable Acres 74.84  
Application Acres 74.84  
County Monroe  
Township Precinct 9  
Section 26

### Proximity Location

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Residence     | <input type="checkbox"/> Ponds                       |
| <input type="checkbox"/> Non-Farm Business        | <input type="checkbox"/> Rivers                      |
| <input type="checkbox"/> Common Place of Assembly | <input type="checkbox"/> Other Water Sources         |
| <input type="checkbox"/> Streams                  | <input type="checkbox"/> 10 yr Flood Plain           |
| <input type="checkbox"/> Wells                    | <input checked="" type="checkbox"/> Waterways        |
| <input type="checkbox"/> Lake                     | <input checked="" type="checkbox"/> Drainage Ditches |

### Provisions

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

### Planting Intentions

| Crop Year | Acres | Crop        | Crop 2 |
|-----------|-------|-------------|--------|
| 2008      | 74.84 | Soybeans    |        |
| 2009      | 74.84 | Corn Silage |        |
| 2010      | 74.84 | Soybeans    |        |
| 2011      | 74.84 | Corn Silage |        |

# EFFINGHAM EQUITY



## Field Map

Prepared For: Westridge Dairy

Farm:

Field: 04

Crop Zone:

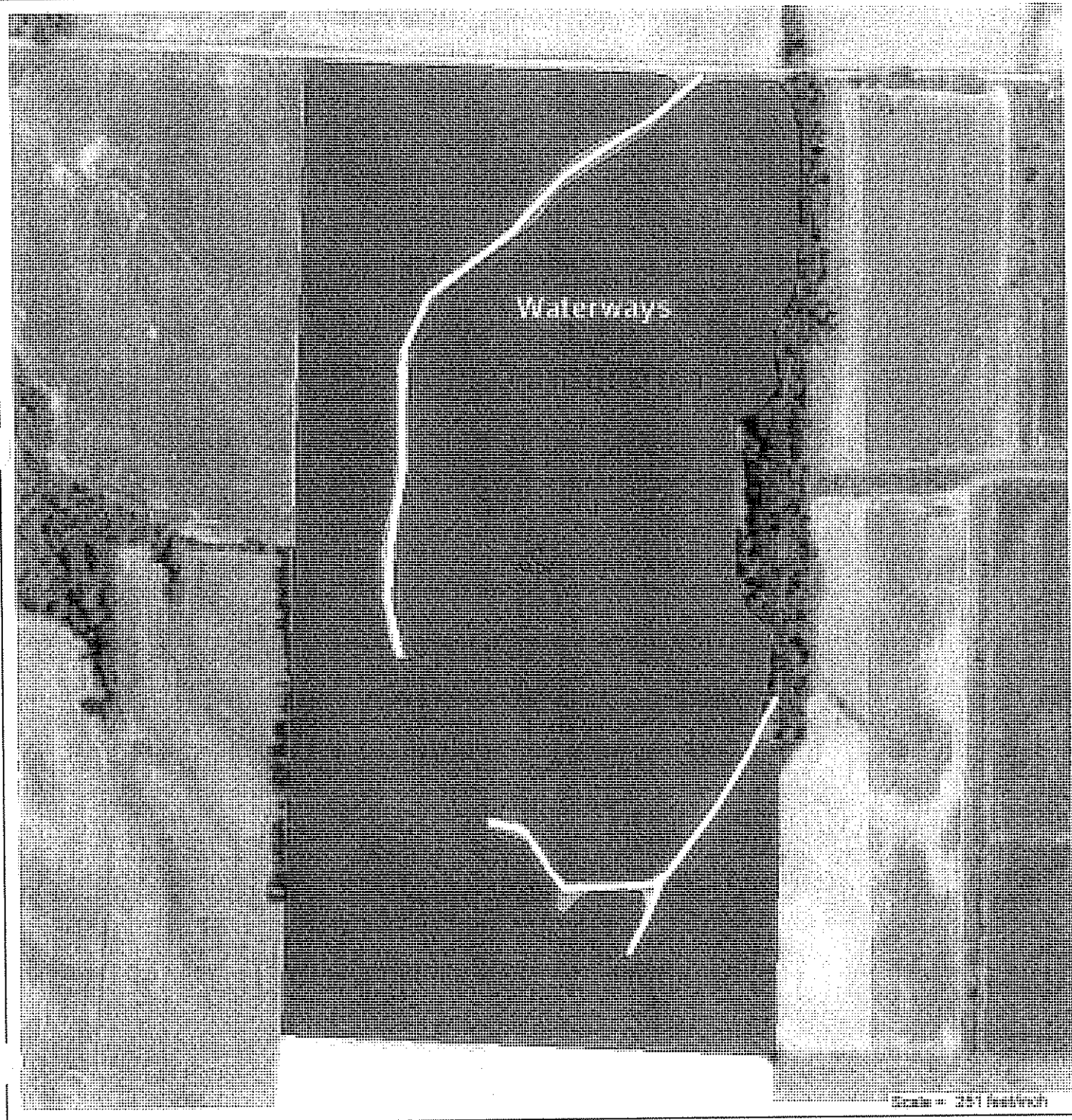
Crop Year:

Acres: 74.84

County: Monroe, IL

Twp Rng Sec: Precinct 9 26

Directions: Faust Road



# EFFINGHAM EQUITY MUSYM



**Prepared For:** Westridge Dairy

**Farm:**

**Field:** 04

**Crop Zone:**

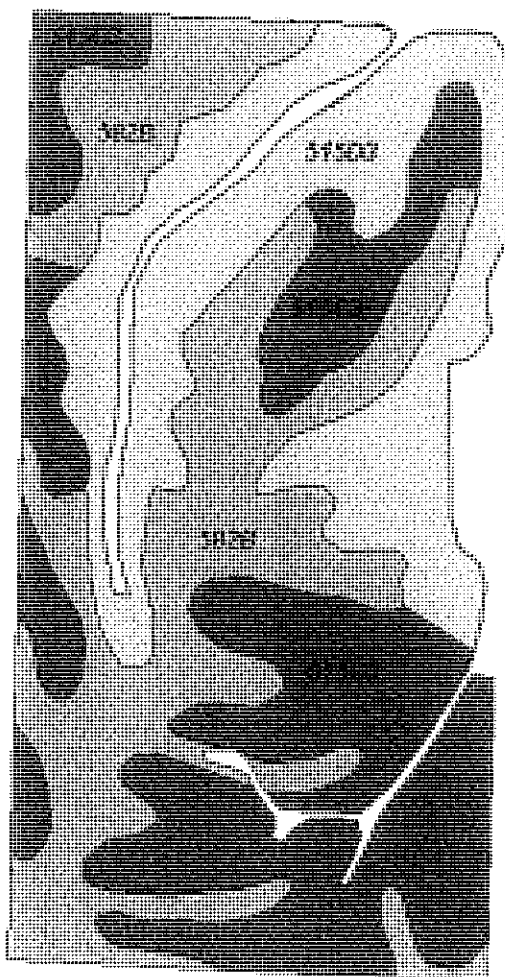
**Crop Year:**

**Acres:** 74.84

**County:** Monroe, IL

**Twp Rng Sec:** Precinct 9 26

**Directions:** Faust Road



Scale = 343 feet/inch

## Layer Summary

**Layer:** Soil Type

**Attribute:** MUSYM

**Acres:** 74.83

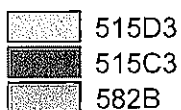
**Average:**

**Weighted Average:**

**Minimum:**

**Maximum:**

## MUSYM



**Acres**

21.24

28.34

25.26



# EFFINGHAM EQUITY



## Soil Test Results

**Prepared For:** Westridge Dairy

**Farm:**

**Field:** 04

**Crop Zone:**

**Crop Year:**

**Acres:** 74.84

**County:** Monroe, IL

**Twp Rng Sec:**

**Directions:**

**Layer Name:** 2007 -- Fertility Sites

**Date Sampled:** November 19, 2007

| SampleID        | LabID | pH   | P1         | K          |
|-----------------|-------|------|------------|------------|
|                 | none  | none | LbsPerAcre | LbsPerAcre |
| 1               |       | 6.8  | 206        | 589        |
| 2               |       | 5.8  | 142        | 423        |
| 3               |       | 6.3  | 223        | 531        |
| 4               |       | 5.9  | 101        | 388        |
| 5               |       | 5.8  | 80         | 428        |
| 6               |       | 6.1  | 117        | 465        |
| 7               |       | 6.5  | 78         | 436        |
| 8               |       | 6.8  | 83         | 348        |
| 9               |       | 5.5  | 70         | 328        |
| 10              |       | 5.5  | 75         | 493        |
| 11              |       | 5.5  | 61         | 391        |
| 12              |       | 6.6  | 59         | 373        |
| 13              |       | 6.3  | 155        | 549        |
| 14              |       | 6.3  | 81         | 483        |
| 15              |       | 6.3  | 139        | 413        |
| 16              |       | 6.6  | 272        | 789        |
| 17              |       | 8.1  | 32         | 236        |
| 18              |       | 6.3  | 51         | 403        |
| 19              |       | 5.6  | 93         | 411        |
| 20              |       | 5.5  | 84         | 343        |
| 21              |       | 5.2  | 78         | 331        |
| 22              |       | 6.0  | 84         | 495        |
| 23              |       | 5.7  | 29         | 375        |
| 24              |       | 6.2  | 81         | 446        |
| 25              |       | 5.5  | 67         | 344        |
| 26              |       | 6.4  | 84         | 472        |
| 27              |       | 6.1  | 89         | 340        |
| 28              |       | 6.4  | 59         | 269        |
| 29              |       | 5.0  | 90         | 340        |
| 30              |       | 6.1  | 59         | 330        |
| 31              |       | 6.0  | 104        | 354        |
| 32              |       | 6.1  | 111        | 369        |
| <b>Average:</b> |       | 6.1  | 98         | 415        |

**Solution Runoff Class Matrix**

| Hydrologic Soil Group |        |      |      |
|-----------------------|--------|------|------|
| A                     | B      | C    | D    |
| Low                   | Medium | High | High |

**P Input Matrix**

| Application Method                                    | Application Rate      |               |          |
|---|-----------------------|---------------|----------|
|   | <= 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        | Medium     |
| 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 <sup>1</sup>   | Soil Texture <sup>2</sup> |        |            |
|   | 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.