

## Conservation Plan

Westridge Dairy  
2114 Ames Rd.  
Red Bud, Il 62278

FSA Farm #3700
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### Field #17

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

**Tillage Practice** – In preparation for the corn crop, the corn will be planted in 30 inch rows using a no-till planter. Following corn harvest the field will be planted to wheat to provide a cover crop for the winter. The surface residue prediction following harvest is 79%. The wheat will be no-tilled in the standing corn stalks 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 in 7inch rows. 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 89%. 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. 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 – 0.030, 0.035, 0.042

Soil Conditioning Index – 0.7

STIR Value – 7.479

Soil Type 491D3 Calculated T Losses – 2.0

Acceptable T Loss – 4.00

Soil Type 491B Calculated T Loss – 0.5

Acceptable T Loss – 5.00

Soil Type 3336A Calculated T Loss – 0.37

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 #17

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

**Inputs:**

Location: Illinois\Monroe County  
 Soil: 491D3 Ruma silty clay loam, 10 to 18 percent slopes, severely eroded\Ruma silty clay loam 85%  
 Slope length (horiz): 99 ft  
 Avg. slope steepness: 14 %

Management	Vegetation	Yield units	Yield (# of units)
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Corn, grain	bushels	142.00
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Wheat, winter cover	pounds	4000.0
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Soybean, mw 15 - 20 in rows	bu	44.000
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-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: 2.0 t/ac/yr  
 Detachment on slope: 2.0 t/ac/yr  
 Soil loss for cons. plan: 2.0 t/ac/yr  
 Sediment delivery: 2.0 t/ac/yr  
 Net C factor: 0.030  
 Net K factor: 0.34

Crit. slope length: 99 ft  
 Surf. cover after planting: --

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, grain	74
9/28/0	Harvest, killing crop 60pct standing stubble		79
9/29/0	Planter, double disk opnr w/fluted coulter	Wheat, winter cover	83
5/15/1	Planter, double disk opnr w/fluted coulter	Soybean, mw 15 - 20 in rows	86
10/1/1	Harvest, killing crop 50pct standing stubble		89
10/2/1	Manure spreader, solid and semi-solid		92

'0/3/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter cover	89
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Soil conditioning index (SCI): 0.7

STIR value: 7.479

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 #17

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

**Access Group:** R2\_NRCS\_Fld\_Office

**Inputs:**

Location: Illinois\Monroe County

Soil: 491B Ruma silt loam, 2 to 5 percent slopes\Ruma 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 no-till cg-sb w-cover	Corn, grain	bushels	142.00
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Wheat, winter cover	pounds	4000.0
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Soybean, mw 15 - 20 in rows	bu	44.000
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-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: 5.0 t/ac/yr

Soil loss erod. portion: 0.50 t/ac/yr

Detachment on slope: 0.50 t/ac/yr

Soil loss for cons. plan: 0.50 t/ac/yr

Sediment delivery: 0.50 t/ac/yr

Net C factor: 0.035

Net K factor: 0.34

Crit. slope length: 150 ft

Surf. cover after planting: --

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, grain	74
9/28/0	Harvest, killing crop 60pct standing stubble		79
9/29/0	Planter, double disk opnr w/fluted coulter	Wheat, winter cover	83
5/15/1	Planter, double disk opnr w/fluted coulter	Soybean, mw 15 - 20 in rows	86
10/1/1	Harvest, killing crop 50pct standing stubble		89
10/2/1	Manure spreader, solid and semi-solid		92

10/3/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter cover	89
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Soil conditioning index (SCI): 0.7

STIR value: 7.479

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 #17

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

**Inputs:**

Location: Illinois\Monroe County  
 Soil: 3336A Wilbur silt loam, 0 to 2 percent slopes, frequently flooded\Wilbur 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 no-till cg-sb w-cover	Corn, grain	bushels	142.00
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Wheat, winter cover	pounds	4000.0
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-sb w-cover	Soybean, mw 15 - 20 in rows	bu	44.000
CMZ 16\c.Other Local Mgt Records\Westridge no-till cg-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: 5.0 t/ac/yr  
 Soil loss erod. portion: 0.37 t/ac/yr  
 Detachment on slope: 0.37 t/ac/yr  
 Soil loss for cons. plan: 0.37 t/ac/yr  
 Sediment delivery: 0.37 t/ac/yr  
 Net C factor: 0.042  
 Net K factor: 0.34

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

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, grain	74
9/28/0	Harvest, killing crop 60pct standing stubble		79
9/29/0	Planter, double disk opnr w/fluted coulter	Wheat, winter cover	83
5/15/1	Planter, double disk opnr w/fluted coulter	Soybean, mw 15 - 20 in rows	86
10/1/1	Harvest, killing crop 50pct standing stubble		89
10/2/1	Manure spreader, solid and semi-solid		92

10/3/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter cover	89
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Soil conditioning index (SCI): 0.7

STIR value: 7.479

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 # 17  
Field Name Tower 16  
Land Owner Ralph & Janet Henry  
FSA Farm # 3700  
FSA Tract #  
Tillable Acres 11.59  
Application Acres 9.44  
County Randolph  
Township Red Bud  
Section 30

### Proximity Location

- |   |   |
|---|---|
| <input 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 checked="" type="checkbox"/> Streams       | <input checked="" type="checkbox"/> 10 yr Flood Plain |
| <input type="checkbox"/> Wells                    | <input type="checkbox"/> Waterways                    |
| <input type="checkbox"/> Lake                     | <input type="checkbox"/> Drainage Ditches             |

### Provisions

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

### Planting Intentions

Crop Year	Acres	Crop	Crop 2
2008	11.59	Corn Grain	
2009	11.59	Soybeans	
2010	11.59	Corn Grain	
2011	11.59	Soybeans	



# EFFINGHAM EQUITY



## Application Restrictions

Prepared For: Westridge Dairy

Farm:

Field: 17

Crop Zone:

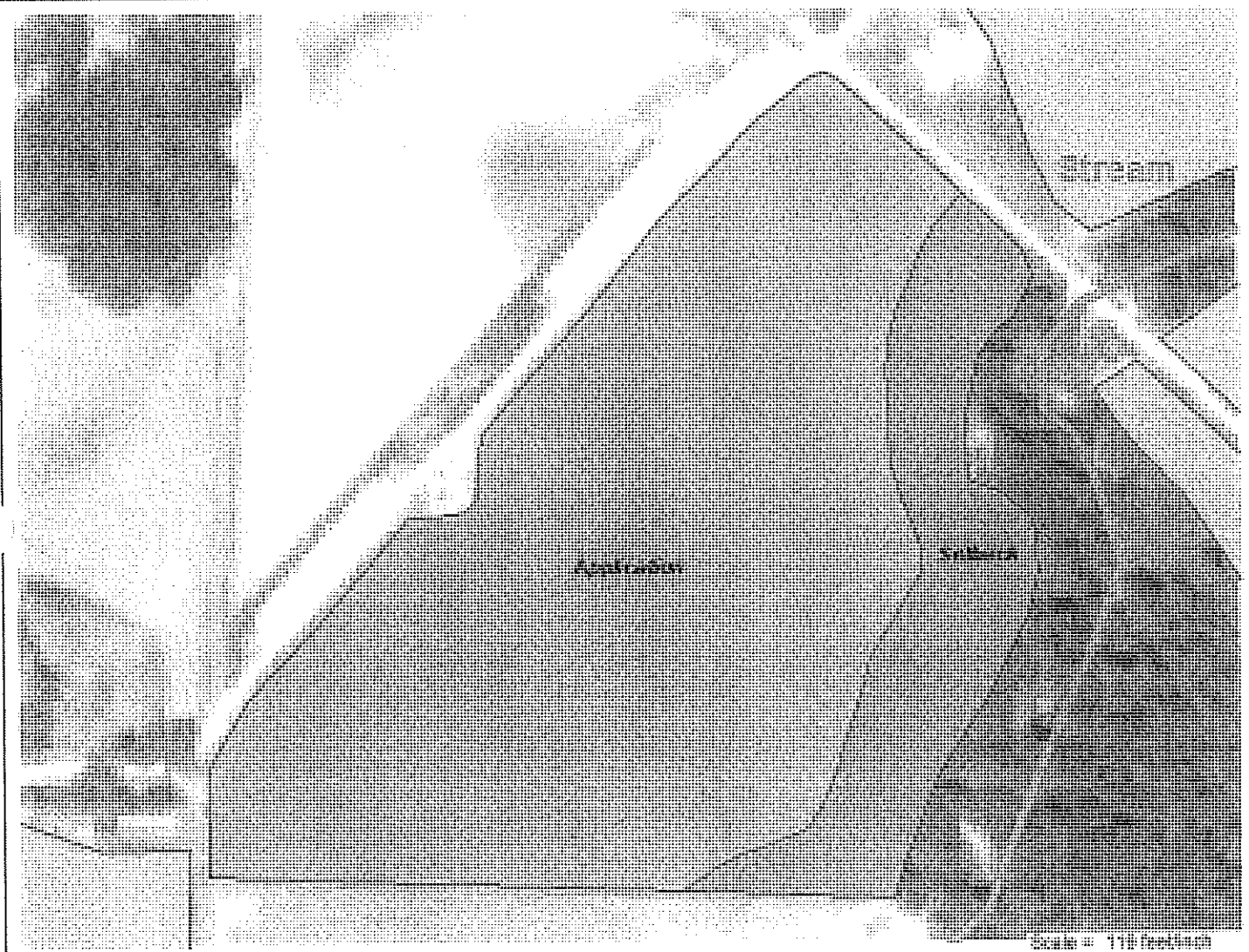
Crop Year:

Acres: 11.59

County: Randolph, IL

Twp Rng Sec: Red Bud 30

Directions: Tower 16



### Layer Summary

Layer: Setbacks  
 Attribute: Application Restrictions  
 Acres: 11.59  
 Average:  
 Weighted Average:  
 Minimum:  
 Maximum:

### Application Restrictions

-  Setback
-  Application

Acres

2.14

9.44

# EFFINGHAM EQUITY

## MUSYM



Prepared For: Westridge Dairy

Farm:

Field: 17

Crop Zone:

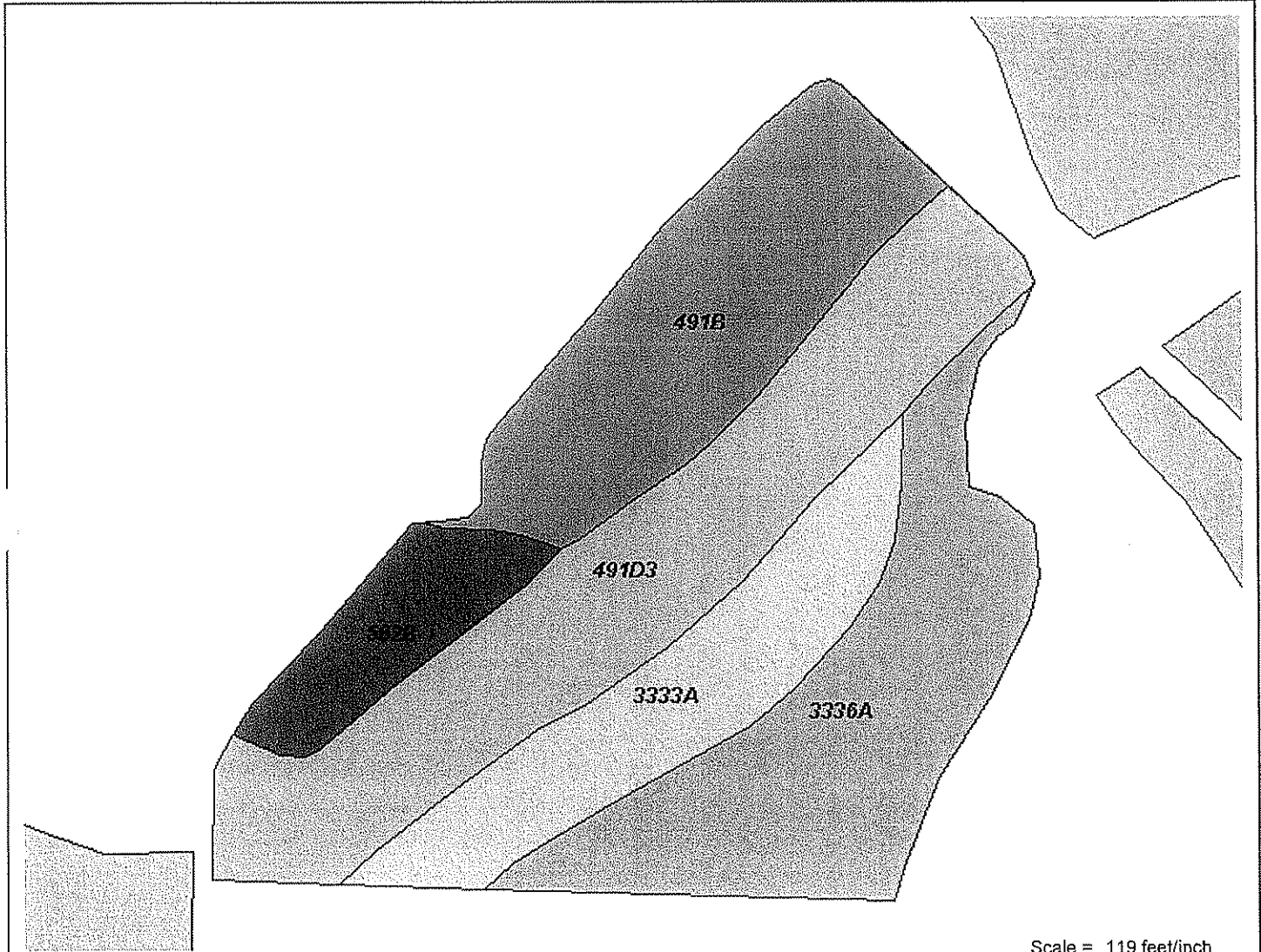
Crop Year:

Acres: 11.59

County: Randolph, IL

Twp Rng Sec: Red Bud 30

Directions: Tower 16



Scale = 119 feet/inch

### Layer Summary

Layer: Soil Type  
 Attribute: MUSYM  
 Acres: 11.59  
 Average:  
 Weighted Average:  
 Minimum:  
 Maximum:

### MUSYM

	3333A
	582B
	3336A
	491B
	491D3

### Acres

3333A	1.83
582B	.85
3336A	2.88
491B	2.52
491D3	3.50

# EFFINGHAM EQUITY



## Soil Test Results

Prepared For: Westridge Dairy

Farm:

Field: 17

Crop Zone:

Crop Year:

Acres: 11.59

County: Randolph, IL

Twp Rng Sec:

Directions:

Layer Name: 2007 -- Fertility Sites

Date Sampled: November 19, 2007

SampleID	LabID none	pH none	P1 LbsPerAcre	K LbsPerAcre
1		7.7	116	318
2		7.8	118	337
3		7.7	145	442
<b>Average:</b>		7.7	126	366

**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	High
Solution Runoff Potential	Medium
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.