

Conservation Plan

Westridge Dairy
2114 Ames Rd.
Red Bud, Il 62278

FSA Farm #3700

Field #5

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 be planted in 30 inch rows, following silage removal the field will be planted to wheat. The surface residue prediction following silage removal is 20%. 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 prediction following wheat silage removal is 30%. 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 then lay idle until the next spring. The surface residue prediction following the wheat planting is 74%. 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 – Also there is a stream near the field which requires a 200 foot setback in these areas. Additionally 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 – 0.16, 0.17,

Soil Conditioning Index – -0.05, 0.1

STIR Value – 45.90

Soil Type 491B Calculated T Loss – 3.6

Acceptable T Loss – 5.00

Soil Type 8787A Calculated T Loss – 1.6

Acceptable T Loss – 5.00

Soil Type 3336A Calculated T Loss – 1.6

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 #5

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 cs-whlage-sb no cover	Corn, silage	tons	25.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb no cover	Wheat, winter silage	tons	11.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb no cover	Soybean, mw 15 - 20 in rows	bu	43.000

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: 3.6 t/ac/yr
 Detachment on slope: 3.6 t/ac/yr
 Soil loss for cons. plan: 3.6 t/ac/yr
 Sediment delivery: 3.6 t/ac/yr
 Net C factor: 0.16
 Net K factor: 0.34

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

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/3/0	Manure spreader, solid and semi-solid		61
4/4/0	Chisel, twisted shovel		9.8
4/5/0	Cultivator, field w/ spike points		8.6
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, silage	8.6
9/28/0	Harvest, silage		20
10/1/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter silage	25
5/1/1	Harvest, silage		30

5/3/1	Planter, double disk opnr w/fluted coulter, 15 inch row spacing	Soybean, mw 15 - 20 in rows	31
10/1/1	Harvest, killing crop 50pct standing stubble		74

Soil conditioning index (SCI): -0.05

STIR value: 45.90

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 #5

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

Inputs:

Location: Illinois\Monroe County
 Soil: 8787A Banlic silt loam, 0 to 2 percent slopes, occasionally flooded\Banlic silt loam 85%
 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 no cover	Corn, silage	tons	25.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb no cover	Wheat, winter silage	tons	11.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb no cover	Soybean, mw 15 - 20 in rows	bu	43.000

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: 1.6 t/ac/yr
 Detachment on slope: 1.6 t/ac/yr
 Soil loss for cons. plan: 1.6 t/ac/yr
 Sediment delivery: 1.6 t/ac/yr
 Net C factor: 0.17
 Net K factor: 0.34

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

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/3/0	Manure spreader, solid and semi-solid		61
4/4/0	Chisel, twisted shovel		9.8
4/5/0	Cultivator, field w/ spike points		8.6
4/6/0	Planter, double disk opnr w/fluted coulter	Corn, silage	8.6
9/28/0	Harvest, silage		20
10/1/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter silage	25
5/1/1	Harvest, silage		30

5/3/1	Planter, double disk opnr w/fluted coulter, 15 inch row spacing	Soybean, mw 15 - 20 in rows	31
10/1/1	Harvest, killing crop 50pct standing stubble		74

Soil conditioning index (SCI): 0.1

STIR value: 45.90

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 #5

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 cs-whlage-sb no cover	Corn, silage	tons	25.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb no cover	Wheat, winter silage	tons	11.000
CMZ 16\c.Other Local Mgt Records\Westridge cs-whlage-sb no cover	Soybean, mw 15 - 20 in rows	bu	43.000

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: 1.6 t/ac/yr

Detachment on slope: 1.6 t/ac/yr

Soil loss for cons. plan: 1.6 t/ac/yr

Sediment delivery: 1.6 t/ac/yr

Net C factor: 0.17

Net K factor: 0.34

Crit. slope length: 150 ft

Surf. cover after planting: --

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/3/0	Manure spreader, solid and semi-solid		61
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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 # 5
Field Name John Liefer
Land Owner Ralph & Janet Henry
FSA Farm # 3700
FSA Tract #
Tillable Acres 50.63
Application Acres 31.72
County Randolph
Township Red Bud, Ruma
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	50.63	Corn Silage	
2009	50.63	Wheatlage	Soybeans
2010	50.63	Corn Silage	
2011	50.63	Wheatlage	Soybeans

EFFINGHAM EQUITY



Application Restrictions

Prepared For: Westridge Dairy

Farm:

Field: 05

Crop Zone:

Crop Year:

Acres: 50.63

County: Randolph, IL

Twp Rng Sec: Red Bud, Ruma 30

Directions: John Liefer



Layer Summary

Layer: Setbacks

Attribute: Application Restrictions

Acres: 50.64

Average:

Weighted Average:

Minimum:

Maximum:

Application Restrictions

-  Setback
-  Application

Acres

18.92

31.72

EFFINGHAM EQUITY

MUSYM



Prepared For: Westridge Dairy

Farm:

Field: 05

Crop Zone:

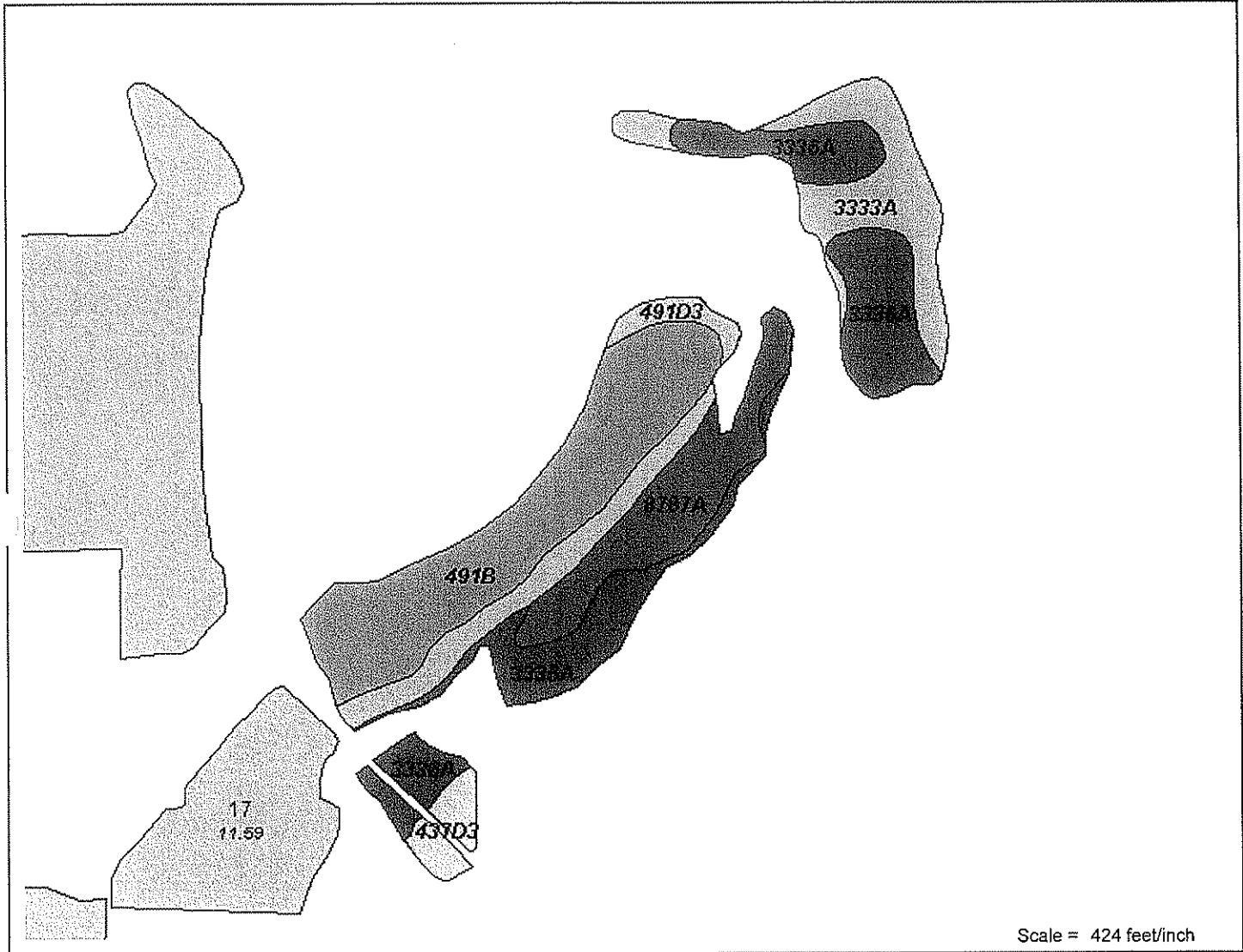
Crop Year:

Acres: 50.63

County: Randolph, IL

Twp Rng Sec: Red Bud, Ruma 30

Directions: John Liefer



Scale = 424 feet/inch

Layer Summary

Layer: Soil Type

Attribute: MUSYM

Acres: 50.63

Average:

Weighted Average:

Minimum:

Maximum:

MUSYM

	437D3
	8787A
	3333A
	491B
	491D3
	3336A

Acres

1.63
7.11
7.02
15.16
5.40
14.31

EFFINGHAM EQUITY



Soil Test Results

Prepared For: Westridge Dairy Farm: Field: 05 Crop Zone: Crop Year:	County: Randolph, IL Twp Rng Sec: Directions:
Acres: 50.63	

Layer Name: 2007 -- Fertility Sites

Date Sampled: November 19, 2007

SampleID	LabID none	pH none	P1 LbsPerAcre	K LbsPerAcre
1		6.6	229	706
2		7.1	90	427
3		7.3	202	646
4		7.1	136	630
5		7.2	168	721
6		6.5	416	772
7		6.6	315	859
8		7.5	124	397
9		7.5	100	457
10		7.5	102	424
11		7.1	142	466
12		6.4	61	328
13		6.8	63	430
14		7.3	130	620
15		7.3	97	608
16		7.6	72	390
17		7.6	72	498
Average:		7.1	148	552

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 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.