Conservation Plan

Westridge Dairy
2114 Ames Rd.
Red Bud, Il 62278

FSA Farm #3699

Field #19

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 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 85%. 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, non-farm business, and a common place of assembly 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. 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 – 0.10
Soil Conditioning Index – 0.2, 0.3
STIR Value – 28.77

Soil Type 515C3 Calculated T Loss – 3.7	Acceptable T Loss – 4.00
Soil Type 582B Calculated T Loss – 2.2	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

RUSLE2 Profile Erosion Calculation Record

Info: Field #19

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): 150 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	43.000
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: 3.7 t/ac/yr
Detachment on slope: 3.7 t/ac/yr
Soil loss for cons. plan: 3.7 t/ac/yr
Sediment delivery: 3.7 t/ac/yr
Net C factor: 0.10
Net K factor: 0.36

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
3/15/1	Planter, double disk opnr w/fluted coulter	Soybean, mw 15 - 20 in rows	59
10/1/1	Harvest, killing crop 50pct standing stubble		85

10/2/1	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): 0.2
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.

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: Field #19

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
CMZ 16\c.Other Local Mgt Records\Westridge cs-sb w-cover	Soybean, mw 15 - 20 in rows	bu	43.000
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: 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
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

10/2/1	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.

Application Field Detail Sheet

Westridge Dairy

Field #	19
Field Name	V V & McBride
Land Owner	Ralph & Janet Henry
FSA Farm #	3699
FSA Tract #	2137
Tillable Acres	75.75
Application Acres	75.75
County	Monroe
Township	Precinct 9
Section	34

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*

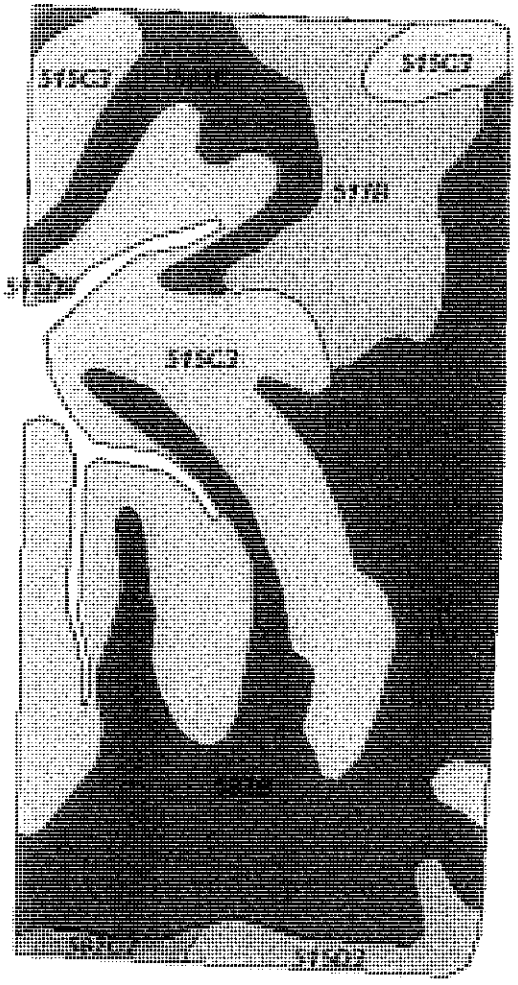
Planting Intentions

Crop Year	Acres	Crop	Crop 2
2008	75.75	Corn Silage	
2009	75.75	Soybeans	
2010	75.75	Corn Silage	
2011	75.75	Soybeans	

EFFINGHAM EQUITY AG SERVICES

MUSYM

Prepared For:	Westridge Dairy	**County:**	Monroe, IL
Farm:		**Twp Rng Sec:**	Precinct 9 34
Field:	19	**Directions:**	V V & McBride
Crop Zone:			
Crop Year:		**Acres:** 75.75	



Scale = 341 feet/inch

Layer Summary

Layer: Soil Type
Attribute: MUSYM

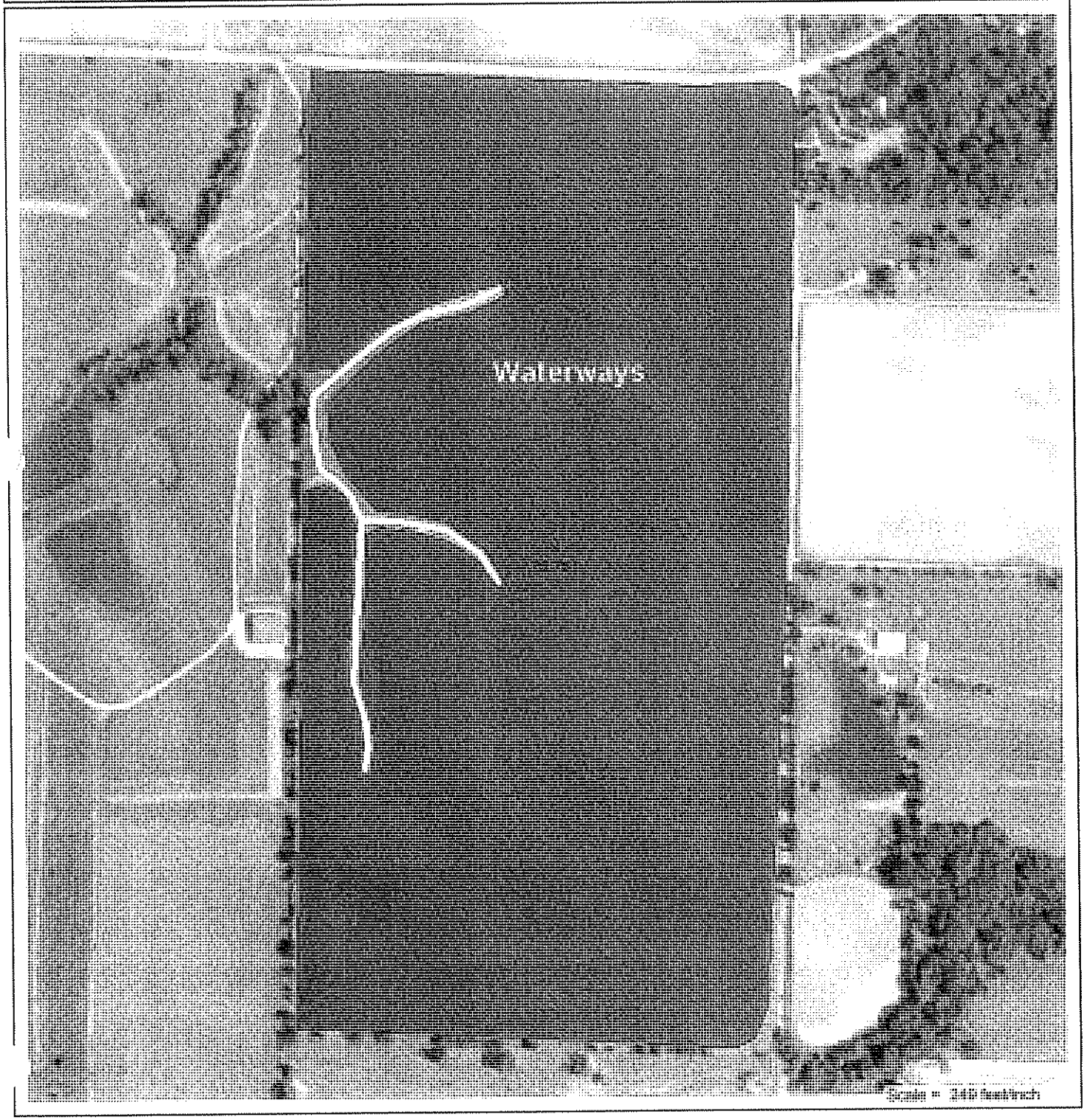
Acres: 75.75
Average:
Weighted Average:
Minimum:
Maximum:

MUSYM	Acres
515C3	27.93
582B	36.26
515D3	2.46
582C2	.72
517B	8.38

Effingham Equity Ag Services

Field Map

Prepared For: Westridge Dairy	**County:** Monroe, IL
Farm:	**Twp Rng Sec:** Precinct 9 34
Field: 19	**Directions:** V V & McBride
Crop Zone:	
Crop Year:	**Acres:** 75.75



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Soil Test Results

Prepared For:	Westridge Dairy	**County:**	Monroe, IL
Farm:		**Twp Rng Sec:**	
Field:	19	**Directions:**	
Crop Zone:			
Crop Year:		**Acres:** 75.75	

Layer Name: 2007 -- Fertility Sites

Date Sampled: November 19, 2007

SampleID	LabID	pH	P1	K
	none	none	LbsPerAcre	LbsPerAcre
1		7.2	35	329
2		7.4	41	254
3		7.5	26	300
4		7.4	49	453
5		7.5	61	368
6		7.1	37	293
7		7.0	35	364
8		6.8	56	398
9		7.0	82	451
10		6.8	131	358
11		7.6	123	366
12		6.4	59	346
13		7.3	106	434
14		6.9	102	477
15		7.0	47	417
16		7.8	113	322
17		8.0	115	674
18		6.5	60	455
19		7.0	40	390
20		7.2	26	274
21		6.6	121	593
22		7.2	95	359
23		7.3	58	314
24		7.2	69	426
25		7.0	88	378
26		7.1	118	408
27		7.0	76	529
28		7.3	30	291
29		7.0	40	348
30		5.9	49	391
Average:		7.1	70	392

Field # 19

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	Medium
Solution Runoff Potential	Medium
Soil Test Phosphorus	Medium
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.