Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field # 1 | Field Name: Ames South 52 | Field Acres: 49.59 | Application Acres: 49.04

Crop Year: 2011 | Crop: Corn Silage | Yield Goal: 25 | Planned Application Acres: 49.04

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	6.00	2.65	7.00	
Crop Removal(needs) /acre	150	66	175	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	40	Soybeans (Previous Crop)		LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	5	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	26	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	71			LMFA 900.803 m) (7)
	Nitrogen	**Phosphorus**	**Potassium**	
Crop Needs after Credits	79	66	175	LMFA 900.803 m) (6)
Sample Results From:	*If Book: Source MWPS 18*			
Manure Source: Lagoon	4.0	3.0	4.0	
Plant Ammonia Nitrogen / 1000 gallons	2.0			
Manure Application Method	Injected			
Ammonia Loss During Application	1 %	Source: MWPS 18 Table 10-2		LMFA 900.803 m) (4)
Mineralization Rate - Application Year	0.30	Source: MWPS 18 Table 10-5		
Plant Available Nitrogen / 1000 gallons	2.58			

Application Rate Based on	**Gallons/Acre**	
Nitrogen	30,620.2	LMFA 900.803 m) (8)
Phosphorus	22,083.3	
Current Bray P1 Soil Test lbs/Acre	114	LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	2.8	
# of Apps at N rate to reach 300 P1	65	

Target Application Rate Per Acre: 30,620.2 Gallons (Nitrogen Rate)

Target Application Rate Entire Field: 1,501,612 Gallons

	Nitrogen	Phosphorus	Potassium
Available Manure Nutrients Applied	79	92	122
Available Nutrients from all sources	150	92	122
Over (Under) application of nutrients	0	26	-53

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate	
Second Year Following Application	9	2012	50% of	0.60 /1000 gal
Third Year Following Application	5	2013	25% of	0.60 /1000 gal
Fourth Year Following Application	2	2014	12.5% of	0.60 /1000 gal

Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field # 2 | Field Name: Baker East | Field Acres: 42.84 | Application Acres: 37.07

Crop Year: 2011 | Crop: Soybeans | Yield Goal: 43 | Planned Application Acres: 37.07

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	3.75	0.85	1.30	
Crop Removal(needs) /acre	161	37	56	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	40			LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	14	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	10	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	64			LMFA 900.803 m) (7)

	Nitrogen	Phosphorus	Potassium	
Crop Needs after Credits	97	37	56	LMFA 900.803 m) (6)
Sample Results From:	*If Book: Source MWPS 18*			
Manure Source: Solid w/sand Bedding	7.3	2.5	4.9	
Plant Ammonia Nitrogen / ton	2.5			
Manure Application Method	Broadcast Solid, incorporated within 12 hours			
Ammonia Loss During Application	3 %	Source: MWPS 18 Table 10-2		LMFA 900.803 m) (4)
Mineralization Rate - Application Year	0.25	Source: MWPS 18 Table 10-5		
Plant Available Nitrogen / ton	3.60			

Application Rate Based on	**Tons/Acre**		LMFA 900.803 m) (8)
Nitrogen	27.0		
Phosphorus	14.9		
Current Bray P1 Soil Test lbs/Acre	81.0		LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	3.3		
# of Apps at N rate to reach 300-P1	66.5		
Target Application Rate Per Acre	27.0	**Tons**	Nitrogen Rate
Target Application Rate Entire Field	1,002	**Tons**	

	Nitrogen	Phosphorus	Potassium
Available Manure Nutrients Applied	97	66	132
Available Nutrients from all sources	161	66	132
Over (Under) application of nutrients	0	30	77

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate	
Second Year Following Application	17	2012	50% of	1.22 / ton
Third Year Following Application	8	2013	25% of	1.22 / ton
Fourth Year Following Application	4	2014	12.5% of	1.22 / ton

Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field #	3	Field Name	Road Bottom	Field Acres	19.58	Application Acres	19.58
Crop Year	2011	Crop	Corn Silage	Yield Goal	25	Planned Application Acres	19.58

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	6.00	2.65	7.00	
Crop Removal(needs) /acre	150	66	175	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	0	Corn Grain (Previous Crop)		LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	13	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	15	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	28			LMFA 900.803 m) (7)

	Nitrogen	Phosphorus	Potassium	
Crop Needs after Credits	122	66	175	LMFA 900.803 m) (6)
Sample Results From:	*If Book: Source MWPS 18*			
Manure Source: Solid w/Bedding	9.0	3.0	6.0	
Plant Ammonia Nitrogen / ton	4.0			
Manure Application Method	Broadcast Solid, incorporated within 12 hours			
Ammonia Loss During Application	3 %	Source: MWPS 18 Table 10-2		LMFA 900.803 m) (4)
Mineralization Rate - Application Year	0.25	Source: MWPS 18 Table 10-5		
Plant Available Nitrogen / ton	5.13			

Application Rate Based on	**Tons/Acre**		LMFA 900.803 m) (8)
Nitrogen	23.8		
Phosphorus	22.1		
Current Bray P1 Soil Test lbs/Acre	0		LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	0.6		
# of Apps at N rate to reach 300 P1	530		
Target Application Rate Per Acre	23.8	**Tons**	Nitrogen Rate
Target Application Rate Entire Field	466	**Tons**	

	Nitrogen	Phosphorus	Potassium
Available Manure Nutrients Applied	122	71	143
Available Nutrients from all sources	150	71	143
Over (Under) application of nutrients	0	5	-32

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate
Second Year Following Application	15	2012	50% of 1.25 / ton
Third Year Following Application	7	2013	25% of 1.25 / ton
Fourth Year Following Application	4	2014	12.5% of 1.25 / ton

Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field # 4 | Field Name: Faust Road | Field Acres: 74.84 | Application Acres: 74.84

Crop Year: 2011 | Crop: Corn Silage | Yield Goal: 25 | Planned Application Acres: 74.84

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	6.00	2.65	7.00	
Crop Removal(needs) /acre	150	66	175	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	40	Soybeans (Previous Crop)		LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	9	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	25	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	74			LMFA 900.803 m) (7)
	Nitrogen	**Phosphorus**	**Potassium**	
Crop Needs after Credits	76	66	175	LMFA 900.803 m) (6)
Sample Results From:	*If Book: Source MWPS 18*			
Manure Source: Solid w/sand Bedding	7.3	2.5	4.9	
Plant Ammonia Nitrogen / ton	2.5			
Manure Application Method	Broadcast Solid, incorporated within 12 hours			
Ammonia Loss During Application	3 % Source: MWPS 18 Table 10-2			LMFA 900.803 m) (4)
Mineralization Rate - Application Year	0.25 Source: MWPS 18 Table 10-5			
Plant Available Nitrogen / ton	3.60			
Application Rate Based on	**Tons/Acre**			
Nitrogen	21.1			LMFA 900.803 m) (8)
Phosphorus	27.0			
Current Bray P1 Soil Test lbs/Acre	98			LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	-1.6			
# of Apps at N rate to reach 300 P1	0	Soil Test Phosphorus Decreasing		
Target Application Rate Per Acre	21.1 **Tons**	Nitrogen Rate		
Target Application Rate Entire Field	1,580 **Tons**			
	Nitrogen	**Phosphorus**	**Potassium**	
Available Manure Nutrients Applied	76	52	103	
Available Nutrients from all sources	150	52	103	
Over (Under) application of nutrients	0	-15	-72	

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate
Second Year Following Application	13	2012	50% of 1.22 / ton
Third Year Following Application	6	2013	25% of 1.22 / ton
Fourth Year Following Application	3	2014	12.5% of 1.22 / ton

Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field # 5 | Field Name: John Liefer | Field Acres: 50.63 | Application Acres: 31.72

Crop Year: 2011 | Crop: Soybeans | Yield Goal: 43 | Planned Application Acres: 31.72

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	3.75	0.85	1.30	
Crop Removal(needs) /acre	161	37	56	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	0			LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	14	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	14	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	28			LMFA 900.803 m) (7)
	Nitrogen	**Phosphorus**	**Potassium**	
Crop Needs after Credits	133	37	56	LMFA 900.803 m) (6)
Sample Results From:	*If Book: Source MWPS 18*			
Manure Source: Solid w/Bedding	9.0	3.0	6.0	
Plant Ammonia Nitrogen / ton	4.0			

Manure Application Method: Broadcast Solid, incorporated within 12 hours

Ammonia Loss During Application: 3 % Source: MWPS 18 Table 10-2 — LMFA 900.803 m) (4)

Mineralization Rate - Application Year: 0.25 Source: MWPS 18 Table 10-5

Plant Available Nitrogen / ton: 5.13

Application Rate Based on	**Tons/Acre**	
Nitrogen	26.0	LMFA 900.803 m) (8)
Phosphorus	12.2	
Current Bray P1 Soil Test lbs/Acre	148.0	LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	4.6	
# of Apps at N rate to reach 300-P1	33.1	
Target Application Rate Per Acre	26.0 **Tons**	Nitrogen Rate
Target Application Rate Entire Field	824 **Tons**	

	Nitrogen	Phosphorus	Potassium
Available Manure Nutrients Applied	133	78	156
Available Nutrients from all sources	161	78	156
Over (Under) application of nutrients	0	41	100

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate
Second Year Following Application	16	2012	50% of 1.25 / ton
Third Year Following Application	8	2013	25% of 1.25 / ton
Fourth Year Following Application	4	2014	12.5% of 1.25 / ton

Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field # 7 | Field Name: Menard 24 | Field Acres: 20.75 | Application Acres: 20.75

Crop Year: 2011 | Crop: Soybeans | Yield Goal: 42 | Planned Application Acres: 20.75

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	3.75	0.85	1.30	
Crop Removal(needs) /acre	158	36	55	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	0	Corn Silage (Previous Crop)		LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	13	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	14	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	27			LMFA 900.803 m) (7)

	Nitrogen	Phosphorus	Potassium	
Crop Needs after Credits	131	36	55	LMFA 900.803 m) (6)
Sample Results From:	*If Book: Source MWPS 18*			
Manure Source: Solid w/sand Bedding	7.3	2.5	4.9	
Plant Ammonia Nitrogen / ton	2.5			

Manure Application Method: Broadcast Solid, incorporated within 12 hours

Ammonia Loss During Application: 3 % Source: MWPS 18 Table 10-2 — LMFA 900.803 m) (4)

Mineralization Rate - Application Year: 0.25 Source: MWPS 18 Table 10-5

Plant Available Nitrogen / ton: 3.60

Application Rate Based on	Tons/Acre	
Nitrogen	36.3	LMFA 900.803 m) (8)
Phosphorus	14.6	
Current Bray P1 Soil Test lbs/Acre	0	LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	5.9	
# of Apps at N rate to reach 300 P1	51	

Target Application Rate Per Acre: 36.3 Tons — Nitrogen Rate

Target Application Rate Entire Field: 752 Tons

	Nitrogen	Phosphorus	Potassium
Available Manure Nutrients Applied	131	89	178
Available Nutrients from all sources	158	89	178
Over (Under) application of nutrients	0	53	123

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate
Second Year Following Application	22	2012	50% of 1.22 / ton
Third Year Following Application	11	2013	25% of 1.22 / ton
Fourth Year Following Application	6	2014	12.5% of 1.22 / ton

Waste Application Worksheet

Westridge Dairy

Operation ID: 55078

Field # 8 | Field Name: Nicholson 12 | Field Acres: 11.55 | Application Acres: 8.64

Crop Year: 2011 | Crop: Corn Silage | Yield Goal: 25 | Planned Application Acres: 8.64

	Nitrogen N	Phosphorus P_2O_5	Potassium K_2O	
Crop Removal per bushel	6.00	2.65	7.00	
Crop Removal(needs) /acre	150	66	175	LMFA 900.803 m) (6)
Nitrogen Credits				
Commercial Fertilizer	0	0	0	LMFA 900.803 m) (7)
Legume	40	Soybeans (Previous Crop)		LMFA 900.803 m) (7)
Manure Applications 2008	0	Mineralization Rate = 12.5 %		LMFA 900.803 m) (7)
2009	5	Mineralization Rate = 25 %		LMFA 900.803 m) (7)
2010	19	Mineralization Rate = 50 %		LMFA 900.803 m) (7)
Total Nitrogen Credits	64			LMFA 900.803 m) (7)

	Nitrogen	Phosphorus	Potassium	
Crop Needs after Credits	86	66	175	LMFA 900.803 m) (6)
Sample Results From:	*If Book; Source MWPS 18*			
Manure Source: Lagoon	4.0	3.0	4.0	
Plant Ammonia Nitrogen / 1000 gallons	2.0			
Manure Application Method	Injected			
Ammonia Loss During Application	1 %	Source: MWPS 18 Table 10-2		LMFA 900.803 m) (4)
Mineralization Rate - Application Year	0.30	Source: MWPS 18 Table 10-5		
Plant Available Nitrogen / 1000 gallons	2.58			

Application Rate Based on	**Gallons/Acre**	
Nitrogen	33,333.3	LMFA 900.803 m) (8)
Phosphorus	22,083.3	
Current Bray P1 Soil Test lbs/Acre	51	LMFA 900.803 l)
At Nitrogen Rate P1 Buildup Equals	3.8	
# of Apps at N rate to reach 300 P1	66	
Target Application Rate Per Acre	33,333.3 **Gallons**	Nitrogen Rate
Target Application Rate Entire Field	288,000 **Gallons**	

	Nitrogen	Phosphorus	Potassium
Available Manure Nutrients Applied	86	100	133
Available Nutrients from all sources	150	100	133
Over (Under) application of nutrients	0	34	-42

Nitrogen Mineralization Credit for Future Years

Mineralized Nitrogen / Crop Year	Nitrogen Credit/Acre	Crop Year	Mineralization Rate	
Second Year Following Application	10	2012	50% of	0.60 /1000 gal
Third Year Following Application	5	2013	25% of	0.60 /1000 gal
Fourth Year Following Application	2	2014	12.5% of	0.60 /1000 gal