Snap-Plus Animal Units Calculator Report for 2014 Reported for GOLDEN SANDS DAIRY LLC.

Snap-Plus version 1.132.8

Printed 6/3/2012
Plan Completion/Update Date: 5/2/2012
Prepared by Frase Crop Consulting LLC

Prepared for
GOLDEN SANDS DAIRY LLC.

Animal Type		I. Mixed Animal Units (current NR 243 equivalencies)			II. Non-Mixed Animal Units (federal equivalencies)		
		b. Equiv. factor	c. Number of Animals	d. Equivalent Animal Units	e. Equiv. factor	f. Number of Animals	g. Equivalent Animal Units
Example- Broilers (non-liquid manure):		**0.005**	**150,000**	**750**	**0.008**	**150,000**	**1,200**
Dairy/Beef Calves (under 400 lbs)		**0.2**	1000	200	Fed. numbers in this column comply with 40 CFRs. 122.23		
Dairy Cattle	**Milking and Dry Cows**	**1.4**	4000	5600	1.43	4000	5720
	Heifers (800 to 1200 lbs)	**1.1**	300	330	1.0	300	300
	Heifers (400 to 800 lbs)	**0.6**					
Beef	**Steers or Cows (400 lbs to market)**	**1.0**			1.0		
	Bulls (each)	**1.4**					
al Calves (each)		**0.5**			1.0		
Swine	**Pigs (Up to 55 lbs)**	**0.1**			0.1		
	Pigs (55 lbs to market)	**0.4**			0.4		
	Sows (each)	**0.4**					
	Boars (each)	**0.5**					
Chickens	**Layers (each)-non-liquid system**	**0.01**			0.0123		
	Broilers/Pullets (each)-non-liquid system	**0.005**			0.008		
	Layers or Broilers-liquid system	**0.033**			0.0333		
Ducks	**Ducks (each)-liquid system**	**0.2**			0.2		
	Ducks (each)-non-liquid system	**0.01**			0.0333		
Turkeys (each)		**0.018**			0.018		
Sheep (each)		**0.1**			0.1		
Horses (each)		**2.0**			2.0		
Goats (each)		**0.1**			0.1		
Total	**Animal Units**		Mixed AU =	6130		Non-Mixed AU =	5720

Snap-Plus Manure Production Estimator Report For 2014

ported for GOLDEN SANDS DAIRY LLC.

Snap-Plus version 1.132.8

Printed 6/5/2012
Plan Completion/Update Date: 5/2/2012
Prepared by Frase Crop Consulting LLC

Prepared for
GOLDEN SANDS DAIRY LLC.

Nutrient Source Summary

		Values are for first year available nutrients in lbs/ton or lbs/1000 gallons						Volumes are in tons or gallons							Value of applied nutrients (based on commercial fertilizer costs in $/lb)			
Source Name	**Type**	**N**	**N Incorp**	**P**	**K**	**S**	**Dry Matter**	**Volume**	**Volume Applied**	**Volume Remaining**	**Fall**	**Winter**	**Spring**	**Summer**	**N**	**P2O5**	**K2O**	**S**
Liquid Manure&Waste water	Dairy, liquid	4	6	3	13	1	6	24523500	25510500	-987000	0	0	25510500	0	$74,872.14	$68,051.81	$178,892.38	$18,367.56
SOLID-Seperated	Dairy, solid	2	3	2	4	1	24	13506	30002	-16496	0	0	30002	0	$59,907.89	$44,930.92	$63,364.12	$21,601.40
							Total Solid:	13506	30002	-16496				**Total Values:**	$134,780.03	$112,982.73	$242,256.50	$39,968.96
							Total Liquid	24523500	25510500	-987000								

Estimated Livestock Manure Production

Animal Type	# of animals	Total No. of days	% Collected Solid	% Collected Liquid	Yearly Tons	Yearly Gallons
Dairy Dry Cows 1400 lbs	600	365	20	80	2519	4380000
Dairy Lactating Cows 1400 lbs	3400	365	20	80	18367	31769600
Dairy Calf 150 lbs	1000	365	100	0	2373	0
Dairy Heifer 1000 lbs	300	365	20	80	898	1576800
None	0	365	0	0	0	0
				Farm Totals	24156	37726400

Manure Storage Pits

Pit Name	Volume	Number of Times Emptied per Year	Total Collected Annually
		Total Pit Tons = 0	**Total Pit Gallons = 0**

Spreaders

Spreader Name	Load Size	Number of Loads per Year	Total Collected Annually	Calibration Date	Calibration Notes
		Total Spreader Tons = 0	**Total Spreader Gallons = 0**		

WC scenario analysis needed?

GOLDEN SANDS DAIRY

Manure Averages - CSD Historic Manure Samples

Digestor Liquid — **lbs. per 1000 gal**

	Sample #	Nitrogen Total	Nitrogen Incorporated 1st yr	Nitrogen Surface	Phosphate Total	Phosphate 1st Yr	Potash 1st Yr
2009	7708	10.79	4.32	3.24	1.9	1.14	8.74
2010	14238	14.11	5.64	4.23	3.8	2.28	18.33
2011	9652	14.92	5.98	4.48	5.7	3.42	12.75
	Average	**13.685**	**5.48**	**4.1075**	**4.275**	**2.565**	**13.1425**
			6	4	4	3	

90% = 12.31/12
80% = 10.9/11
70% = 9.5/10
60% = 8.2/8
50% = 6.84/7

Solids
0.18 %
1.91 %
2.58 %
1.56 %

Digestor Seperated solid — **Lbs. per ton**

	Sample #	Nitrogen Total	Nitrogen Incorporated 1st yr	Nitrogen Surface	Phosphate Total	Phosphate 1st Yr	Potash
2010	14241	9.4	3.76	2.82	5	3	3.84
2011	9654	6	2.4	1.8	3.2	1.92	3.52
2012	13616	7.8	3.12	2.34	3.2	1.92	3.84
	Average	**7.75**	**3.1**	**2.325**	**3.65**	**2.19**	**3.76**

MANURE NUTRIENTS PRODUCED Estimated totals using averages

lbs	Liquid	Solid	TOTAL LBS.
NITROGEN	615,130	187,209	802,339
PHOSPHORUS	191,947	88,169	280,116

Central Sands Dairy data

DAIRYLAND LABORATORIES, INC.
Arcadia, WI 54612
Telephone 608-323-2123

MANURE ANALYSIS REPORT

007708

SAMPLE NUMBER	SUBMITTED BY:	GROWER:
ACCT # 1311	Frase Crop Consultin	CENTRAL SANDS DAIRY
	Jeff Frase	
DATE RECEIVED: 1/26/2009 / DATE PROCESSED: 1/26/2009	E10305 CTH HH	NEKOOSA , WI
	Osseo , WI 54758	

ANALYSIS RESULTS

SAMPLE ID

SAMPLE NAME: CSD lagoon
MATERIAL: Dairy
STORAGE SYSTEM: Liquid

ACTUAL ANALYSIS

MOISTURE:	99.82%
SOLIDS:	0.18%
NITROGEN:	0.13%
PHOSPHORUS:	0.01%
POTASSIUM:	0.11%

	Total Nutrients	Estimated 1st year Available Nutrients		Value of Equivalent Commercial Fertilizer	
		Injected or Incorporated Within 3 days	Surface/Not Incorporated Within 3 days	Injected or Incorporated	Surface/Not Incorporated
	lbs/1000 gal	lbs/1000 gal		$/1000 gal	
NITROGEN	10.79	4.32 4	3.24 3	$3.02	$2.26
PHOSPHATE	1.90	1.14	1.14 1	$0.91	$0.91
POTASH	10.96	8.76	8.76 9	$7.45	$7.45
			TOTAL VALUE	$11.38	$10.62

COMMENTS

Application of manure on the same field for 2 consecutive years increases availability of N, P, K, and S by 10%, and for 3 or more consecutive years by 15%.
Availability of N changes depending on application technique. Injection or incorporation within 3 days of application results in higher N availability.
Value based on commercial fertilizer costs as of12/15/2008.

N (Urea)	0.70/lb
P2O5 (Triple Superphosphate)	0.80/lb
K2O (Potash)	0.85/lb
S (Elemental Sulfur)	1.00/lb

Central Sands

DAIRYLAND LABORATORIES, INC.
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MANURE ANALYSIS REPORT

014238

SAMPLE NUMBER	SUBMITTED BY:	GROWER:
ACCT # 1311	Frase Crop Consultin	CENTRAL SANDS DAIRY
	Jeff Frase	
DATE RECEIVED: 2/18/2010	E10305 CTH HH	
DATE PROCESSED: 2/18/2010	Osseo , WI 54758	

ANALYSIS RESULTS

SAMPLE ID
SAMPLE NAME: lagoon 1/28
MATERIAL: Dairy
STORAGE SYSTEM: Liquid

ACTUAL ANALYSIS

MOISTURE:	98.09%
SOLIDS:	1.91%
NITROGEN:	0.17%
PHOSPHORUS:	0.02%
POTASSIUM:	0.23%

	Total Nutrients	Estimated 1st year Available Nutrients		Value of Equivalent Commercial Fertilizer	
		Injected or Incorporated Within 3 days	Surface/Not Incorporated Within 3 days	Injected or Incorporated	Surface/Not Incorporated
	lbs/1000 gal	lbs/1000 gal		$/1000 gal	
NITROGEN	14.11	5.64 6	4.23 4	$2.53	$1.90
PHOSPHATE	3.80	2.28	2.28 2	$1.02	$1.02
POTASH	22.91	18.33	18.33 18	$7.33	$7.33
			TOTAL VALUE	$10.88	$10.25

COMMENTS

Application of manure on the same field for 2 consecutive years increases availability of N, P, K, and S by 10%, and for 3 or more consecutive years by 15%.
Availability of N changes depending on application technique. Injection or incorporation within 3 days of application results in higher N availability.
Value based on commercial fertilizer costs as of 2/ 5/2010.

N (Urea)	0.45/lb
P2O5 (Triple Superphosphate)	0.45/lb
K2O (Potash)	0.40/lb
S (Elemental Sulfur)	0.70/lb

Central Sands

DAIRYLAND LABORATORIES, INC.
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MANURE ANALYSIS REPORT

009652

SAMPLE NUMBER
ACCT # 1311

DATE RECEIVED	DATE PROCESSED
2/ 1/2011	2/ 1/2011

SUBMITTED BY:
Frase Crop Consultin
Jeff Frase
E10305 CTH HH
Osseo , WI 54758

GROWER:
CENTRAL SANDS DAIRY

ANALYSIS RESULTS

SAMPLE ID
SAMPLE NAME: slope screen
MATERIAL: Dairy
STORAGE SYSTEM: Liquid

ACTUAL ANALYSIS

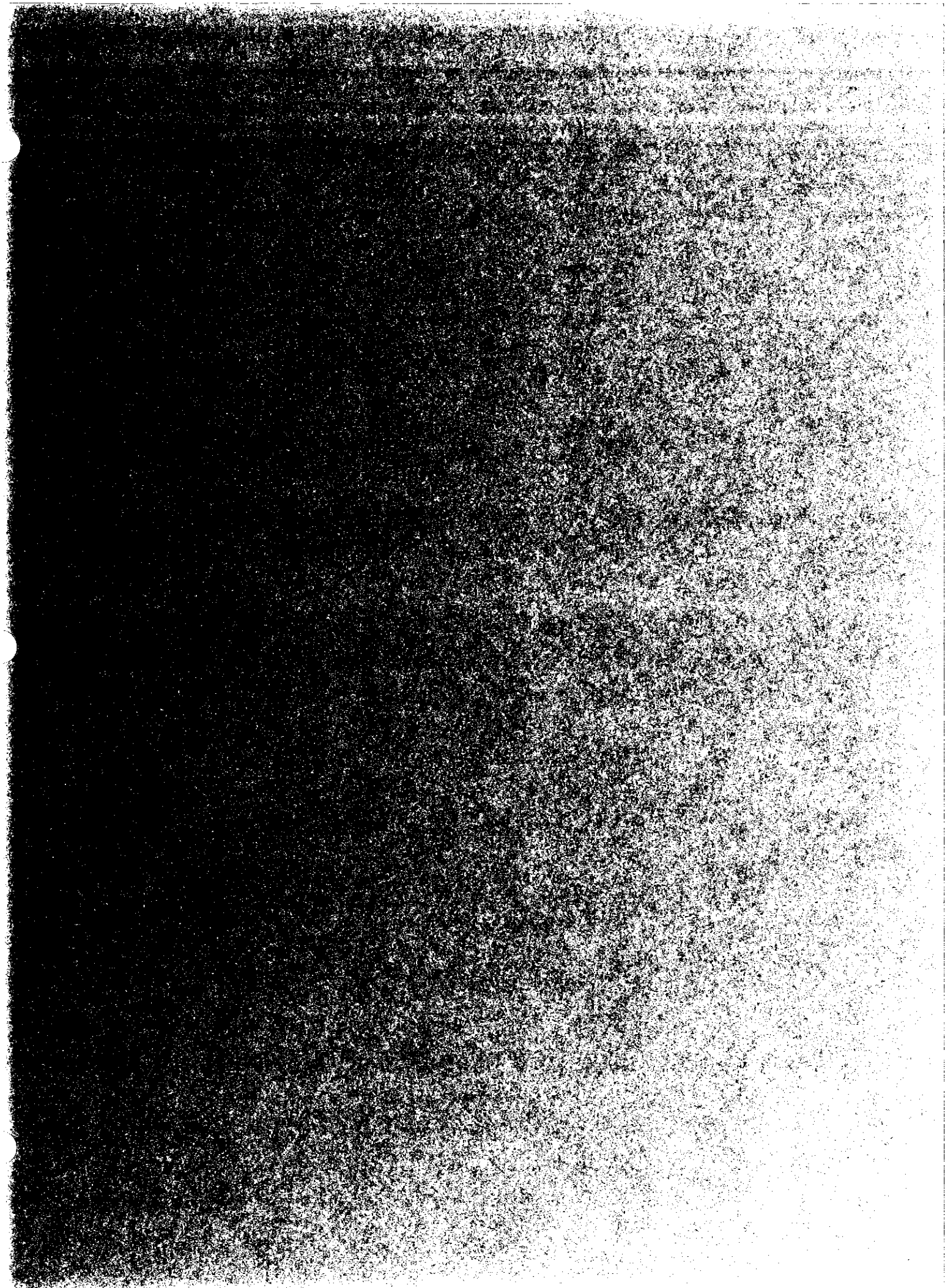
MOISTURE:	97.42%
SOLIDS:	2.58%
NITROGEN:	0.18%
PHOSPHORUS:	0.03%
POTASSIUM:	0.16%

	Total Nutrients	Estimated 1st year Available Nutrients			Value of Equivalent Commercial Fertilizer	
		Injected or Incorporated Within 3 days	Surface/Not Incorporated Within 3 days		Injected or Incorporated	Surface/Not Incorporated
	lbs/1000 gal	lbs/1000 gal			$/1000 gal	
NITROGEN	14.94	5.98	4.48	4	$2.98	$2.24
PHOSPHATE	5.70	3.42	3.42	3	$2.39	$2.39
POTASH	15.94	12.75	12.75	13	$5.09	$5.09
				TOTAL VALUE	$10.46	$9.72

COMMENTS

Application of manure on the same field for 2 consecutive years increases availability of N, P, K, and S by 10%, and for 3 or more consecutive years by 15%.
Availability of N changes depending on application technique. Injection or incorporation within 3 days of application results in higher N availability.
Value based on commercial fertilizer costs as of 9/20/2010.

N (Urea)	0.50/lb
P2O5 (Triple Superphosphate)	0.70/lb
K2O (Potash)	0.40/lb
S (Elemental Sulfur)	0.80/lb



DAIRYLAND LABORATORIES, INC.
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MANURE ANALYSIS REPORT

014241

SAMPLE NUMBER	SUBMITTED BY:	GROWER:
ACCT # 1311	Frase Crop Consultin	CENTRAL SANDS DAIRY
	Jeff Frase	
DATE RECEIVED: 2/18/2010	E10305 CTH HH	
DATE PROCESSED: 2/18/2010	Osseo , WI 54758	

ANALYSIS RESULTS

SAMPLE ID

SAMPLE NAME: Sep solid 1-28
MATERIAL: Dairy
STORAGE SYSTEM: Solid

ACTUAL ANALYSIS

MOISTURE:	78.91%
SOLIDS:	21.09%
NITROGEN:	0.47%
PHOSPHORUS:	0.11%
POTASSIUM:	0.20%

	Total Nutrients	Estimated 1st year Available Nutrients		Value of Equivalent Commercial Fertilizer	
		Injected or Incorporated Within 3 days	Surface/Not Incorporated Within 3 days	Injected or Incorporated	Surface/Not Incorporated
	lbs/ton	lbs/ton		$/ton	
NITROGEN	9.40	3.76	2.82	$1.69	$1.26
PHOSPHATE	5.00	3.00	3.00	$1.35	$1.35
POTASH	4.80	3.84	3.84	$1.53	$1.53
			TOTAL VALUE	$4.57	$4.14

COMMENTS

Application of manure on the same field for 2 consecutive years increases availability of N, P, K, and S by 10%, and for 3 or more consecutive years by 15%.
Availability of N changes depending on application technique. Injection or incorporation within 3 days of application results in higher N availability.
Value based on commercial fertilizer costs as of 2/ 5/2010.

N (Urea)	0.45/lb
P2O5 (Triple Superphosphate)	0.45/lb
K2O (Potash)	0.40/lb
S (Elemental Sulfur)	0.70/lb

DAIRYLAND LABORATORIES, INC.
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MANURE ANALYSIS REPORT

009654

SAMPLE NUMBER	DATE RECEIVED	DATE PROCESSED
ACCT # 1311	2/ 1/2011	2/ 1/2011

SUBMITTED BY:
Frase Crop Consultin
Jeff Frase
E10305 CTH HH
Osseo , WI 54758

GROWER:
CENTRAL SANDS DAIRY

ANALYSIS RESULTS

SAMPLE ID
SAMPLE NAME: ?
MATERIAL: Dairy
STORAGE SYSTEM: Solid

ACTUAL ANALYSIS

MOISTURE:	88.56%
SOLIDS:	11.44%
NITROGEN:	0.30%
PHOSPHORUS:	0.07%
POTASSIUM:	0.18%

	Total Nutrients	Estimated 1st year Available Nutrients		Value of Equivalent Commercial Fertilizer	
		Injected or Incorporated Within 3 days	Surface/Not Incorporated Within 3 days	Injected or Incorporated	Surface/Not Incorporated
	lbs/ton	lbs/ton		$/ton	
NITROGEN	6.00	2.40	1.80	$1.20	$0.90
PHOSPHATE	3.20	1.92	1.92	$1.34	$1.34
POTASH	4.40	3.52	3.52	$1.40	$1.40
			TOTAL VALUE	$3.94	$3.64

COMMENTS

Application of manure on the same field for 2 consecutive years increases availability of N, P, K, and S by 10%, and for 3 or more consecutive years by 15%.
Availability of N changes depending on application technique. Injection or incorporation within 3 days of application results in higher N availability.
Value based on commercial fertilizer costs as of 9/20/2010.

N (Urea)	0.50/lb
P2O5 (Triple Superphosphate)	0.70/lb
K2O (Potash)	0.40/lb
S (Elemental Sulfur)	0.80/lb

DAIRYLAND LABORATORIES, INC.
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MANURE ANALYSIS REPORT

013616

SAMPLE NUMBER
ACCT # 1311

DATE RECEIVED	DATE PROCESSED
2/13/2012	2/13/2012

SUBMITTED BY:
Frase Crop Consultin
Jeff Frase
E10305 CTH HH
Osseo , WI 54758

GROWER:
CENTRAL SANDS DAIRY

ANALYSIS RESULTS

SAMPLE ID
SAMPLE NAME: slope screen
MATERIAL: Dairy
STORAGE SYSTEM: Solid

ACTUAL ANALYSIS

MOISTURE:	87.97%
SOLIDS:	12.03%
NITROGEN:	0.39%
PHOSPHORUS:	0.07%
POTASSIUM:	0.20%

	Total Nutrients	Estimated 1st year Available Nutrients		Value of Equivalent Commercial Fertilizer	
		Injected or Incorporated Within 3 days	Surface/Not Incorporated Within 3 days	Injected or Incorporated	Surface/Not Incorporated
	lbs/ton	lbs/ton		$/ton	
NITROGEN	7.80	3.12	2.34	$1.99	$1.49
PHOSPHATE	3.20	1.92	1.92	$1.49	$1.49
POTASH	4.80	3.84	3.84	$2.11	$2.11
			TOTAL VALUE	$5.59	$5.09

COMMENTS

Application of manure on the same field for 2 consecutive years increases availability of N, P, K, and S by 10%, and for 3 or more consecutive years by 15%.
Availability of N changes depending on application technique. Injection or incorporation within 3 days of application results in higher N availability.
Value based on commercial fertilizer costs as of11/ 8/2011.

N (Urea)	0.64/lb
P2O5 (Triple Superphosphate)	0.78/lb
K2O (Potash)	0.55/lb
S (Elemental Sulfur)	0.80/lb