

Annual Report - General Order No. R5-2007-0035*Reporting period 1/1/2020 to 12/31/2020.***DAIRY FACILITY INFORMATION****A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY:** Dairy of Testing

Physical Address of dairy:

123 Test St

Turlock

Amador

95382

Number and Street

City

County

Zip Code

Street and nearest cross street (if no address): Software Rd.

Date facility was originally placed in operation: 5/12/2022

Regional Water Quality Control Board Basin Plan designation: San Joaquin River Basin

County Assessor Parcel Number(s) for dairy facility:

0000000000000013

0000000000000042

B. OPERATORS

Spencer Nylund

Operator name: Spencer Nylund

Telephone no.: (209) 634-7520

P.O. Box 1029

Hilmar

CA

95324

Mailing Address Number and Street

City

State

Zip Code

This operator is responsible for paying permit fees.

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Spencer Nylund

Operator name: Spencer NylundTelephone no.: (209) 634-7520P.O. Box 1029HilmarCA95324

Mailing Address Number and Street

City

State

Zip Code

This owner is responsible for paying permit fees.

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AVAILABLE NUTRIENTS

A. HERD INFORMATION

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Heifers (7-14 mo. to breeding)	Calves (4-6 mo.)	Calves (0-3 mo.)
Number open confinement	5	5	5	5	5	5
Number under roof	5	5	5	5	5	5
Maximum number	12	12	12	12	12	12
Average number	5	5	5	5	5	5
Avg live weight (lbs)	5	5	5	5		

Predominant milk cow breed: Milking Shorthorn

Average milk production: 1337 pounds per cow per day

B. MANURE GENERATED:

Total manure excreted by the herd: 1,029.66 tons per reporting period

Total nitrogen from manure: 13,807.93 lbs per reporting period After ammonia losses (30% loss applied): 9665.55 lbs per reporting period

Total phosphorus from manure: 2,395.01 lbs per reporting period

Total potassium from manure: 5,133.67 lbs per reporting period

Total salt from manure: 3,513.6 lbs per reporting period

C. PROCESS WASTEWATER GENERATED:

Process wastewater generated: 5,700,000 gallons

Total nitrogen generated: 21,867.57 lbs

Total phosphorus generated: 1,364.75 lbs

Total potassium generated: 23,700.13 lbs

Total salt generated: 382,344.53 lbs

	4,860,000	<i>gallons applied</i>
+	840,000	<i>gallons exported</i>
-	0	<i>gallons imported</i>
=	5,700,000	<i>gallons generated</i>

D. FRESH WATER SOURCES

Source Description	Type
Canal	Surface water
Well 5	Ground water



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Well 6

Ground water

E. SUBSURFACE (TILE) DRAINAGE SOURCES

Source Description

Tile Drain 1

F. NUTRIENT IMPORTS

Date	Material Type/ Description	Quantity (tons)	Reporting basis	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
5/9/2020	Dry manure: Separator solids/ UN32	41.61	dry-weight	56.00	19,400.00	5,300.00	21,800.00	0.00	0.00

No process wastewater nutrient imports entered.

Date	Material Type/ Description	Quantity	Reporting basis	Moisture (%)	N (%)	P (%)	K (%)	Salt (%)
5/9/2020	Commercial fertilizer/ Other: Solid commercial fertilizer/ UN32	41.61 tons	dry-weight	0.00	32.00	0.00	0.00	0.00

Material Type	N (lbs)	P (lbs)	K (lbs)	Salt (lbs)
Commercial fertilizer / Other	26,603.77	0.00	0.00	0.00
Dry Manure	710.37	194.07	798.25	0.00
Process wastewater	0.00	0.00	0.00	0.00
Total Import for all materials	27,314.14	194.07	798.25	0.00

G. NUTRIENT EXPORTS

Date	Material type	Quantity	Reporting basis	Moisture (%)	Density (lbs/cu ft)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
3/5/2020	Dry manure: Corral solids	1,898.00 tons	dry-weight	56.00		19,400.00	5,280.00	21,800.00		0.00
5/8/2020	Dry manure: Corral solids	1,839.00 tons	dry-weight	35.60		24,000.00	10,000.00	48,000.00		0.00

Date	Material type	Quantity	Kjeldahl-N (mg/L)	Ammonium-N (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	P (mg/L)	K (mg/L)	EC (µmhos/cm)	TDS (mg/L)
1/25/2020	Process wastewater	420,000.00 gals	484.00	0	0	0	71.90	997.00	8,000.00	8800
2/12/2020	Process wastewater	420,000.00 gals	484.00	0	0	0	71.90	997.00	8,000.00	8800

Material Type	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
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Dry Manure	89,249.82	32,505.19	150,105.57	0.00
Process wastewater	3,392.74	504.00	6,988.77	61,686.24
Total exports for all materials	92,642.57	33,009.19	157,094.34	61,686.24



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APPLICATION AREA

A. LIST OF LAND APPLICATION AREAS

Field Name	Controlled acres	Cropable acres	Total harvests	Type of waste applied	Parcel Number
Field 1	22	22	2	process wastewater	0000000000000013
Field 2	17	17	2	process wastewater	0000000000000042 0000000000000013
Field 17	290	290	0	manure	
Totals for areas that were used for applications	329	329	4		
Totals for areas that were not used for applications	0	0	0		
Land application area totals	329	329	4		



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B. CROPS AND HARVESTS:**Field 1**

Field name: Field 1

11/1/2019 Oats silage-soft dough

Crop: Oats silage-soft dough Acres planted: 22 Plant date: 11/1/2019

Harvest date	Yield	Reporting Basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
4/20/2020	391.00 tons	As Is		72.20%	5,000.00	1,390.00	13,600.00		12.50%

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total Salt (lbs/acre)
Anticipated harvest content	16.00	160.00	25.60	132.80	0.00
Total actual harvest content	17.77	177.73	49.41	483.42	1,235.20

5/7/2020 Corn silage

Crop: Corn silage Acres planted: 22 Plant date: 5/7/2020

Harvest date	Yield	Reporting Basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
8/29/2020	569.00 tons	As Is		65.00%	6,640.00	950.00	9,100.00		6.71%

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	0.00
Total actual harvest content	25.86	343.47	49.14	470.72	1,214.82

Field 2

Field name: Field 2

11/1/2019 Oats silage-soft dough

Crop: Oats silage-soft dough Acres planted: 17 Plant date: 11/1/2019

Harvest date	Yield	Reporting Basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
4/20/2020	275.00 tons	As Is		66.80%	5,970.00	930.00	9,300.00		8.28%

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total Salt (lbs/acre)
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Anticipated harvest content	16.00	160.00	25.60	132.80	0.00
Total actual harvest content	16.18	193.15	30.09	300.88	889.37

5/7/2020 Corn silage

Crop: Corn silage Acres planted: 17 Plant date: 5/7/2020

Harvest date	Yield	Reporting Basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
8/29/2020	440.00 tons	As Is		71.00%	5,450.00	1,040.00	12,200.00		9.52%

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	0.00
Total actual harvest content	25.88	282.12	53.84	631.53	1,429.12

Field 17

Field name: Field 17

6/1/2020 Corn silage

Crop: Corn silage Acres planted: 290 Plant date: 6/1/2020

No harvests entered for this crop.

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	0.00
Total actual harvest content	0.00	0.00	0.00	0.00	0.00



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Nutrient Budget**A. LAND APPLICATIONS**

Field 1 - 11/1/2019: Oats silage-soft dough

Field name: Field 1

Crop: Oats silage-soft dough

Plant date: 11/1/2019

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/10/2019	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation

Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Field Sample	Existing soil nutrient content	600.00	240.00	600.00	144.00	
Plowdown Ex1	Plowdown credit	250.00	250.00	250.00	250.00	
Canal	Freshwater	0.00	0.00	0.00	322.61	2,430,000.00 gals
Application event totals		850.00	490.00	850.00	716.61	

11/20/2019	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation
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Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	66.09	9.82	136.14	1,201.68	360,000.00 gals
Well 6	Freshwater	14.31	0.00	0.00	0.00	756,000.00 gals
Application event totals		80.40	9.82	136.14	1,201.68	

1/10/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation
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Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	78.06	5.32	113.75	799.75	420,000.00 gals
Application event totals		78.06	5.32	113.75	799.75	

Field 1 - 5/7/2020: Corn silage

Field name: Field 1

Crop: Corn silage

Plant date: 5/7/2020

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
5/7/2020	Sidedress	No Precipitation	No Precipitation	No Precipitation



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Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Dry manure: Separator solids	Dry manure: Separator solids	0.43	0.12	0.48	0.00	
Application event totals		0.43	0.12	0.48	0.00	
6/4/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Canal	Freshwater	0.00	0.00	0.00	365.63	2,754,000.00 gals
Application event totals		0.00	0.00	0.00	365.63	
6/14/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Canal	Freshwater	0.00	0.00	0.00	258.09	1,944,000.00 gals
Application event totals		0.00	0.00	0.00	258.09	
6/24/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	94.48	2.16	45.62	1,963.20	570,000.00 gals
Application event totals		94.48	2.16	45.62	1,963.20	
7/20/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	149.19	3.41	72.03	3,099.79	900,000.00 gals
Application event totals		149.19	3.41	72.03	3,099.79	

Field 2 - 11/1/2019: Oats silage-soft dough

Field name:	Field 2									
Crop:	Oats silage-soft dough							Plant date: 11/1/2019		
Application date	Application method			Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following		
10/9/2019	Surface (irrigation)			No Precipitation		No Precipitation		No Precipitation		
Source description			Material Type		N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount	
Canal			Freshwater		0.00	0.00	0.00	742.03	4,318,920.00 gals	



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Application event totals		0.00	0.00	0.00	742.03	
1/12/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	144.32	9.84	210.29	1,478.54	600,000.00 gals
Well 5	Freshwater	24.28	0.00	0.00	5.01	1,020,000.00 gals
Application event totals		168.60	9.84	210.29	1,483.54	
2/22/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	86.59	5.90	126.18	887.12	360,000.00 gals
Application event totals		86.59	5.90	126.18	887.12	

Field 2 - 5/7/2020: Corn silage

Field name:	Field 2					
Crop:	Corn silage				Plant date:	5/7/2020
Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
4/26/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation		
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Canal	Freshwater	0.00	0.00	0.00	890.66	5,184,000.00 gals
Application event totals		0.00	0.00	0.00	890.66	
5/7/2020	Sidedress	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Commercial	Commercial fertilizer/ Other: Solid commercial fertilizer	16.00	0.00	0.00	0.00	
Application event totals		16.00	0.00	0.00	0.00	
6/4/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	257.42	5.88	124.29	5,348.65	1,200,000.00 gals



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Canal	Freshwater	0.00	0.00	0.00	1,113.32	6,480,000.00 gals
Application event totals		257.42	5.88	124.29	6,461.97	
8/6/2020	Surface (irrigation)	No Precipitation	No Precipitation	No Precipitation	No Precipitation	
Source description	Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Wastewater	Process wastewater	96.53	2.21	46.61	2,005.75	450,000.00 gals
Application event totals		96.53	2.21	46.61	2,005.75	

Field 17 - 6/1/2020: Corn silage

Field name: Field 17

Crop: Corn silage

Plant date: 6/1/2020

Application date	Application method	Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
5/6/2020	Broadcast/incorporate	No Precipitation		No Precipitation		No Precipitation	
Source description		Material Type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Solid Manure		Corral solids	194.80	53.02	218.90	0.00	3,309.00 tons
Application event totals			194.80	53.02	218.90	0.00	



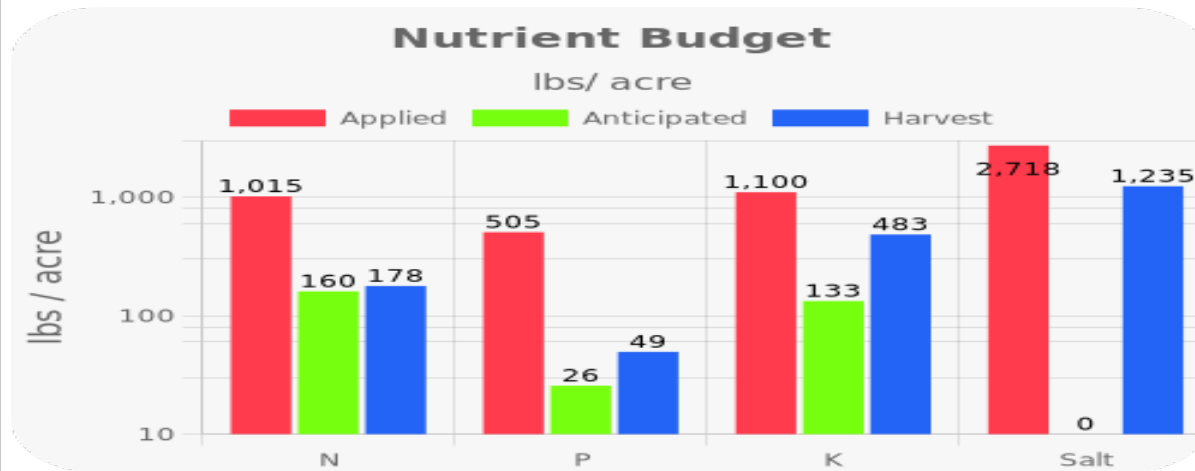
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B. NUTRIENT BUDGET

Field 1 - 11/1/2019: Oats silage-soft dough

Field name: Field 1 Crop: Oats silage-soft dough Plant date: 11/1/2019



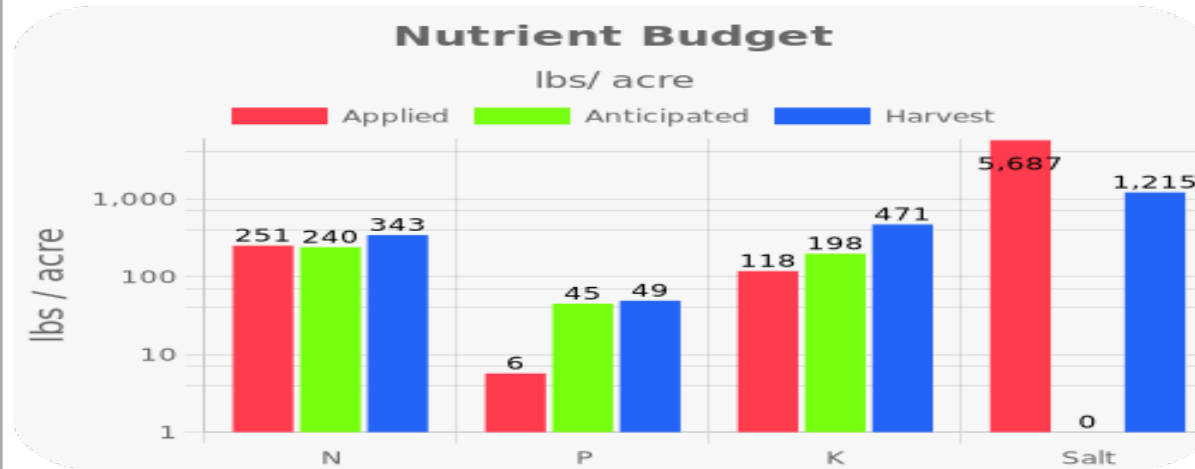
	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	600.00	240.00	600.00	144.00	3,186,000.00 gallons
Plowdown credit	250.00	250.00	250.00	250.00	117.33 acre-inches
Commerical fertilizer / Other	0.00	0.00	0.00	0.00	5.33 incs/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	144.16	15.14	249.89	2,001.43	780,000.00 gallons
Fresh water	14.31	0.00	0.00	322.61	28.72 acre-inches
Atmospheric deposition	7	0.00	0.00	0.00	1.31 incs/acre
Total nutrients applied	1,015.47	505.14	1,099.89	2,718.05	
Anticipated crop nutrient removal	160.00	25.60	132.80	0.00	
Actual crop nutrient removal	177.73	49.41	483.42	1,235.20	
Nutrient balance	837.74	455.73	616.48	1,482.84	
Applied to removed ratio	5.71	10.22	2.28	2.20	
					Total harvests for the crop
					1 harvest

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Field 1 - 5/7/2020: Corn silage

Field name: Field 1 Crop: Corn silage Plant date: 5/7/2020



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	4,698,000.00 gallons
Plowdown credit	0.00	0.00	0.00	0.00	173.01 acre-inches
Commerical fertilizer / Other	0.43	0.12	0.48	0.00	7.86 inces/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	243.67	5.57	117.65	5,062.99	1,470,000.00 gallons
Fresh water	0.00	0.00	0.00	623.71	54.14 acre-inches
Atmospheric deposition	7	0.00	0.00	0.00	2.46 inces/acre
Total nutrients applied	251.10	5.69	118.13	5,686.70	
Anticipated crop nutrient removal	240.00	45.00	198.00	0.00	
Actual crop nutrient removal	343.47	49.14	470.72	1,214.82	
Nutrient balance	-92.37	-43.45	-352.59	4,471.89	
Applied to removed ratio	0.73	0.12	0.25	4.68	
					Total harvests for the crop
					1 harvest

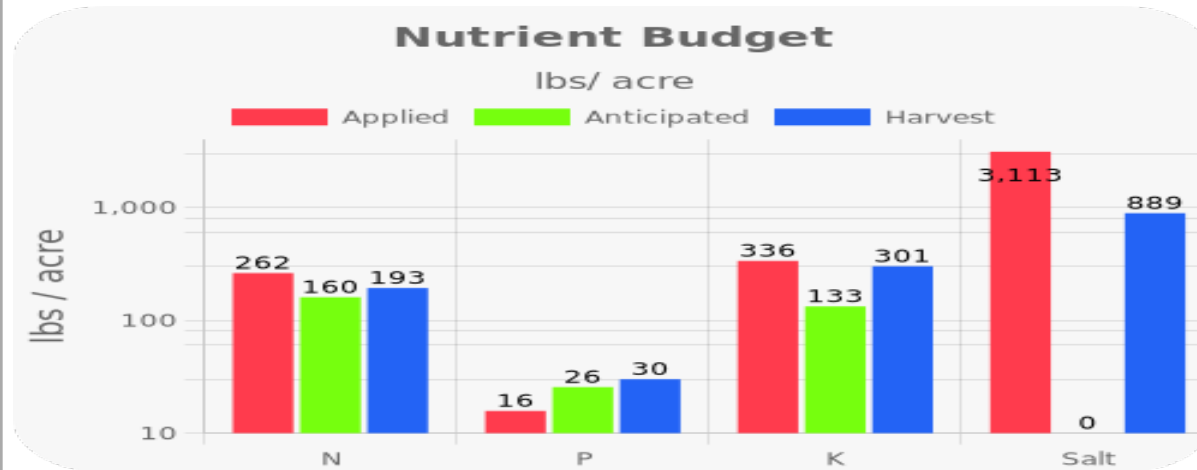


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Field 2 - 11/1/2019: Oats silage-soft dough

Field name: Field 2 Crop: Oats silage-soft dough Plant date: 11/1/2019



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	5,338,920.00 gallons
Plowdown credit	0.00	0.00	0.00	0.00	196.61 acre-inches
Commerical fertilizer / Other	0.00	0.00	0.00	0.00	11.57 inces/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	230.91	15.74	336.47	2,365.66	960,000.00 gallons
Fresh water	24.28	0.00	0.00	747.04	35.35 acre-inches
Atmospheric deposition	7	0.00	0.00	0.00	2.08 inces/acre
Total nutrients applied	262.20	15.74	336.47	3,112.70	
Anticipated crop nutrient removal	160.00	25.60	132.80	0.00	
Actual crop nutrient removal	193.15	30.09	300.88	889.37	
Nutrient balance	69.05	-14.35	35.59	2,223.33	
Applied to removed ratio	1.36	0.52	1.12	3.50	
					Total harvests for the crop
					1 harvest

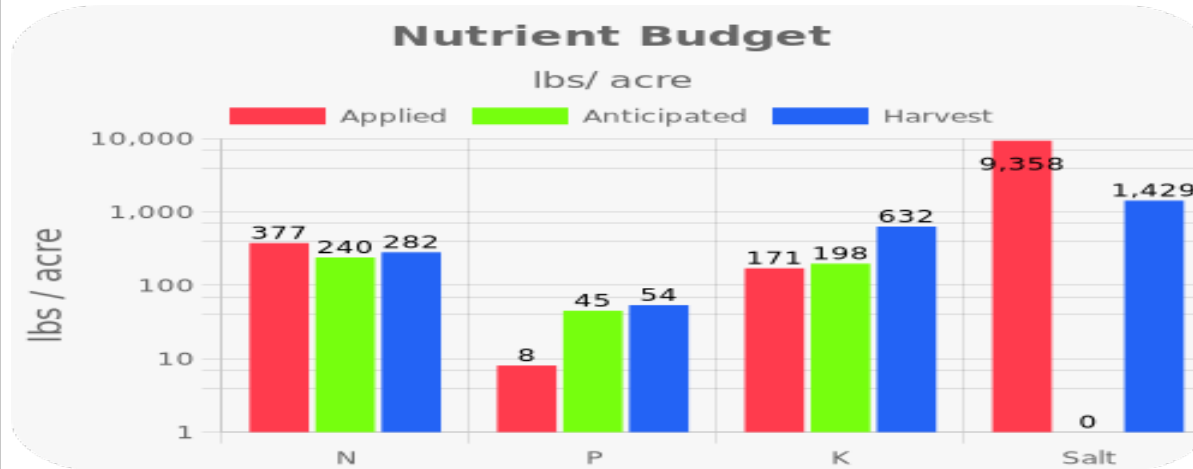


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Field 2 - 5/7/2020: Corn silage

Field name: Field 2 Crop: Corn silage Plant date: 5/7/2020



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	11,664,000.00 gallons
Plowdown credit	0.00	0.00	0.00	0.00	429.55 acre-inches
Commerical fertilizer / Other	16.00	0.00	0.00	0.00	25.27 inces/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	353.95	8.09	170.90	7,354.40	1,650,000.00 gallons
Fresh water	0.00	0.00	0.00	2,003.98	60.76 acre-inches
Atmospheric deposition	7	0.00	0.00	0.00	3.57 inces/acre
Total nutrients applied	376.95	8.09	170.90	9,358.38	Total harvests for the crop
Anticipated crop nutrient removal	240.00	45.00	198.00	0.00	1 harvest
Actual crop nutrient removal	282.12	53.84	631.53	1,429.12	
Nutrient balance	94.83	-45.74	-460.63	7,929.26	
Applied to removed ratio	1.34	0.15	0.27	6.55	

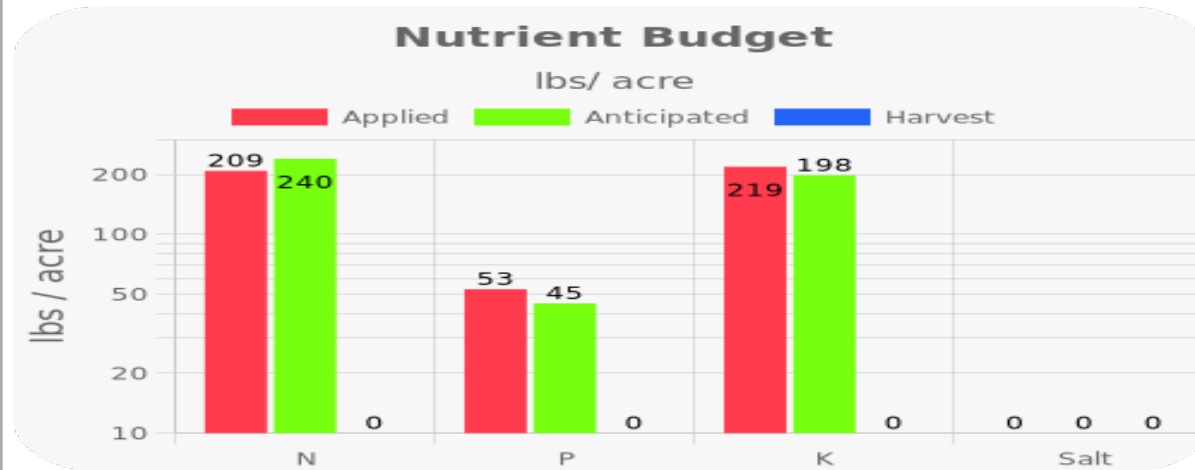


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Field 17 - 6/1/2020: Corn silage

Field name: Field 17 Crop: Corn silage Plant date: 6/1/2020



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	0.00 gallons
Plowdown credit	0.00	0.00	0.00	0.00	0.00 acre-inches
Commerical fertilizer / Other	0.00	0.00	0.00	0.00	0.00 inces/acre
Dry manure	194.80	53.02	218.90	0.00	Process wastewater applied
Process wastewater	0.00	0.00	0.00	0.00	0.00 gallons
Fresh water	0.00	0.00	0.00	0.00	0.00 acre-inches
Atmospheric deposition	14	0.00	0.00	0.00	0.00 inces/acre
Total nutrients applied	208.80	53.02	218.90	0.00	Total harvests for the crop
Anticipated crop nutrient removal	240.00	45.00	198.00	0.00	0 harvest
Actual crop nutrient removal	0.00	0.00	0.00	0.00	
Nutrient balance	208.80	53.02	218.90	0.00	
Applied to removed ratio	0.00	0.00	0.00	0.00	



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Nutrient Analyses

A. Manure Analyses

Manure Caetano

Sample and source description Manure Caetano

Sample date: 3/9/2020 Material type: Corral solids Source of analysis: Lab Analysis Method of Reporting: dry-weight

Moisture: 56.00%

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total Salt (mg/kg)	TFS(%)
Value	19,400.00	5,280.00	21,800.00	0.00	0.00	0.00	0.00	0.00		0.00
DL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		1.00

B. PROCESS WASTEWATER ANALYSES

Lagoon

Sample and source description Lagoon

Sample date: 11/12/2019 Material type: Process wastewater Source of analysis: Lab Analysis pH: 0.00

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	484.00	336.00	0.00	0.00	71.90	997.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,000.00	8,800.00
DL	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	10

Lagoon

Sample and source description Lagoon

Sample date: 3/9/2020 Material type: Process wastewater Source of analysis: Lab Analysis pH: 0.00

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	490.00	263.00	0.00	0.00	33.40	714.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,000.00	5,020.00
DL	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	10



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Lagoon

Sample and source description

Lagoon

Sample date: 5/18/2020

Material type: Process wastewater

Source of analysis: Lab Analysis

pH: 0.00

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/ cm)	TDS (mg/L)
Value	437.00	374.00	0.00	0.00	9.99	211.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,310.00	9,080.00
DL	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	10

C. FRESH WATER ANALYSES

Canal

Canal Water

Sample description Canal Water

Sample date: 9/22/2020

Source of analysis: Lab Analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb, (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/ cm)	TDS (mg/L)
Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	259.00	350.00
DL	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	10.00

Well 5

Irrigation Water

Sample description Irrigation Water

Sample date: 8/6/2020

Source of analysis: Lab Analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb, (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/ cm)	TDS (mg/L)
Value	48.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,660.00	10.00
DL	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	10.00

Well 6



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Irrigation WaterSample description Irrigation WaterSample date: 8/6/2020Source of analysis: Lab Analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	49.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,730.00	0.00
DL	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	10.00

D. SOIL ANALYSES**Field 1****Soil Sample C**Sample and source description Soil Sample CSample date: 11/12/2019Source of analysis: Lab Analysis

	Nitrate-N (mg/kg)	Total P (mg/kg)	Soluble P (mg/kg)	K (mg/kg)	EC (µmhos/cm)	Organic matter (%)	Total salt (mg/kg)
Value	50.00	50.00	20.00	50.00	20.00	20.00	
DL	5.00	5.00	5.00	5.00	5.00	5.00	

Soil Sample BSample and source description Soil Sample BSample date: 11/12/2019Source of analysis: Lab Analysis

	Nitrate-N (mg/kg)	Total P (mg/kg)	Soluble P (mg/kg)	K (mg/kg)	EC (µmhos/cm)	Organic matter (%)	Total salt (mg/kg)
Value	50.00	50.00	20.00	50.00	20.00	20.00	
DL	5.00	5.00	5.00	5.00	5.00	5.00	

Soil Sample ASample and source description Soil Sample A

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Sample date: 11/12/2019

Source of analysis: Lab Analysis

	Nitrate-N (mg/kg)	Total P (mg/kg)	Soluble P (mg/kg)	K (mg/kg)	EC (µmhos/cm)	Organic matter (%)	Total salt (mg/kg)
Value	50.00	50.00	20.00	50.00	20.00	20.00	
DL	5.00	5.00	5.00	5.00	5.00	5.00	

E. PLANT TISSUE ANALYSES

Field 1 - 11/1/2019: Oats silage-soft dough

Oats silage-soft dough

Sample and source description Oats silage-soft dough

Sample date: 5/5/2020

Source of analysis: Lab Analysis

Method of Reporting: As Is

Moisture: 72.20%

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	5,000.00	1,390.00	13,600.00		12.50
DL	100.00	100.00	100.00		0.01

Field 1 - 5/7/2020: Corn silage

Corn silage

Sample and source description Corn silage

Sample date: 8/28/2020

Source of analysis: Lab Analysis

Method of Reporting: As Is

Moisture: 65.00%

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	6,640.00	950.00	9,100.00		6.71
DL	100.00	100.00	100.00		0.01



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Field 2 - 11/1/2019: Oats silage-soft dough

Oats silage-soft dough

Sample and source description Oats silage-soft dough

Sample date: 5/5/2020

Source of analysis: Lab Analysis

Method of Reporting: As Is

Moisture: 66.80%

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	5,970.00	930.00	9,300.00		8.28
DL	100.00	100.00	100.00		0.01

Field 2 - 5/7/2020: Corn silage

Corn silage

Sample and source description Corn silage

Sample date: 8/28/2020

Source of analysis: Lab Analysis

Method of Reporting: As Is

Moisture: 71.00%

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	5,450.00	1,040.00	12,200.00		9.52
DL	100.00	100.00	100.00		0.01

F. SUBSURFACE (TILE) DRAINAGE ANALYSES

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Tile Drain 1

Q1

Sample description Q1

Sample date: 10/10/2019

Source of analysis: Lab Analysis

	NH4-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	50.00	20.00	50.00	50.00	50
DL	5.00	5.00	5.00	5.00	5



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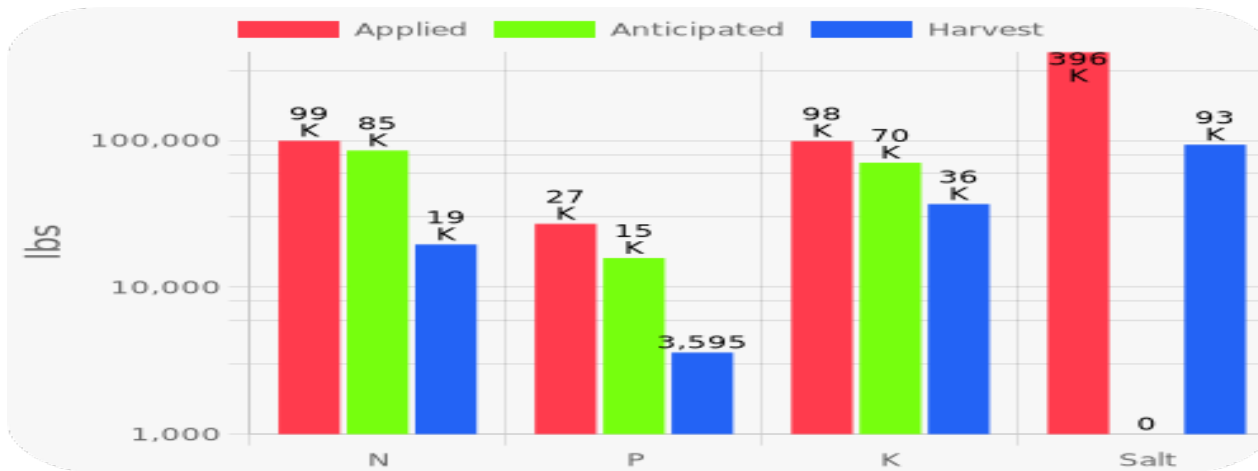
Reporting period 1/1/2020 to 12/31/2020.

NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

A. SUMMARY OF NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Existing soil nutrient content	13,200.00	5,280.00	13,200.00	3,168.00
Plowdown credit	5,500.00	5,500.00	5,500.00	5,500.00
Commerical fertilizer /Other	281.46	2.64	10.56	0.00
Dry Manure	56,491.25	15,374.94	63,479.86	0.00
Process wastewater	18,474.83	860.74	16,711.36	320,658.29
Fresh water	727.64	0.00	0.00	67,586.34
Atmospheric deposition	4606	0	0	0
Total nutrients applied	99,281.17	27,018.32	98,901.78	396,912.63
Anticipated crop nutrient removal	85,200.00	15,803.40	70,321.20	0.00
Actual crop nutrient removal	19,545.82	3,594.78	36,842.00	93,314.75
Nutrient balance	79,735.35	23,423.54	62,059.78	303,597.88
Applied to removed ratio	5.08	7.52	2.68	4.25

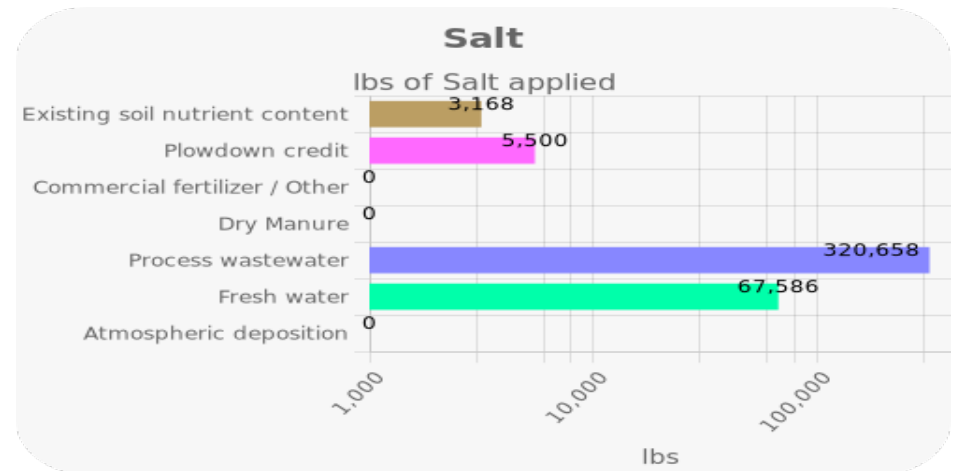
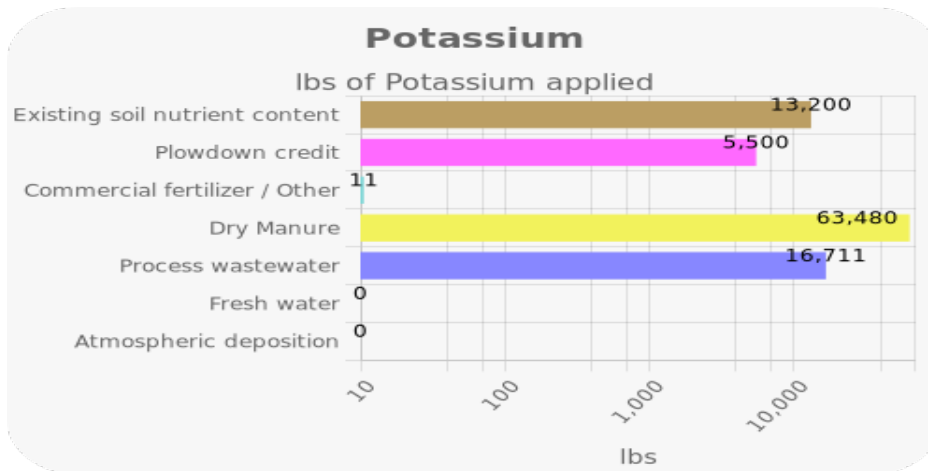
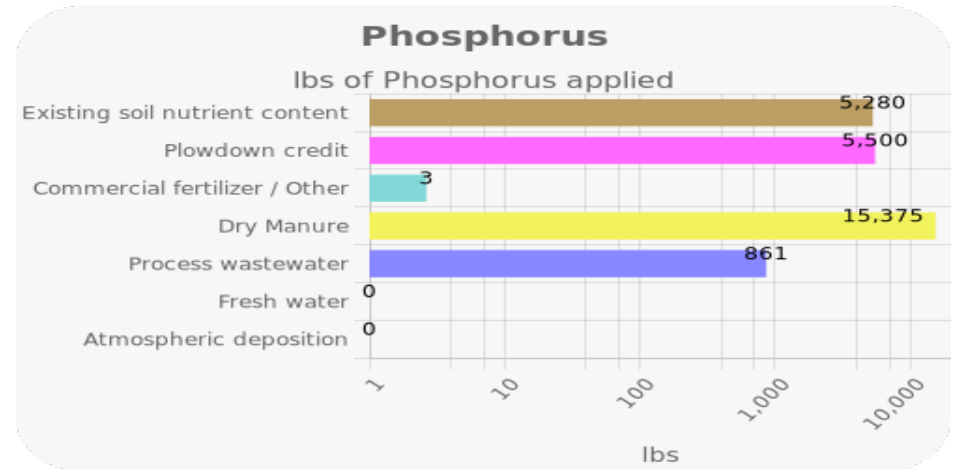
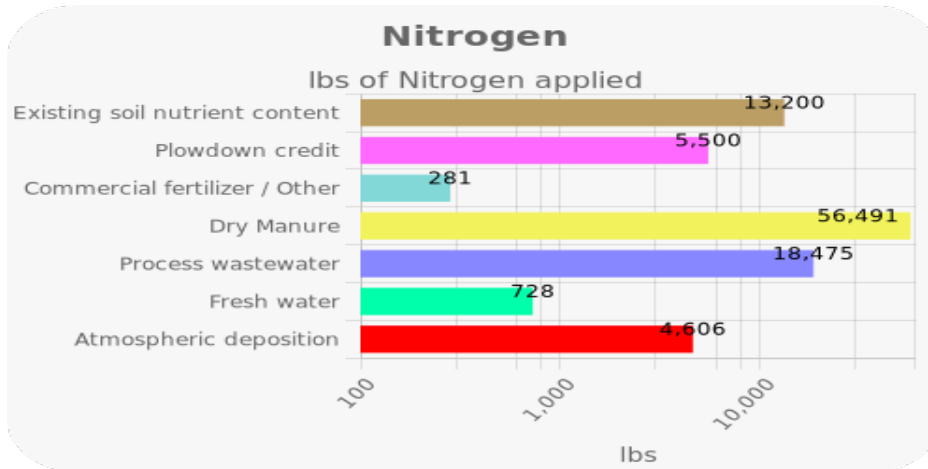
B. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL



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C. POUNDS OF NUTRIENT APPLIED BY MATERIAL TYPE



Annual Report - General Order No. R5-2007-0035*Reporting period 1/1/2020 to 12/31/2020.***EXCEPTION REPORTING****A. MANURE, PROCESS WASTEWATER, AND OTHER DAIRY WASTE DISCHARGES**

The following is a summary of all manure and process wastewater discharges from the production area to surface water or to land areas (land application areas or otherwise) when not in accordance with the facility's Nutrient Management Plan.

Discharge date	Location	Map reference #	Method of measuring discharge	Rationale for sample locations	Volume
10/10/2019 5:30 PM	Sumwhere	133769420	Eyeball	It was wet there.	1337 cubic yd

B. STORM WATER DISCHARGES

The following is a summary of all storm water discharges from the production area to surface water during the reporting period when not in accordance with the facility's Nutrient Management Plan.

Discharge date	Location	Map reference #	Method of measuring discharge	Rationale for sample locations	Duration (min)	Volume
10/10/2019 5:30 PM	Sumwhere	133769420	Eyeball	It was wet there.	20	1337 gals

C. LAND APPLICATION AREA TO SURFACE WATER DISCHARGES

The following is a summary of all discharges from the land application area to surface water that have occurred during the reporting period when not in accordance with the facility's Nutrient Management Plan.

Discharge date	Location	Map reference #	Method of measuring discharge	Rationale for sample locations	Source of discharge	Volume
10/10/2019 5:30 PM	Sumwhere	133769420	Eyeball	It was wet there.	Storm water	1337 gals

NUTRIENT MANAGEMENT PLAN AND EXPORT AGREEMENT STATEMENTS**A. NUTRIENT MANAGEMENT PLAN STATEMENTS**

Was the facility's NMP updated in the reporting period?

Yes

Was the facility's NMP developed by a certified nutrient management planner (specialist) as specified in Attachment C of the General Order?

Yes

Was the facility's NMP approved by a certified nutrient management planner (specialist) as specified in Attachment C of the General Order?

Yes**B. EXPORT AGREEMENT STATEMENT**

Are there any written agreements with third parties to receive manure or process wastewater that are new or were revised within the reporting period?

Yes

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ADDITIONAL NOTES

A. NOTES

No notes.



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CERTIFICATION

A. OWNER AND/OR OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE OF OWNER OF FACILITY

SIGNATURE OF OPERATOR OF FACILITY

PRINT OR TYPE NAME

PRINT OR TYPE NAME

DATE

DATE



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ATTACHMENTS

A. REQUIRED ATTACHMENTS

The following lists the required documents that should be attached to the Annual Report when submitted .

Annual Dairy Facility Assessment

Provide an Annual Dairy Facility Assessment (an update to the Preliminary Dairy Facility Assessment in Attachment A) for each reporting period. On the PDFa Final page, click on the ADFA Report button to generate an ADFA report after updating information as needed .

Manure/Process Wastewater Tracking Manifests

Provide copies of all manure/process wastewater tracking manifests for the reporting period, signed by both the owner/operator and the hauler.

Written Agreements

Provide copies of all new or revised written agreements with each third party that receives solid manure or process wastewater from the Discharger for its own use.

Corrective Actions Documents

Provide records documenting any corrective actions taken to correct deficiencies noted as a result of the inspections required in the Monitoring Requirements of the General Order. Deficiencies not corrected in 30 days must be accompanied by an explanation of the factors preventing immediate correction.

Discharge Maps

Provide map(s) showing the discharge and sample locations for each discharge or release of waste to land areas (land application areas or otherwise) or surface water.

Discharge Lab Reports

Provide copies of laboratory analyses of all discharges (manure, process wastewater, or tailwater), surface water (upstream and downstream of a discharge), and storm water, including chain-of-custody forms and laboratory quality assurance/quality control results.

Groundwater Monitoring

Dischargers that monitor supply wells or subsurface (tile) drainage systems, or that have monitoring well systems must submit monitoring results as directed in the General Order, Groundwater Reporting Section starting on page MRP-13.

Storm Water Monitoring

Dischargers that are required to monitor storm water more frequently than required in the General Order must submit monitoring results as directed in the General Order, Storm Water Reporting Section on page MRP-14.

