

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

DAIRY FACILITY INFORMATION**A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY:** Poso Creek Family Dairy, LLC

Physical address of dairy:

13437 Gun Club RD
Number and StreetWasco
CityKern
County93280
Zip Code

Street and nearest cross street (if no address): _____

Date facility was originally placed in operation: 06/01/2002Regional Water Quality Control Board Basin Plan designation: Tulare Basin

County Assessor Parcel Number(s) for dairy facility:

X059-X130-XX08-XXXX X059-X130-XX52-XXXX**B. OPERATORS**

Bouma, Peter

Operator name: Bouma, PeterTelephone no.: (909) 930-9390Landline Cellular1500 S Haven, STE 200OntarioCA91761

Mailing Address Number and Street

City

State

Zip Code

This operator is responsible for paying permit fees.**C. OWNERS**

Bouma, Peter

Legal owner name: Bouma, PeterTelephone no.: (909) 930-9390Landline Cellular1500 S Haven, STE 200OntarioCA91761

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	5,468	511	1,744	1,833	724	769
Number under roof	0	0	0	0	0	0
Maximum number	5,514	526	1,754	1,853	768	799
Average number	5,468	511	1,744	1,833	724	769
Avg live weight (lbs)	1,200	1,250	900	700		

Predominant milk cow breed: Jersey-Holstein Cross

Average milk production: 70 pounds per cow per day

B. MANURE GENERATED

Total manure excreted by the herd: 187,508.07 tons per reporting period

Total nitrogen from manure: 2,342,865.48 lbs per reporting period

After ammonia losses (30% loss applied): 1,640,005.84 lbs per reporting period

Total phosphorus from manure: 385,612.76 lbs per reporting period

Total potassium from manure: 1,047,172.45 lbs per reporting period

Total salt from manure: 2,692,112.25 lbs per reporting period

C. PROCESS WASTEWATER GENERATED

Process wastewater generated: 203,156,890 gallons

Total nitrogen generated: 395,905.24 lbs

Total phosphorus generated: 93,180.63 lbs

Total potassium generated: 549,185.96 lbs

Total salt generated: 3,732,953.52 lbs

203,156,890 gallons applied
+ 0 gallons exported
- 0 gallons imported
= 203,156,890 gallons generated

D. FRESH WATER SOURCES

Source Description	Type
17-1	Ground water
17-4	Ground water
17-8	Ground water
19-2	Ground water
19-4E	Ground water

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Source Description	Type
19-4W	Ground water
19-8	Ground water
20-3	Ground water
20-4NW	Ground water
20-4S	Ground water
8-1	Ground water
8-2	Ground water
9-6	Ground water
9-7	Ground water
9-8	Ground water
DN	Ground water
DS	Ground water
Semi Tropic ID	Surface water

E. SUBSURFACE (TILE) DRAINAGE SOURCES*No subsurface (tile) drainage sources entered.***F. NUTRIENT IMPORTS***No dry manure nutrient imports entered.**No process wastewater nutrient imports entered.**No commercial or other nutrient imports entered.***G. NUTRIENT EXPORTS***No solid nutrient exports entered.**No liquid nutrient exports entered.*

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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
17-1	85	85	2	process wastewater	X059-X130-XX06-XXXX X059-X130-XX31-XXXX X059-X130-XX50-XXXX
17-2	39	39	2	process wastewater	X059-X130-XX53-XXXX
17-3	35	35	2	process wastewater	X059-X130-XX53-XXXX
17-4	78	78	1	manure	X059-X130-XX53-XXXX
17-5	46	46	1	process wastewater	X059-X130-XX53-XXXX
17-6	37	37	1	process wastewater	X059-X130-XX53-XXXX
17-7	51	51	2	process wastewater	X059-X130-XX51-XXXX
19-1	65	65	1	process wastewater	X059-X130-XX30-XXXX X059-X130-XX58-XXXX
19-2	78	78	2	both	X059-X130-XX57-XXXX
19-3	76	76	1	manure	X059-X130-XX30-XXXX X059-X130-XX58-XXXX
19-4	74	74	2	process wastewater	X059-X130-XX57-XXXX
19-5	76	76	1	process wastewater	X059-X130-XX56-XXXX X059-X130-XX57-XXXX
19-6	78	78	2	process wastewater	X059-X130-XX57-XXXX
19-7	77	77	1	manure	X059-X130-XX56-XXXX X059-X130-XX57-XXXX
19-8	77	77	2	both	X059-X130-XX57-XXXX
20-1	80	80	1	both	X059-X130-XX19-XXXX X059-X130-XX20-XXXX
20-2	79	79	1	both	X059-X130-XX21-XXXX
20-3	73	73	1	both	X059-X130-XX19-XXXX X059-X130-XX20-XXXX X059-X130-XX23-XXXX
20-4	69	69	1	both	X059-X130-XX21-XXXX
8-1	77	77	2	process wastewater	X059-X062-XX02-XXXX X059-X062-XX05-XXXX X059-X062-XX06-XXXX X059-X062-XX07-XXXX X059-X062-XX08-XXXX X059-X062-XX12-XXXX

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Field name	Controlled acres	Cropable acres	Total harvests	Type of waste applied	Parcel number
8-2	74	74	2	process wastewater	X059-X062-XX02-XXXX X059-X062-XX03-XXXX X059-X062-XX04-XXXX X059-X062-XX08-XXXX X059-X062-XX09-XXXX
9-5	66	66	1	none	X059-X050-XX26-XXXX
9-6	70	70	1	none	X059-X050-XX26-XXXX
9-7	71	71	1	none	X059-X050-XX26-XXXX
9-8	69	69	1	none	X059-X050-XX26-XXXX
Totals for areas that were used for application	1,424	1,424	31		
Totals for areas that were not used for application	276	276	4		
Land application area totals	1,700	1,700	35		

B. CROPS AND HARVESTS

17-1

Field name: 17-1

11/07/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 85 Plant date: 11/07/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/01/2023	1,508.00 <i>ton</i>	Dry-weight		64.7	15,900.00	3,400.00	18,700.00		11.50

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	17.74	199.15	42.59	234.22	1,440.41

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17-1

05/22/2023: Corn, silage

Crop: Corn, silage Acres planted: 85 Plant date: 05/22/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/24/2023	2,469.00 ton	Dry-weight		69.1	11,700.00	2,100.00	14,100.00		5.03

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.05	210.03	37.70	253.11	902.94

17-2

Field name: 17-2

11/07/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 39 Plant date: 11/07/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/02/2023	706.00 ton	Dry-weight		63.8	15,400.00	3,400.00	18,800.00		10.50

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.10	201.84	44.56	246.40	1,376.16

05/23/2023: Corn, silage

Crop: Corn, silage Acres planted: 39 Plant date: 05/23/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/02/2023	1,069.00 ton	Dry-weight		69.8	12,800.00	2,100.00	15,500.00		6.65

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	27.41	211.91	34.77	256.61	1,100.96

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17-3

Field name: 17-3

11/08/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough

Acres planted: 35 Plant date: 11/08/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/02/2023	584.00 ton	Dry-weight		66.0	18,100.00	3,600.00	16,700.00		10.20

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	16.69	205.37	40.85	189.48	1,157.32

06/10/2023: Corn, silage

Crop: Corn, silage

Acres planted: 35 Plant date: 06/10/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/25/2023	969.00 ton	Dry-weight		65.3	11,400.00	2,100.00	14,000.00		5.29

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	27.69	219.04	40.35	268.99	1,016.41

17-4

Field name: 17-4

05/12/2023: Corn, silage

Crop: Corn, silage

Acres planted: 78 Plant date: 05/12/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
08/30/2023	2,269.00 ton	Dry-weight		71.5	12,300.00	2,800.00	18,900.00		7.30

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.09	203.95	46.43	313.38	1,210.42

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17-5

Field name: 17-5

11/08/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 46 Plant date: 11/08/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/02/2023	833.00 ton	Dry-weight		65.4	18,300.00	3,500.00	16,900.00		9.35

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.11	229.32	43.86	211.78	1,171.67

17-6

Field name: 17-6

11/09/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 37 Plant date: 11/09/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/03/2023	672.00 ton	Dry-weight		69.9	18,600.00	3,200.00	18,100.00		11.30

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.16	203.37	34.99	197.90	1,235.50

17-7

Field name: 17-7

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17-7

11/09/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 51 Plant date: 11/09/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/03/2023	987.00 ton	Dry-weight		68.5	19,700.00	3,100.00	17,200.00		10.60

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	19.35	240.19	37.80	209.71	1,292.39

06/26/2023: Corn, silage

Crop: Corn, silage Acres planted: 51 Plant date: 06/26/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/03/2023	1,413.00 ton	Dry-weight		65.0	12,900.00	2,300.00	13,400.00		5.88

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	27.71	250.18	44.61	259.88	1,140.37

19-1

Field name: 19-1

11/15/2022: Ryegrass Silage

Crop: Ryegrass Silage Acres planted: 65 Plant date: 11/15/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/16/2023	790.00 ton	Dry-weight		63.4	26,700.00	3,900.00	39,300.00		13.70

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	16.00	176.00	27.20	132.80	1,328.00
Total actual harvest content	12.15	237.54	34.70	349.64	1,218.84

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19-2

Field name: 19-2

11/13/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 78 Plant date: 11/13/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/03/2023	1,423.00 ton	Dry-weight		64.8	18,300.00	3,600.00	15,900.00		9.42

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.24	235.04	46.24	204.21	1,209.86

06/13/2023: Corn, silage

Crop: Corn, silage Acres planted: 78 Plant date: 06/13/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/25/2023	2,314.00 ton	Dry-weight		66.7	11,600.00	2,000.00	13,500.00		4.90

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.67	229.19	39.52	266.73	968.14

19-3

Field name: 19-3

11/14/2022: Ryegrass silage

Crop: Ryegrass silage Acres planted: 76 Plant date: 11/14/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/12/2023	969.00 ton	Dry-weight		61.6	21,300.00	2,300.00	14,500.00		7.16

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	16.00	176.00	27.20	132.80	1,328.00
Total actual harvest content	12.75	208.57	22.52	141.98	701.11

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19-4

Field name: 19-4

11/15/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 74 Plant date: 11/15/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/04/2023	1,313.00 <i>ton</i>	Dry-weight		64.7	18,600.00	3,600.00	17,000.00		9.96

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	17.74	233.00	45.10	212.95	1,247.66

06/07/2023: Corn, silage

Crop: Corn, silage Acres planted: 74 Plant date: 06/07/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/18/2023	2,157.00 <i>ton</i>	Dry-weight		68.7	11,300.00	2,400.00	17,900.00		6.60

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.15	206.19	43.79	326.62	1,204.31

19-5

Field name: 19-5

11/18/2022: Ryegrass silage

Crop: Ryegrass silage Acres planted: 76 Plant date: 11/18/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/15/2023	900.00 <i>ton</i>	Dry-weight		68.6	24,900.00	4,100.00	37,500.00		13.70

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	16.00	176.00	27.20	132.80	1,328.00
Total actual harvest content	11.84	185.18	30.49	278.88	1,018.85

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19-6

Field name: 19-6

11/15/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 78 Plant date: 11/15/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/04/2023	1,441.00 <i>ton</i>	Dry-weight		68.2	18,600.00	3,400.00	17,600.00		9.51

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.47	218.54	39.95	206.79	1,117.40

06/04/2023: Corn, silage

Crop: Corn, silage Acres planted: 78 Plant date: 06/04/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/18/2023	2,269.00 <i>ton</i>	Dry-weight		64.5	12,200.00	2,500.00	15,300.00		6.10

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.09	251.98	51.63	316.00	1,259.88

19-7

Field name: 19-7

11/16/2022: Ryegrass silage

Crop: Ryegrass silage Acres planted: 77 Plant date: 11/16/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/12/2023	1,009.00 <i>ton</i>	Dry-weight		65.0	27,500.00	3,800.00	35,600.00		13.20

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	16.00	176.00	27.20	132.80	1,328.00
Total actual harvest content	13.10	252.25	34.86	326.55	1,210.80

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19-8

Field name: 19-8

11/15/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 77 Plant date: 11/15/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/04/2023	1,351.00 ton	Dry-weight		65.9	19,400.00	3,700.00	16,900.00		9.52

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	30.60	149.40	149.40	1,494.00
Total actual harvest content	17.55	232.14	44.27	202.23	1,139.16

06/03/2023: Corn, silage

Crop: Corn, silage Acres planted: 77 Plant date: 06/03/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/13/2023	2,245.00 ton	Dry-weight		68.3	11,500.00	2,700.00	17,800.00		5.89

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.16	212.58	49.91	329.03	1,088.76

20-1

Field name: 20-1

05/15/2023: Corn, silage

Crop: Corn, silage Acres planted: 80 Plant date: 05/15/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
08/26/2023	2,345.00 ton	Dry-weight		66.8	12,800.00	2,600.00	12,300.00		7.66

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.31	249.13	50.61	239.40	1,490.90

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Reporting period 01/01/2023 to 12/31/2023.

20-2

Field name: 20-2

05/16/2023: Corn, silage

Crop: Corn, silage Acres planted: 79 Plant date: 05/16/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
08/26/2023	2,269.00 <i>ton</i>	Dry-weight		68.9	11,900.00	2,800.00	8,900.00		6.00

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	28.72	212.59	50.02	159.00	1,071.89

20-3

Field name: 20-3

05/18/2023: Corn, silage

Crop: Corn, silage Acres planted: 73 Plant date: 05/18/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/01/2023	2,123.00 <i>ton</i>	Dry-weight		68.4	12,000.00	2,700.00	9,900.00		6.52

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.08	220.56	49.63	181.96	1,198.37

20-4

Field name: 20-4

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Reporting period 01/01/2023 to 12/31/2023.

20-4

06/20/2023: Corn, silage

Crop: Corn, silage Acres planted: 69 Plant date: 06/20/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/03/2023	1,969.00 ton	Dry-weight		67.1	11,300.00	2,800.00	13,400.00		6.42

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	28.54	212.18	52.58	251.61	1,205.47

8-1

Field name: 8-1

11/15/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 77 Plant date: 11/15/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/01/2023	1,378.00 ton	Dry-weight		65.2	16,900.00	3,200.00	16,600.00		9.47

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	17.90	210.50	39.86	206.76	1,179.55

06/08/2023: Corn, silage

Crop: Corn, silage Acres planted: 77 Plant date: 06/08/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/13/2023	2,269.00 ton	Dry-weight		68.5	11,000.00	3,300.00	14,600.00		5.63

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.47	204.21	61.26	271.04	1,045.18

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Reporting period 01/01/2023 to 12/31/2023.

8-2

Field name: 8-2

11/16/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 74 Plant date: 11/16/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/01/2023	1,354.00 ton	Dry-weight		64.3	14,500.00	3,000.00	17,600.00		11.20

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.30	189.43	39.19	229.93	1,463.20

06/09/2023: Corn, silage

Crop: Corn, silage Acres planted: 74 Plant date: 06/09/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/13/2023	2,164.00 ton	Dry-weight		69.6	13,200.00	2,900.00	18,700.00		6.92

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.24	234.69	51.56	332.48	1,230.37

9-5

Field name: 9-5

03/01/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 66 Plant date: 03/01/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/10/2023	515.00 ton	Dry-weight		8.5	35,100.00	3,000.00	23,000.00		11.20

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	1,600.00
Total actual harvest content	7.80	501.21	42.84	328.43	1,599.31

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9-6

Field name: 9-6

03/01/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 70 Plant date: 03/01/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/10/2023	541.00 <i>ton</i>	Dry-weight		8.6	35,100.00	2,900.00	22,600.00		11.10

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	1,600.00
Total actual harvest content	7.73	495.89	40.97	319.29	1,568.19

9-7

Field name: 9-7

03/01/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 71 Plant date: 03/01/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/10/2023	544.00 <i>ton</i>	Dry-weight		8.3	35,500.00	3,000.00	22,900.00		12.40

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	1,600.00
Total actual harvest content	7.66	498.85	42.16	321.79	1,742.45

9-8

Field name: 9-8

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9-8

03/01/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 69 Plant date: 03/01/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/10/2023	541.00 <i>ton</i>	Dry-weight		8.6	31,500.00	2,800.00	23,800.00		10.50

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	1,600.00
Total actual harvest content	7.84	451.48	40.13	341.12	1,504.92

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NUTRIENT BUDGET

A. LAND APPLICATIONS

17-1 - 11/07/2022: Wheat, silage, soft dough

Field name: 17-1

Crop: Wheat, silage, soft dough

Plant date: 11/07/2022

Application date	Application method	Precipitation 24 hours prior		Precipitation during application			Precipitation 24 hours following	
10/18/2022	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	
Lagoon		Process wastewater	91.31	22.64	139.15	1,372.76	3,185,100.00 <i>gal</i>	
17-1		Ground water	0.00	0.00	0.00	179.79	12,208,490.00 <i>gal</i>	
Application event totals			91.31	22.64	139.15	1,552.55		
01/11/2023	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	
Lagoon		Process wastewater	83.06	16.98	98.09	698.73	2,685,700.00 <i>gal</i>	
Semi Tropic ID		Surface water	0.65	0.00	0.00	139.82	10,954,800.00 <i>gal</i>	
Application event totals			83.70	16.98	98.09	838.55		
04/02/2023	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	
Lagoon		Process wastewater	75.93	21.34	131.74	489.75	3,867,002.00 <i>gal</i>	
Semi Tropic ID		Surface water	0.36	0.00	0.00	77.96	6,108,560.00 <i>gal</i>	
Application event totals			76.29	21.34	131.74	567.71		

17-1 - 05/22/2023: Corn, silage

Field name: 17-1

Crop: Corn, silage

Plant date: 05/22/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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17-1 - 05/22/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/04/2023	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
Lagoon	Process wastewater	92.22	25.91	160.00	594.80	4,696,500.00 <i>gal</i>
Semi Tropic ID	Surface water	0.65	0.00	0.00	140.53	11,010,840.00 <i>gal</i>
Application event totals		92.87	25.91	160.00	735.33	
06/11/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	164.59	12,895,600.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	164.59	
06/22/2023	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
Lagoon	Process wastewater	84.60	23.77	146.78	545.65	4,308,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.23	11,378,700.00 <i>gal</i>
Application event totals		85.27	23.77	146.78	690.87	
07/03/2023	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
Semi Tropic ID	Surface water	0.75	0.00	0.00	162.07	12,698,460.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	162.07	
07/16/2023	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
Lagoon	Process wastewater	86.31	16.33	83.65	849.83	4,508,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.63	0.00	0.00	135.43	10,610,870.00 <i>gal</i>
Application event totals		86.94	16.33	83.65	985.25	

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17-1 - 05/22/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/29/2023	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
17-1	Ground water	0.00	0.00	0.00	175.19	11,896,400.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	175.19	
08/13/2023	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
17-1	Ground water	0.00	0.00	0.00	165.30	11,225,002.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	165.30	

17-2 - 11/07/2022: Wheat, silage, soft dough

Field name: 17-2

Crop: Wheat, silage, soft dough

Plant date: 11/07/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/18/2022	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
Lagoon	Process wastewater	92.96	23.05	141.67	1,397.56	1,487,800.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	190.84	5,945,840.00 <i>gal</i>
Application event totals		92.96	23.05	141.67	1,588.40	
01/16/2023	Surface (irrigation)	No precipitation	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
Lagoon	Process wastewater	93.32	19.08	110.21	785.08	1,384,540.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	174.78	5,445,400.00 <i>gal</i>
Application event totals		93.32	19.08	110.21	959.85	

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17-2 - 11/07/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
03/30/2023	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
Lagoon	Process wastewater	73.54	20.66	127.59	474.32	1,718,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.33	0.00	0.00	71.43	2,568,000.00 <i>gal</i>
Application event totals		73.87	20.66	127.59	545.76	

17-2 - 05/23/2023: Corn, silage

Field name: 17-2

Crop: Corn, silage

Plant date: 05/23/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/06/2023	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
Lagoon	Process wastewater	94.51	26.56	163.98	609.60	2,208,480.00 <i>gal</i>
Semi Tropic ID	Surface water	0.66	0.00	0.00	142.11	5,108,700.00 <i>gal</i>
Application event totals		95.17	26.56	163.98	751.71	
06/13/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	166.56	5,987,840.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	166.56	
06/23/2023	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
Lagoon	Process wastewater	87.98	16.65	85.27	866.23	2,108,480.00 <i>gal</i>
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.46	5,948,400.00 <i>gal</i>
Application event totals		88.74	16.65	85.27	1,031.69	

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17-2 - 05/23/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/03/2023	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
Semi Tropic ID	Surface water	0.72	0.00	0.00	155.70	5,597,400.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	155.70	
07/13/2023	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
Lagoon	Process wastewater	86.96	16.46	84.28	856.21	2,084,100.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	172.93	5,387,840.00 <i>gal</i>
Application event totals		86.96	16.46	84.28	1,029.14	
07/23/2023	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
17-1	Ground water	0.00	0.00	0.00	163.96	5,108,480.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	163.96	
08/04/2023	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
17-1	Ground water	0.00	0.00	0.00	161.91	5,044,510.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	161.91	

17-3 - 11/08/2022: Wheat, silage, soft dough

Field name: 17-3

Crop: Wheat, silage, soft dough

Plant date: 11/08/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Reporting period 01/01/2023 to 12/31/2023.

17-3 - 11/08/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/22/2022	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
Lagoon	Process wastewater	91.10	22.59	138.83	1,369.57	1,308,460.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	186.28	5,208,460.00 <i>gal</i>
Application event totals		91.10	22.59	138.83	1,555.84	
01/11/2023	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
Lagoon	Process wastewater	98.24	20.08	116.01	826.44	1,308,005.00 <i>gal</i>
Semi Tropic ID	Surface water	0.58	0.00	0.00	126.00	4,065,002.00 <i>gal</i>
Application event totals		98.82	20.08	116.01	952.44	
03/31/2023	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
Lagoon	Process wastewater	81.47	22.89	141.35	525.48	1,708,464.00 <i>gal</i>
Semi Tropic ID	Surface water	0.29	0.00	0.00	62.25	2,008,400.00 <i>gal</i>
Application event totals		81.76	22.89	141.35	587.73	

17-3 - 06/10/2023: Corn, silage

Field name: 17-3

Crop: Corn, silage

Plant date: 06/10/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/23/2023	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
Lagoon	Process wastewater	95.30	26.78	165.34	614.65	1,998,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.64	0.00	0.00	138.42	4,465,651.00 <i>gal</i>
Application event totals		95.93	26.78	165.34	753.07	

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17-3 - 06/10/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/30/2023	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
17-1	Ground water	0.00	0.00	0.00	189.76	5,305,900.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	189.76	
07/10/2023	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
Lagoon	Process wastewater	85.78	24.10	148.83	553.29	1,798,900.00 <i>gal</i>
Semi Tropic ID	Surface water	0.60	0.00	0.00	130.49	4,209,810.00 <i>gal</i>
Application event totals		86.38	24.10	148.83	683.78	
07/20/2023	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
Semi Tropic ID	Surface water	0.79	0.00	0.00	170.65	5,505,498.00 <i>gal</i>
Application event totals		0.79	0.00	0.00	170.65	
08/01/2023	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
Lagoon	Process wastewater	83.62	15.82	81.04	823.30	1,798,460.00 <i>gal</i>
17-4	Ground water	1.03	0.00	0.00	349.11	4,306,560.00 <i>gal</i>
Application event totals		84.64	15.82	81.04	1,172.42	
08/13/2023	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
17-4	Ground water	1.22	0.00	0.00	414.12	5,108,460.00 <i>gal</i>
Application event totals		1.22	0.00	0.00	414.12	
08/26/2023	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
17-4	Ground water	1.31	0.00	0.00	444.28	5,480,500.00 <i>gal</i>
Application event totals		1.31	0.00	0.00	444.28	

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17-4 - 05/12/2023: Corn, silage

Field name: 17-4

Crop: Corn, silage

Plant date: 05/12/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/21/2023	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
Manure	Corral solids	259.90	66.25	313.40	0.00	546.00 <i>ton</i>
Application event totals		259.90	66.25	313.40	0.00	
04/23/2023	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
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.85	10,486,810.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	145.85	
06/02/2023	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
Semi Tropic ID	Surface water	0.72	0.00	0.00	157.02	11,289,400.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	157.02	
06/13/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	151.27	10,876,540.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	151.27	
06/25/2023	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
20-3	Ground water	0.00	0.00	0.00	563.90	11,458,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	563.90	
07/07/2023	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
20-3	Ground water	0.00	0.00	0.00	584.56	11,877,844.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	584.56	

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17-4 - 05/12/2023: Corn, silage

Application date	Application method		Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
07/19/2023	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
20-3		Ground water	0.00	0.00	0.00	561.41	11,407,410.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	561.41	
07/31/2023	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
20-3		Ground water	0.00	0.00	0.00	537.36	10,918,760.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	537.36	

17-5 - 11/08/2022: Wheat, silage, soft dough

Field name: 17-5

Crop: Wheat, silage, soft dough

Plant date: 11/08/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/23/2022	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
Lagoon	Process wastewater	94.79	23.50	144.46	1,425.08	1,789,400.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	171.67	6,308,700.00 <i>gal</i>
Application event totals		94.79	23.50	144.46	1,596.76	
01/10/2023	Surface (irrigation)	No precipitation	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
Lagoon	Process wastewater	95.86	19.60	113.20	806.40	1,677,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.55	0.00	0.00	118.12	5,008,400.00 <i>gal</i>
Application event totals		96.40	19.60	113.20	924.52	

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17-5 - 11/08/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
03/31/2023	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
Lagoon	Process wastewater	67.17	18.87	116.53	433.22	1,851,200.00 <i>gal</i>
Semi Tropic ID	Surface water	0.47	0.00	0.00	101.61	4,308,400.00 <i>gal</i>
Application event totals		67.64	18.87	116.53	534.83	

17-6 - 11/09/2022: Wheat, silage, soft dough

Field name: 17-6

Crop: Wheat, silage, soft dough

Plant date: 11/09/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/23/2022	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
Lagoon	Process wastewater	100.00	24.79	152.40	1,503.40	1,518,400.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	179.59	5,308,484.00 <i>gal</i>
Application event totals		100.00	24.79	152.40	1,682.99	
01/08/2023	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
Lagoon	Process wastewater	78.75	16.10	93.00	662.47	1,108,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.62	0.00	0.00	135.31	4,614,800.00 <i>gal</i>
Application event totals		79.37	16.10	93.00	797.78	
04/02/2023	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
Lagoon	Process wastewater	76.61	21.53	132.92	494.14	1,698,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.41	0.00	0.00	89.71	3,059,500.00 <i>gal</i>
Application event totals		77.03	21.53	132.92	583.85	

17-7 - 11/09/2022: Wheat, silage, soft dough

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17-7 - 11/09/2022: Wheat, silage, soft dough

Field name: 17-7

Crop: Wheat, silage, soft dough

Plant date: 11/09/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/19/2022	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
Lagoon	Process wastewater	95.82	23.76	146.02	1,440.53	2,005,400.00 gal
17-1	Ground water	0.00	0.00	0.00	181.83	7,408,400.00 gal
Application event totals		95.82	23.76	146.02	1,622.36	
01/09/2023	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
Lagoon	Process wastewater	95.04	19.43	112.24	799.58	1,844,000.00 gal
17-1	Ground water	0.00	0.00	0.00	162.12	6,605,400.00 gal
Application event totals		95.04	19.43	112.24	961.71	
03/29/2023	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
Lagoon	Process wastewater	82.92	16.95	97.93	697.61	1,608,840.00 gal
Semi Tropic ID	Surface water	0.33	0.00	0.00	72.50	3,408,400.00 gal
Application event totals		83.26	16.95	97.93	770.12	

17-7 - 06/26/2023: Corn, silage

Field name: 17-7

Crop: Corn, silage

Plant date: 06/26/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/06/2023	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
Lagoon	Process wastewater	87.85	24.69	152.42	566.62	2,684,400.00 <i>gal</i>
Semi Tropic ID	Surface water	0.64	0.00	0.00	138.45	6,508,730.00 <i>gal</i>
Application event totals		88.49	24.69	152.42	705.07	

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17-7 - 06/26/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/06/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.14	7,904,400.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	168.14	
07/16/2023	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
Lagoon	Process wastewater	75.53	21.22	131.04	487.14	2,307,840.00 <i>gal</i>
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.20	7,201,870.00 <i>gal</i>
Application event totals		76.23	21.22	131.04	640.33	
07/28/2023	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
17-1	Ground water	0.00	0.00	0.00	171.94	7,005,410.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	171.94	
08/10/2023	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
Lagoon	Process wastewater	71.95	13.61	69.73	708.39	2,254,840.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	174.47	7,108,460.00 <i>gal</i>
Application event totals		71.95	13.61	69.73	882.86	
08/22/2023	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
Lagoon	Process wastewater	63.76	12.06	61.79	627.75	1,998,165.00 <i>gal</i>
17-1	Ground water	0.00	0.00	0.00	157.29	6,408,440.00 <i>gal</i>
Application event totals		63.76	12.06	61.79	785.04	

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17-7 - 06/26/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
09/05/2023	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
17-1	Ground water	0.00	0.00	0.00	171.44	6,984,864.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	171.44	

19-1 - 11/15/2022: Ryegrass Silage

Field name: 19-1

Crop: Ryegrass Silage

Plant date: 11/15/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/26/2022	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
Lagoon	Process wastewater	103.90	25.76	158.34	1,562.04	2,771,500.00 <i>gal</i>
19-4W	Ground water	0.00	0.00	0.00	169.11	9,408,400.00 <i>gal</i>
Application event totals		103.90	25.76	158.34	1,731.15	
01/13/2023	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
Lagoon	Process wastewater	85.28	17.43	100.71	717.42	2,108,700.00 <i>gal</i>
19-4W	Ground water	0.00	0.00	0.00	129.56	7,208,480.00 <i>gal</i>
Application event totals		85.28	17.43	100.71	846.98	
04/07/2023	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
Lagoon	Process wastewater	76.71	21.56	133.10	494.81	2,987,700.00 <i>gal</i>
Semi Tropic ID	Surface water	0.47	0.00	0.00	100.81	6,040,050.00 <i>gal</i>
Application event totals		77.18	21.56	133.10	595.62	

19-2 - 11/13/2022: Wheat, silage, soft dough

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19-2 - 11/13/2022: Wheat, silage, soft dough

Field name: 19-2

Crop: Wheat, silage, soft dough

Plant date: 11/13/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/23/2022	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
Lagoon	Process wastewater	104.48	25.91	159.23	1,570.82	3,344,500.00 <i>gal</i>
19-2	Ground water	0.00	0.00	0.00	170.84	11,405,600.00 <i>gal</i>
Application event totals		104.48	25.91	159.23	1,741.66	

01/08/2023	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
Lagoon	Process wastewater	101.29	20.71	119.61	852.09	3,005,450.00 <i>gal</i>
19-2	Ground water	0.00	0.00	0.00	151.96	10,145,400.00 <i>gal</i>
Application event totals		101.29	20.71	119.61	1,004.05	

04/01/2023	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
Lagoon	Process wastewater	55.33	15.55	95.99	356.85	2,585,640.00 <i>gal</i>
Semi Tropic ID	Surface water	0.35	0.00	0.00	75.17	5,405,000.00 <i>gal</i>
Application event totals		55.67	15.55	95.99	432.03	

19-2 - 06/13/2023: Corn, silage

Field name: 19-2

Crop: Corn, silage

Plant date: 06/13/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
05/27/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	166.07	11,940,540.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	166.07	

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19-2 - 06/13/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
05/25/2023	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	
Manure	Corral solids	259.90	66.25	313.40	0.00	546.00 <i>ton</i>	
Application event totals		259.90	66.25	313.40	0.00		
07/03/2023	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	
Semi Tropic ID	Surface water	0.77	0.00	0.00	166.70	11,985,400.00 <i>gal</i>	
Application event totals		0.77	0.00	0.00	166.70		
07/14/2023	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	
19-2	Ground water	0.00	0.00	0.00	177.71	11,864,400.00 <i>gal</i>	
Application event totals		0.00	0.00	0.00	177.71		
07/25/2023	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	
19-2	Ground water	0.00	0.00	0.00	164.74	10,998,890.00 <i>gal</i>	
Application event totals		0.00	0.00	0.00	164.74		
08/05/2023	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	
19-2	Ground water	0.00	0.00	0.00	175.37	11,708,450.00 <i>gal</i>	
Application event totals		0.00	0.00	0.00	175.37		
08/16/2023	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	
19-2	Ground water	0.00	0.00	0.00	165.58	11,054,878.00 <i>gal</i>	
Application event totals		0.00	0.00	0.00	165.58		

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19-2 - 06/13/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
08/30/2023	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
19-2	Ground water	0.00	0.00	0.00	164.89	11,008,700.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	164.89	

19-3 - 11/14/2022: Ryegrass silage

Field name: 19-3

Crop: Ryegrass silage

Plant date: 11/14/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/25/2022	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
19-4W	Ground water	0.00	0.00	0.00	185.09	12,040,500.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	185.09	
10/23/2022	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
Manure	Corral solids	259.90	66.25	313.40	0.00	532.00 <i>ton</i>
Application event totals		259.90	66.25	313.40	0.00	
02/09/2023	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
19-4W	Ground water	0.00	0.00	0.00	180.14	11,718,400.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	180.14	

19-4 - 11/15/2022: Wheat, silage, soft dough

Field name: 19-4

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022

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19-4 - 11/15/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/28/2022	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
Lagoon	Process wastewater	101.36	25.13	154.47	1,523.85	3,078,110.00 <i>gal</i>
19-4E	Ground water	0.00	0.00	0.00	183.50	10,847,844.00 <i>gal</i>
Application event totals		101.36	25.13	154.47	1,707.35	
01/21/2023	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
Lagoon	Process wastewater	96.26	19.68	113.68	809.81	2,709,840.00 <i>gal</i>
19-4E	Ground water	0.00	0.00	0.00	160.34	9,478,970.00 <i>gal</i>
Application event totals		96.26	19.68	113.68	970.15	
03/28/2023	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
Lagoon	Process wastewater	72.78	14.88	85.95	612.31	2,048,940.00 <i>gal</i>
Semi Tropic ID	Surface water	0.34	0.00	0.00	74.10	5,054,540.00 <i>gal</i>
Application event totals		73.13	14.88	85.95	686.41	

19-4 - 06/07/2023: Corn, silage

Field name: 19-4

Crop: Corn, silage

Plant date: 06/07/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/18/2023	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
Lagoon	Process wastewater	81.44	22.88	141.30	525.28	3,610,844.00 <i>gal</i>
19-4E	Ground water	0.00	0.00	0.00	142.35	8,415,100.00 <i>gal</i>
Application event totals		81.44	22.88	141.30	667.63	

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19-4 - 06/07/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/27/2023	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
19-4E	Ground water	0.00	0.00	0.00	188.69	11,154,540.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	188.69	
07/08/2023	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
Lagoon	Process wastewater	74.42	20.91	129.12	480.02	3,299,700.00 <i>gal</i>
19-4E	Ground water	0.00	0.00	0.00	159.94	9,455,400.00 <i>gal</i>
Application event totals		74.42	20.91	129.12	639.96	
07/19/2023	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
Lagoon	Process wastewater	58.40	11.05	56.61	575.05	2,655,880.00 <i>gal</i>
19-4E	Ground water	0.00	0.00	0.00	170.64	10,087,984.00 <i>gal</i>
Application event totals		58.40	11.05	56.61	745.69	
07/31/2023	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
19-4E	Ground water	0.00	0.00	0.00	194.85	11,518,700.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	194.85	
08/11/2023	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
Lagoon	Process wastewater	57.41	10.86	55.65	565.31	2,610,884.00 <i>gal</i>
19-4E	Ground water	0.00	0.00	0.00	172.24	10,182,626.00 <i>gal</i>
Application event totals		57.41	10.86	55.65	737.55	

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19-4 - 06/07/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
08/24/2023	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
19-4E	Ground water	0.00	0.00	0.00	177.61	10,499,879.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	177.61	

19-5 - 11/18/2022: Ryegrass silage

Field name: 19-5

Crop: Ryegrass silage

Plant date: 11/18/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/01/2022	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
Lagoon	Process wastewater	108.94	27.01	166.02	1,637.84	3,397,780.00 <i>gal</i>
19-4W	Ground water	0.00	0.00	0.00	184.79	12,021,054.00 <i>gal</i>
Application event totals		108.94	27.01	166.02	1,822.64	
01/23/2023	Surface (irrigation)	No precipitation	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
Lagoon	Process wastewater	111.04	22.70	131.14	934.18	3,210,510.00 <i>gal</i>
19-4W	Ground water	0.00	0.00	0.00	183.94	11,965,400.00 <i>gal</i>
Application event totals		111.04	22.70	131.14	1,118.12	

19-6 - 11/15/2022: Wheat, silage, soft dough

Field name: 19-6

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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19-6 - 11/15/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/26/2022	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
Lagoon	Process wastewater	103.58	25.68	157.85	1,557.22	3,315,540.00 <i>gal</i>
19-8	Ground water	0.00	0.00	0.00	335.06	11,184,900.00 <i>gal</i>
Application event totals		103.58	25.68	157.85	1,892.28	
01/11/2023	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
Lagoon	Process wastewater	99.75	20.39	117.80	839.17	2,959,870.00 <i>gal</i>
19-8	Ground water	0.00	0.00	0.00	299.82	10,008,400.00 <i>gal</i>
Application event totals		99.75	20.39	117.80	1,138.99	
04/03/2023	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
Lagoon	Process wastewater	78.10	21.95	135.50	503.73	3,649,840.00 <i>gal</i>
19-8	Ground water	0.00	0.00	0.00	158.32	5,284,940.00 <i>gal</i>
Application event totals		78.10	21.95	135.50	662.04	

19-6 - 06/04/2023: Corn, silage

Field name: 19-6

Crop: Corn, silage

Plant date: 06/04/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/16/2023	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
Lagoon	Process wastewater	100.25	28.17	173.93	646.58	4,684,940.00 <i>gal</i>
Semi Tropic ID	Surface water	0.64	0.00	0.00	139.34	10,018,700.00 <i>gal</i>
Application event totals		100.89	28.17	173.93	785.93	

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19-6 - 06/04/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/24/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	166.91	12,000,844.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	166.91	
07/04/2023	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
Lagoon	Process wastewater	87.19	16.50	84.51	858.53	4,179,494.00 <i>gal</i>
19-8	Ground water	0.00	0.00	0.00	311.85	10,410,020.00 <i>gal</i>
Application event totals		87.19	16.50	84.51	1,170.38	
07/15/2023	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
Lagoon	Process wastewater	81.11	15.35	78.62	798.63	3,887,900.00 <i>gal</i>
19-8	Ground water	0.00	0.00	0.00	302.25	10,089,700.00 <i>gal</i>
Application event totals		81.11	15.35	78.62	1,100.89	
07/25/2023	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
19-8	Ground water	0.00	0.00	0.00	335.17	11,188,600.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	335.17	
08/04/2023	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
19-8	Ground water	0.00	0.00	0.00	332.67	11,105,150.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	332.67	
08/18/2023	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
19-8	Ground water	0.00	0.00	0.00	335.42	11,196,870.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	335.42	

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19-7 - 11/16/2022: Ryegrass silage

Field name: 19-7

Crop: Ryegrass silage

Plant date: 11/16/2022

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
10/25/2022	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	
Manure		Corral solids	259.90	66.25	313.40	0.00	539.00 <i>ton</i>	
Application event totals			259.90	66.25	313.40	0.00		
10/27/2022	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	
19-8		Ground water	0.00	0.00	0.00	370.54	12,210,840.00 <i>gal</i>	
Application event totals			0.00	0.00	0.00	370.54		
02/09/2023	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	
19-8		Ground water	0.00	0.00	0.00	337.09	11,108,400.00 <i>gal</i>	
Application event totals			0.00	0.00	0.00	337.09		

19-8 - 11/15/2022: Wheat, silage, soft dough

Field name: 19-8

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
10/26/2022	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
19-8		Ground water	0.00	0.00	0.00	387.96	12,784,900.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	387.96	

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19-8 - 11/15/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
10/24/2022	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
Manure		Corral solids	262.96	62.28	269.02	0.00	385.00 <i>ton</i>
Application event totals			262.96	62.28	269.02	0.00	
01/28/2023	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
Semi Tropic ID		Surface water	0.82	0.00	0.00	177.31	12,584,980.00 <i>gal</i>
Application event totals			0.82	0.00	0.00	177.31	

19-8 - 06/03/2023: Corn, silage

Field name: 19-8

Crop: Corn, silage

Plant date: 06/03/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/20/2023	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
Lagoon	Process wastewater	95.15	26.74	165.08	613.71	4,389,700.00 <i>gal</i>
Semi Tropic ID	Surface water	0.68	0.00	0.00	146.64	10,408,440.00 <i>gal</i>
Application event totals		95.82	26.74	165.08	760.35	
06/23/2023	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
Semi Tropic ID	Surface water	0.74	0.00	0.00	160.73	11,408,480.00 <i>gal</i>
Application event totals		0.74	0.00	0.00	160.73	

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19-8 - 06/03/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/04/2023	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
Lagoon	Process wastewater	84.10	15.92	81.52	828.11	3,979,700.00 <i>gal</i>
Semi Tropic ID	Surface water	0.72	0.00	0.00	156.16	11,084,055.00 <i>gal</i>
Application event totals		84.83	15.92	81.52	984.27	
07/14/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.11	10,796,500.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	152.11	
07/24/2023	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
19-8	Ground water	0.00	0.00	0.00	353.24	11,640,554.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	353.24	
08/04/2023	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
Lagoon	Process wastewater	86.32	16.33	83.66	849.91	4,084,490.00 <i>gal</i>
19-8	Ground water	0.00	0.00	0.00	337.16	11,110,840.00 <i>gal</i>
Application event totals		86.32	16.33	83.66	1,187.08	
08/16/2023	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
19-8	Ground water	0.00	0.00	0.00	324.35	10,688,700.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	324.35	

20-1 - 05/15/2023: Corn, silage

Field name: 20-1

Crop: Corn, silage

Plant date: 05/15/2023

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20-1 - 05/15/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/28/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	151.86	11,198,840.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	151.86	
04/25/2023	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
Manure	Corral solids	185.64	47.32	223.86	0.00	400.00 <i>ton</i>
Application event totals		185.64	47.32	223.86	0.00	
06/05/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	158.59	11,694,700.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	158.59	
06/16/2023	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
Lagoon	Process wastewater	90.84	25.53	157.60	585.90	4,354,100.00 <i>gal</i>
Semi Tropic ID	Surface water	0.69	0.00	0.00	149.14	10,997,784.00 <i>gal</i>
Application event totals		91.53	25.53	157.60	735.04	
06/28/2023	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
Semi Tropic ID	Surface water	0.74	0.00	0.00	160.97	11,870,540.00 <i>gal</i>
Application event totals		0.74	0.00	0.00	160.97	
07/10/2023	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
20-3	Ground water	0.00	0.00	0.00	591.10	12,318,700.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	591.10	

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20-1 - 05/15/2023: Corn, silage

Application date	Application method		Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following		
07/23/2023	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
20-3			Ground water		0.00	0.00	0.00	545.00	11,358,000.00 <i>gal</i>
Application event totals					0.00	0.00	0.00	545.00	
08/05/2023	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
20-3			Ground water		0.00	0.00	0.00	546.96	11,398,774.00 <i>gal</i>
Application event totals					0.00	0.00	0.00	546.96	

20-2 - 05/16/2023: Corn, silage

Field name: 20-2

Crop: Corn, silage

Plant date: 05/16/2023

Application date	Application method		Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
04/27/2023	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	
Semi Tropic ID		Surface water	0.73	0.00	0.00	159.09	11,584,870.00 <i>gal</i>	
Application event totals			0.73	0.00	0.00	159.09		
04/23/2023	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	
Manure		Corral solids	185.64	47.32	223.86	0.00	395.00 <i>ton</i>	
Application event totals			185.64	47.32	223.86	0.00		
06/06/2023	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	
Semi Tropic ID		Surface water	0.74	0.00	0.00	160.35	11,677,000.00 <i>gal</i>	
Application event totals			0.74	0.00	0.00	160.35		

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20-2 - 05/16/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/17/2023	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
Lagoon	Process wastewater	80.04	22.49	138.87	516.28	3,788,720.00 <i>gal</i>
Semi Tropic ID	Surface water	0.58	0.00	0.00	126.16	9,187,000.00 <i>gal</i>
Application event totals		80.62	22.49	138.87	642.43	
06/28/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	164.76	11,997,700.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	164.76	
07/09/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	167.65	12,208,700.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	167.65	
07/20/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	167.51	12,198,400.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	167.51	
08/01/2023	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
20-3	Ground water	0.00	0.00	0.00	553.92	11,399,540.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	553.92	

20-3 - 05/18/2023: Corn, silage

Field name: 20-3

Crop: Corn, silage

Plant date: 05/18/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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20-3 - 05/18/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/26/2023	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
Manure	Corral solids	185.64	47.32	223.86	0.00	365.00 <i>ton</i>
Application event totals		185.64	47.32	223.86	0.00	
05/01/2023	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
Semi Tropic ID	Surface water	0.74	0.00	0.00	160.34	10,789,400.00 <i>gal</i>
Application event totals		0.74	0.00	0.00	160.34	
06/08/2023	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
Semi Tropic ID	Surface water	0.75	0.00	0.00	163.45	10,998,770.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	163.45	
06/19/2023	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
Lagoon	Process wastewater	79.30	22.28	137.59	511.52	3,468,700.00 <i>gal</i>
Semi Tropic ID	Surface water	0.62	0.00	0.00	134.47	9,048,700.00 <i>gal</i>
Application event totals		79.93	22.28	137.59	645.99	
06/30/2023	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
Semi Tropic ID	Surface water	0.72	0.00	0.00	156.74	10,547,100.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	156.74	
07/11/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	169.23	11,387,870.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	169.23	

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20-3 - 05/18/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/22/2023	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
20-3	Ground water	0.00	0.00	0.00	567.38	10,789,700.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	567.38	
08/05/2023	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
20-3	Ground water	0.00	0.00	0.00	578.44	11,000,050.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	578.44	

20-4 - 06/20/2023: Corn, silage

Field name: 20-4

Crop: Corn, silage

Plant date: 06/20/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/20/2023	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
Manure	Corral solids	185.64	47.32	223.86	0.00	345.00 <i>ton</i>
Application event totals		185.64	47.32	223.86	0.00	
06/02/2023	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
Semi Tropic ID	Surface water	0.72	0.00	0.00	157.02	9,987,000.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	157.02	
07/10/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	167.42	10,648,400.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	167.42	

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20-4 - 06/20/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/22/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	164.90	10,488,400.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	164.90	
08/04/2023	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
Lagoon	Process wastewater	79.19	14.99	76.76	779.76	3,358,002.00 <i>gal</i>
Semi Tropic ID	Surface water	0.66	0.00	0.00	142.27	9,048,700.00 <i>gal</i>
Application event totals		79.85	14.99	76.76	922.03	
08/17/2023	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
Semi Tropic ID	Surface water	0.74	0.00	0.00	160.18	10,187,740.00 <i>gal</i>
Application event totals		0.74	0.00	0.00	160.18	
08/29/2023	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
20-3	Ground water	0.00	0.00	0.00	555.71	9,988,778.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	555.71	
09/12/2023	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
20-3	Ground water	0.00	0.00	0.00	531.78	9,558,700.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	531.78	

8-1 - 11/15/2022: Wheat, silage, soft dough

Field name: 8-1

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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8-1 - 11/15/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/26/2022	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
Lagoon	Process wastewater	91.45	22.67	139.37	1,374.89	2,889,800.00 <i>gal</i>
8-1	Ground water	0.00	0.00	0.00	191.08	11,754,000.00 <i>gal</i>
Application event totals		91.45	22.67	139.37	1,565.97	
01/18/2023	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
Lagoon	Process wastewater	84.62	17.30	99.94	711.90	2,478,787.00 <i>gal</i>
Semi Tropic ID	Surface water	0.59	0.00	0.00	127.56	9,054,000.00 <i>gal</i>
Application event totals		85.21	17.30	99.94	839.46	
04/01/2023	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
Lagoon	Process wastewater	88.24	18.04	104.21	742.36	2,584,840.00 <i>gal</i>
Semi Tropic ID	Surface water	0.41	0.00	0.00	88.19	6,259,800.00 <i>gal</i>
Application event totals		88.65	18.04	104.21	830.56	

8-1 - 06/08/2023: Corn, silage

Field name: 8-1

Crop: Corn, silage

Plant date: 06/08/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/20/2023	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
Lagoon	Process wastewater	92.73	26.06	160.88	598.09	4,277,980.00 <i>gal</i>
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.49	10,326,780.00 <i>gal</i>
Application event totals		93.40	26.06	160.88	743.58	

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8-1 - 06/08/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/28/2023	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
Semi Tropic ID	Surface water	0.75	0.00	0.00	161.85	11,487,630.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	161.85	
07/10/2023	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
Lagoon	Process wastewater	84.26	15.94	81.67	829.63	3,987,005.00 <i>gal</i>
8-1	Ground water	0.00	0.00	0.00	172.46	10,608,700.00 <i>gal</i>
Application event totals		84.26	15.94	81.67	1,002.09	
07/21/2023	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
Semi Tropic ID	Surface water	0.75	0.00	0.00	162.60	11,541,020.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	162.60	
08/01/2023	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
Lagoon	Process wastewater	80.11	15.16	77.65	788.81	3,790,840.00 <i>gal</i>
8-1	Ground water	0.00	0.00	0.00	168.87	10,387,700.00 <i>gal</i>
Application event totals		80.11	15.16	77.65	957.68	
08/12/2023	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
8-1	Ground water	0.00	0.00	0.00	188.36	11,587,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	188.36	
08/23/2023	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
8-1	Ground water	0.00	0.00	0.00	164.33	10,108,400.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	164.33	

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8-2 - 11/16/2022: Wheat, silage, soft dough

Field name: 8-2

Crop: Wheat, silage, soft dough

Plant date: 11/16/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/28/2022	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
Lagoon	Process wastewater	94.79	23.50	144.46	1,425.13	2,878,700.00 <i>gal</i>
8-1	Ground water	0.00	0.00	0.00	177.71	10,505,540.00 <i>gal</i>
Application event totals		94.79	23.50	144.46	1,602.84	
01/12/2023	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
Lagoon	Process wastewater	90.42	18.49	106.78	760.69	2,545,461.00 <i>gal</i>
8-1	Ground water	0.00	0.00	0.00	152.92	9,040,210.00 <i>gal</i>
Application event totals		90.42	18.49	106.78	913.61	
03/30/2023	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
Lagoon	Process wastewater	64.95	18.25	112.69	418.95	2,879,900.00 <i>gal</i>
Semi Tropic ID	Surface water	0.34	0.00	0.00	73.42	5,008,400.00 <i>gal</i>
Application event totals		65.29	18.25	112.69	492.37	

8-2 - 06/09/2023: Corn, silage

Field name: 8-2

Crop: Corn, silage

Plant date: 06/09/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/22/2023	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
Lagoon	Process wastewater	99.44	27.94	172.52	641.36	4,408,790.00 <i>gal</i>
Semi Tropic ID	Surface water	0.68	0.00	0.00	146.80	10,013,655.00 <i>gal</i>
Application event totals		100.11	27.94	172.52	788.16	

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8-2 - 06/09/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/29/2023	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
Semi Tropic ID	Surface water	0.75	0.00	0.00	162.85	11,108,400.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	162.85	
07/09/2023	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
Lagoon	Process wastewater	87.71	16.60	85.02	863.65	3,988,797.00 <i>gal</i>
Semi Tropic ID	Surface water	0.74	0.00	0.00	161.10	10,989,240.00 <i>gal</i>
Application event totals		88.46	16.60	85.02	1,024.75	
07/19/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	158.18	10,789,700.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	158.18	
07/29/2023	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
Lagoon	Process wastewater	96.95	18.35	93.97	954.58	4,408,740.00 <i>gal</i>
8-1	Ground water	0.00	0.00	0.00	177.69	10,504,400.00 <i>gal</i>
Application event totals		96.95	18.35	93.97	1,132.26	
08/09/2023	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
8-1	Ground water	0.00	0.00	0.00	185.73	10,979,870.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	185.73	
08/19/2023	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
8-1	Ground water	0.00	0.00	0.00	170.59	10,084,900.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	170.59	

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9-5 - 03/01/2023: Alfalfa, hay

Field name: 9-5

Crop: Alfalfa, hay

Plant date: 03/01/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/08/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	169.45	10,308,700.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	169.45	
05/08/2023	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
Semi Tropic ID	Surface water	0.79	0.00	0.00	171.09	10,408,710.00 <i>gal</i>
Application event totals		0.79	0.00	0.00	171.09	
06/08/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	167.46	10,187,870.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	167.46	
07/08/2023	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
Semi Tropic ID	Surface water	0.81	0.00	0.00	175.03	10,648,220.00 <i>gal</i>
Application event totals		0.81	0.00	0.00	175.03	
08/08/2023	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
Semi Tropic ID	Surface water	0.80	0.00	0.00	173.87	10,577,840.00 <i>gal</i>
Application event totals		0.80	0.00	0.00	173.87	
09/08/2023	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
9-7	Ground water	0.66	0.00	0.00	236.89	10,408,400.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	236.89	

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9-5 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/08/2023	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
9-7	Ground water	0.63	0.00	0.00	226.87	9,968,500.00 <i>gal</i>
Application event totals		0.63	0.00	0.00	226.87	

9-6 - 03/01/2023: Alfalfa, hay

Field name: 9-6

Crop: Alfalfa, hay

Plant date: 03/01/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/02/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	167.13	10,784,000.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	167.13	
05/02/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	167.54	10,810,600.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	167.54	
06/02/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.11	10,847,000.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	168.11	
07/02/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.67	10,689,970.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.67	

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9-6 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
08/02/2023	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
9-7	Ground water	0.63	0.00	0.00	227.24	10,589,700.00 <i>gal</i>
Application event totals		0.63	0.00	0.00	227.24	
09/02/2023	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
9-7	Ground water	0.62	0.00	0.00	224.89	10,480,000.00 <i>gal</i>
Application event totals		0.62	0.00	0.00	224.89	
10/02/2023	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
9-7	Ground water	0.61	0.00	0.00	218.55	10,184,840.00 <i>gal</i>
Application event totals		0.61	0.00	0.00	218.55	

9-7 - 03/01/2023: Alfalfa, hay

Field name: 9-7

Crop: Alfalfa, hay

Plant date: 03/01/2023

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following		
04/10/2023	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		
Semi Tropic ID		Surface water	0.78	0.00	0.00	168.21	11,008,840.00 <i>gal</i>		
Application event totals			0.78	0.00	0.00	168.21			
05/10/2023	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		
Semi Tropic ID		Surface water	0.80	0.00	0.00	172.63	11,298,400.00 <i>gal</i>		
Application event totals			0.80	0.00	0.00	172.63			

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9-7 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/10/2023	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
Semi Tropic ID	Surface water	0.82	0.00	0.00	178.53	11,684,100.00 <i>gal</i>
Application event totals		0.82	0.00	0.00	178.53	
07/10/2023	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
Semi Tropic ID	Surface water	0.83	0.00	0.00	179.56	11,751,950.00 <i>gal</i>
Application event totals		0.83	0.00	0.00	179.56	
08/10/2023	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
Semi Tropic ID	Surface water	0.80	0.00	0.00	173.94	11,384,000.00 <i>gal</i>
Application event totals		0.80	0.00	0.00	173.94	
09/10/2023	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
9-7	Ground water	0.64	0.00	0.00	230.15	10,878,450.00 <i>gal</i>
Application event totals		0.64	0.00	0.00	230.15	
10/10/2023	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
9-7	Ground water	0.60	0.00	0.00	215.46	10,184,400.00 <i>gal</i>
Application event totals		0.60	0.00	0.00	215.46	

9-8 - 03/01/2023: Alfalfa, hay

Field name: 9-8

Crop: Alfalfa, hay

Plant date: 03/01/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Reporting period 01/01/2023 to 12/31/2023.

9-8 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/03/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.26	10,510,840.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.26	
05/03/2023	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
Semi Tropic ID	Surface water	0.81	0.00	0.00	176.07	11,198,700.00 <i>gal</i>
Application event totals		0.81	0.00	0.00	176.07	
06/03/2023	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
Semi Tropic ID	Surface water	0.88	0.00	0.00	190.40	12,109,770.00 <i>gal</i>
Application event totals		0.88	0.00	0.00	190.40	
07/03/2023	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
Semi Tropic ID	Surface water	0.89	0.00	0.00	191.93	12,207,100.00 <i>gal</i>
Application event totals		0.89	0.00	0.00	191.93	
08/03/2023	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
Semi Tropic ID	Surface water	0.83	0.00	0.00	179.37	11,408,780.00 <i>gal</i>
Application event totals		0.83	0.00	0.00	179.37	
09/03/2023	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
9-7	Ground water	0.67	0.00	0.00	242.67	11,147,000.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	242.67	

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9-8 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/03/2023	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
9-7	Ground water	0.66	0.00	0.00	237.01	10,887,400.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	237.01	

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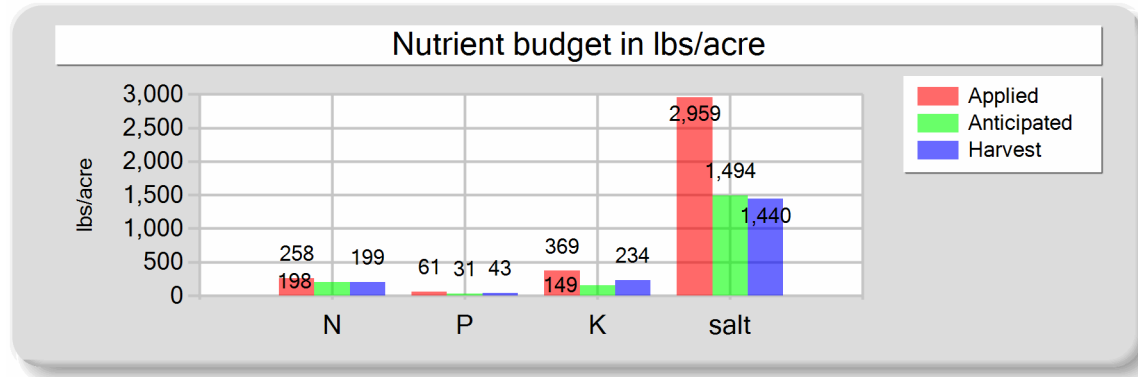
B. NUTRIENT BUDGET

17-1 - 11/07/2022: Wheat, silage, soft dough

Field name: 17-1

Crop: Wheat, silage, soft dough

Plant date: 11/07/2022



	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	29,271,850.00 gallons
Plowdown credit	0.00	0.00	0.00	0.00	1,077.98 acre-inches
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	12.68 inches/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	250.30	60.96	368.98	2,561.24	Process wastewater applied
Fresh water	1.01	0.00	0.00	397.57	9,737,802.00 gallons
Atmospheric deposition	7.00	0.00	0.00	0.00	358.61 acre-inches
Total nutrients applied	258.30	60.96	368.98	2,958.81	4.22 inches/acre
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00	
Actual crop nutrient removal	199.15	42.59	234.22	1,440.41	Total harvests for the crop
Nutrient balance	59.15	18.37	134.75	1,518.40	1 harvests
Applied to removed ratio	1.30	1.43	1.58	2.05	

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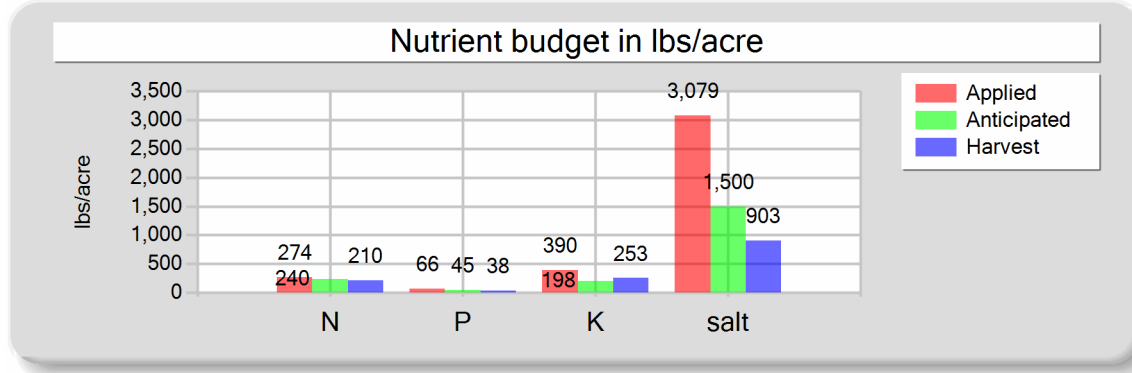
Reporting period 01/01/2023 to 12/31/2023.

17-1 - 05/22/2023: Corn, silage

Field name: 17-1

Crop: Corn, silage

Plant date: 05/22/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	263.12	66.02	390.43	1,990.28
Fresh water	3.45	0.00	0.00	1,088.33
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	273.58	66.02	390.43	3,078.61
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	210.03	37.70	253.11	902.94
Nutrient balance	63.55	28.32	137.32	2,175.67
Applied to removed ratio	1.30	1.75	1.54	3.41

Fresh water applied
81,715,872.00 <i>gallons</i>
3,009.32 <i>acre-inches</i>
35.40 <i>inches/acre</i>

Process wastewater applied
13,513,300.00 <i>gallons</i>
497.65 <i>acre-inches</i>
5.85 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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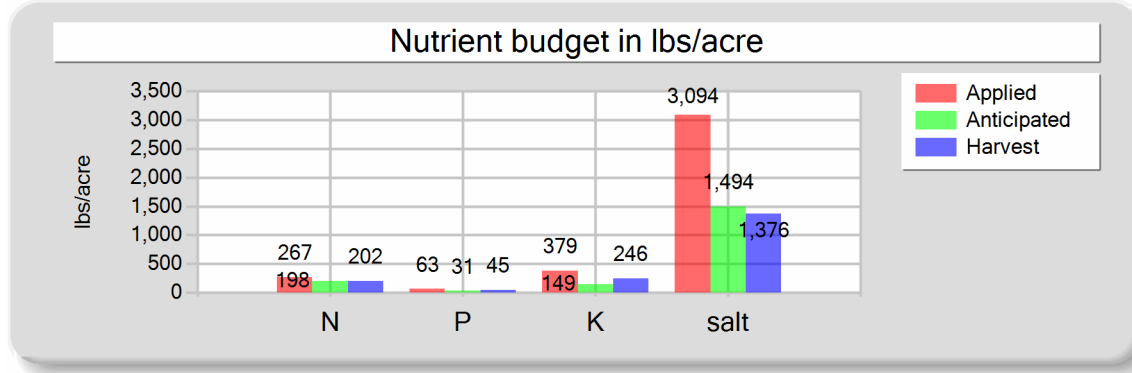
Reporting period 01/01/2023 to 12/31/2023.

17-2 - 11/07/2022: Wheat, silage, soft dough

Field name: 17-2

Crop: Wheat, silage, soft dough

Plant date: 11/07/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	259.82	62.79	379.46	2,656.96
Fresh water	0.33	0.00	0.00	437.05
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	267.15	62.79	379.46	3,094.01
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	201.84	44.56	246.40	1,376.16
Nutrient balance	65.31	18.23	133.07	1,717.86
Applied to removed ratio	1.32	1.41	1.54	2.25

Fresh water applied
13,959,240.00 <i>gallons</i>
514.07 <i>acre-inches</i>
13.18 <i>inches/acre</i>

Process wastewater applied
4,590,740.00 <i>gallons</i>
169.06 <i>acre-inches</i>
4.33 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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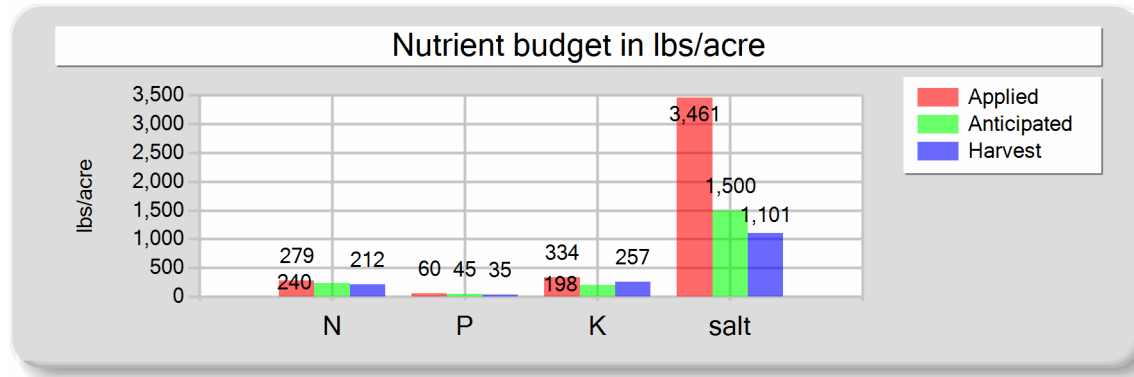
Reporting period 01/01/2023 to 12/31/2023.

17-2 - 05/23/2023: Corn, silage

Field name: 17-2

Crop: Corn, silage

Plant date: 05/23/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	269.45	59.66	333.53	2,332.04
Fresh water	2.91	0.00	0.00	1,128.64
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	279.35	59.66	333.53	3,460.68
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	211.91	34.77	256.61	1,100.96
Nutrient balance	67.44	24.89	76.92	2,359.72
Applied to removed ratio	1.32	1.72	1.30	3.14

Fresh water applied
38,183,170.00 <i>gallons</i>
1,406.16 <i>acre-inches</i>
36.06 <i>inches/acre</i>

Process wastewater applied
6,401,060.00 <i>gallons</i>
235.73 <i>acre-inches</i>
6.04 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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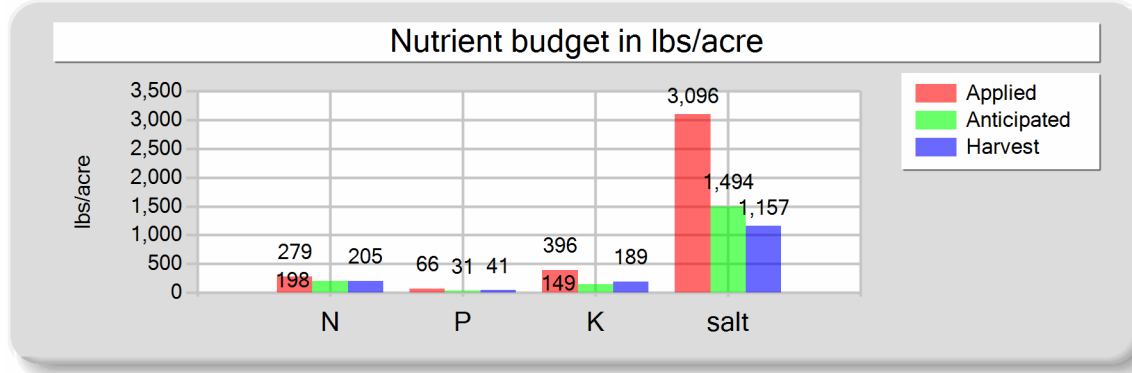
Reporting period 01/01/2023 to 12/31/2023.

17-3 - 11/08/2022: Wheat, silage, soft dough

Field name: 17-3

Crop: Wheat, silage, soft dough

Plant date: 11/08/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	270.80	65.56	396.19	2,721.49
Fresh water	0.87	0.00	0.00	374.53
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	278.67	65.56	396.19	3,096.01
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	205.37	40.85	189.48	1,157.32
Nutrient balance	73.30	24.72	206.71	1,938.69
Applied to removed ratio	1.36	1.61	2.09	2.68

Fresh water applied
11,281,862.00 gallons
415.47 acre-inches
11.87 inches/acre

Process wastewater applied
4,324,929.00 gallons
159.27 acre-inches
4.55 inches/acre

Total harvests for the crop
1 harvests

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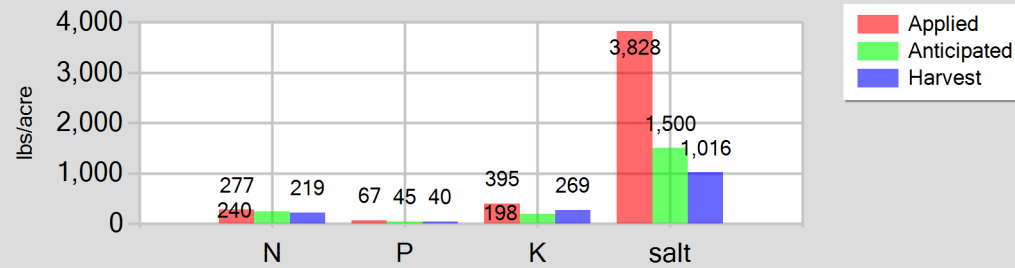
17-3 - 06/10/2023: Corn, silage

Field name: 17-3

Crop: Corn, silage

Plant date: 06/10/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	264.69	66.71	395.21	1,991.25
Fresh water	5.58	0.00	0.00	1,836.83
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	277.27	66.71	395.21	3,828.08
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	219.04	40.35	268.99	1,016.41
Nutrient balance	58.24	26.36	126.22	2,811.66
Applied to removed ratio	1.27	1.65	1.47	3.77

Fresh water applied
34,382,379.00 gallons
1,266.19 acre-inches
36.18 inches/acre
Process wastewater applied
5,595,760.00 gallons
206.07 acre-inches
5.89 inches/acre
Total harvests for the crop
1 harvests

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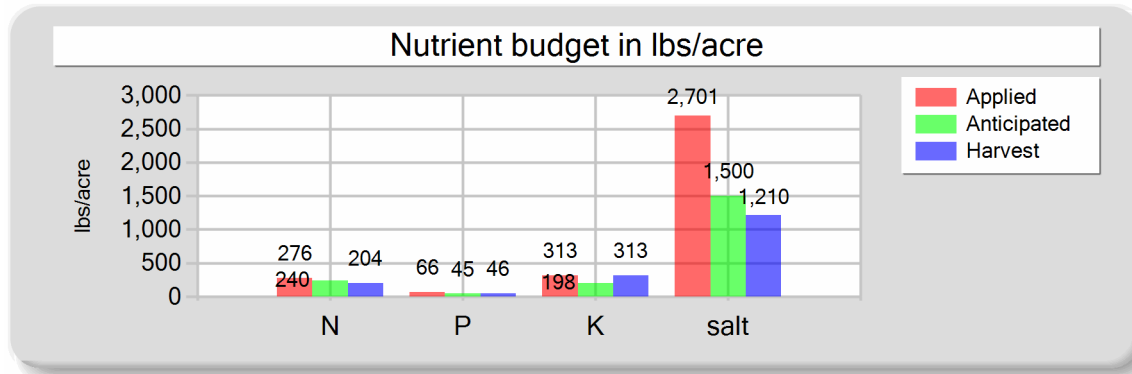
Reporting period 01/01/2023 to 12/31/2023.

17-4 - 05/12/2023: Corn, silage

Field name: 17-4

Crop: Corn, silage

Plant date: 05/12/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	259.90	66.25	313.40	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	2.10	0.00	0.00	2,701.36
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	275.99	66.25	313.40	2,701.36
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	203.95	46.43	313.38	1,210.42
Nutrient balance	72.04	19.82	0.02	1,490.94
Applied to removed ratio	1.35	1.43	1.00	2.23

Fresh water applied
78,314,764.00 gallons
2,884.07 acre-inches
36.98 inches/acre

Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop
1 harvests

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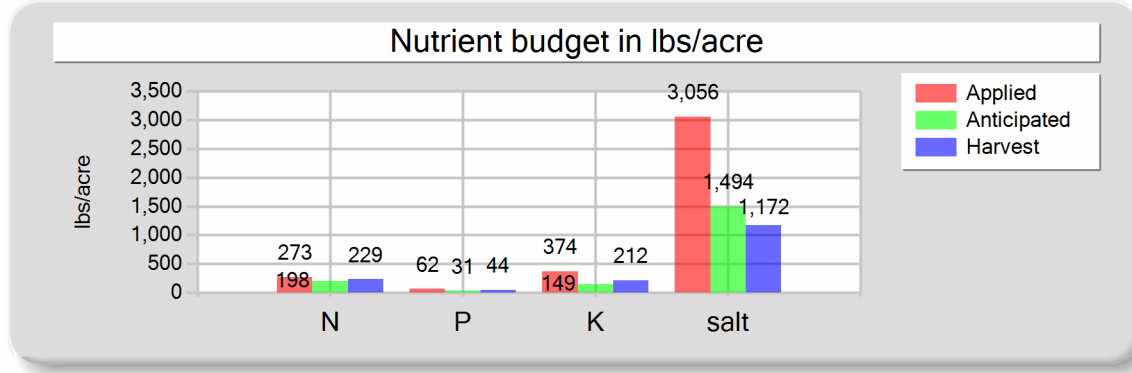
Reporting period 01/01/2023 to 12/31/2023.

17-5 - 11/08/2022: Wheat, silage, soft dough

Field name: 17-5

Crop: Wheat, silage, soft dough

Plant date: 11/08/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	257.81	61.97	374.19	2,664.71
Fresh water	1.01	0.00	0.00	391.40
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	272.82	61.97	374.19	3,056.10
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	229.32	43.86	211.78	1,171.67
Nutrient balance	43.50	18.11	162.41	1,884.44
Applied to removed ratio	1.19	1.41	1.77	2.61

Fresh water applied
15,625,500.00 gallons
575.43 acre-inches
12.51 inches/acre

Process wastewater applied
5,318,000.00 gallons
195.84 acre-inches
4.26 inches/acre

Total harvests for the crop
1 harvests

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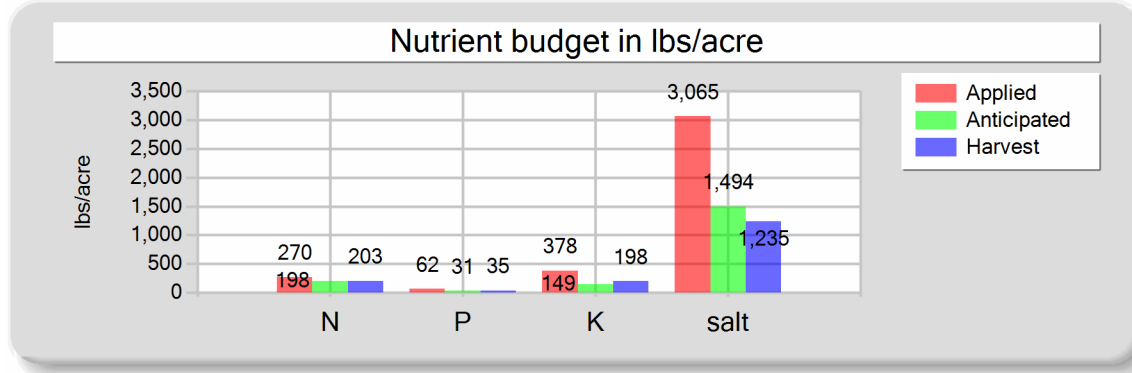
Reporting period 01/01/2023 to 12/31/2023.

17-6 - 11/09/2022: Wheat, silage, soft dough

Field name: 17-6

Crop: Wheat, silage, soft dough

Plant date: 11/09/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	255.36	62.42	378.31	2,660.02
Fresh water	1.04	0.00	0.00	404.60
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	270.40	62.42	378.31	3,064.62
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	203.37	34.99	197.90	1,235.50
Nutrient balance	67.03	27.43	180.41	1,829.12
Applied to removed ratio	1.33	1.78	1.91	2.48

Fresh water applied
12,982,784.00 gallons
478.11 acre-inches
12.92 inches/acre

Process wastewater applied
4,325,200.00 gallons
159.28 acre-inches
4.30 inches/acre

Total harvests for the crop
1 harvests

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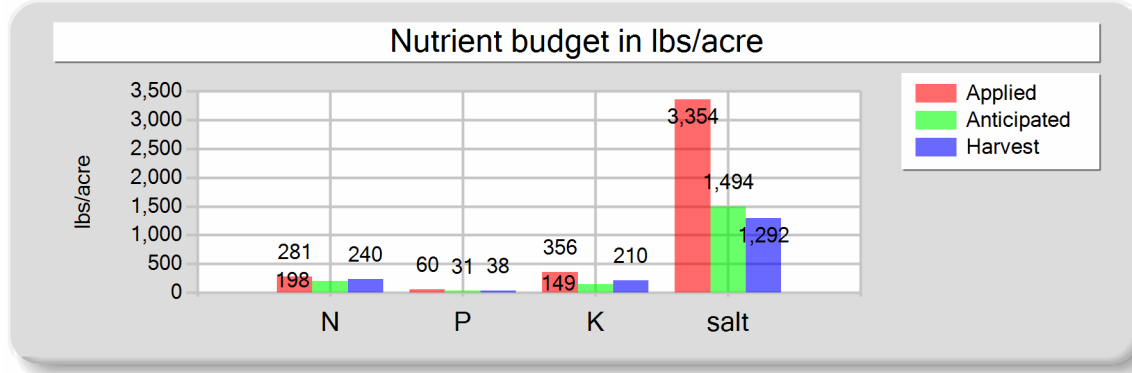
Reporting period 01/01/2023 to 12/31/2023.

17-7 - 11/09/2022: Wheat, silage, soft dough

Field name: 17-7

Crop: Wheat, silage, soft dough

Plant date: 11/09/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	273.78	60.14	356.19	2,937.72
Fresh water	0.33	0.00	0.00	416.46
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	281.12	60.14	356.19	3,354.18
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	240.19	37.80	209.71	1,292.39
Nutrient balance	40.93	22.35	146.49	2,061.79
Applied to removed ratio	1.17	1.59	1.70	2.60

Fresh water applied
17,422,200.00 gallons
641.60 acre-inches
12.58 inches/acre

Process wastewater applied
5,458,240.00 gallons
201.01 acre-inches
3.94 inches/acre

Total harvests for the crop
1 harvests

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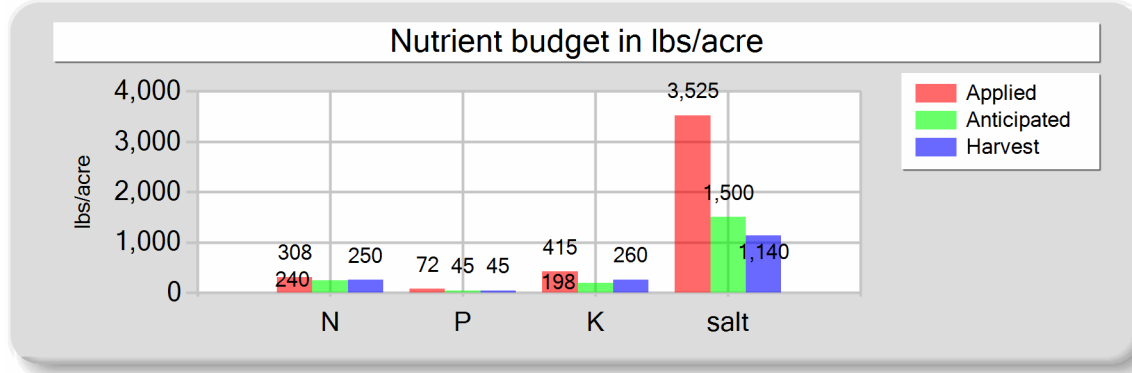
Reporting period 01/01/2023 to 12/31/2023.

17-7 - 06/26/2023: Corn, silage

Field name: 17-7

Crop: Corn, silage

Plant date: 06/26/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	299.08	71.59	414.98	2,389.90
Fresh water	2.12	0.00	0.00	1,134.92
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	308.20	71.59	414.98	3,524.83
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	250.18	44.61	259.88	1,140.37
Nutrient balance	58.01	26.98	155.10	2,384.45
Applied to removed ratio	1.23	1.60	1.60	3.09

Fresh water applied
49,122,174.00 gallons
1,809.00 acre-inches
35.47 inches/acre

Process wastewater applied
9,245,245.00 gallons
340.47 acre-inches
6.68 inches/acre

Total harvests for the crop
1 harvests

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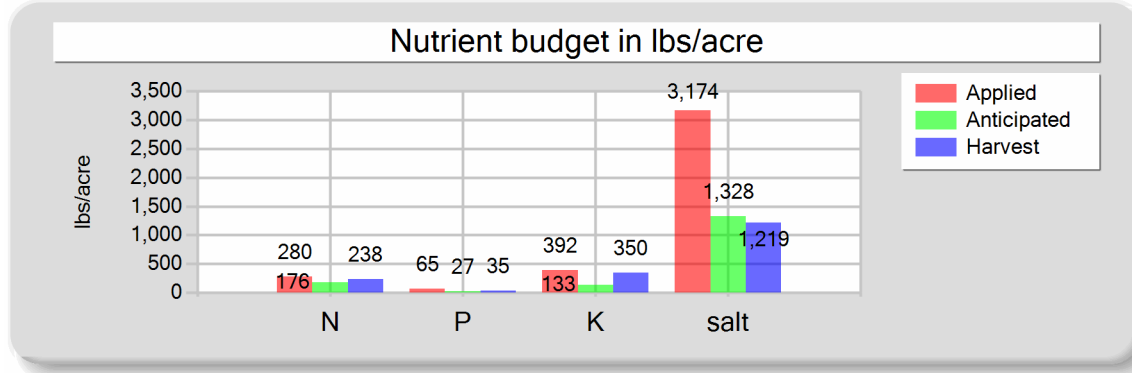
Reporting period 01/01/2023 to 12/31/2023.

19-1 - 11/15/2022: Ryegrass Silage

Field name: 19-1

Crop: Ryegrass Silage

Plant date: 11/15/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	265.89	64.75	392.15	2,774.27
Fresh water	0.47	0.00	0.00	399.48
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	280.36	64.75	392.15	3,173.75
Anticipated crop nutrient removal	176.00	27.20	132.80	1,328.00
Actual crop nutrient removal	237.54	34.70	349.64	1,218.84
Nutrient balance	42.82	30.06	42.51	1,954.91
Applied to removed ratio	1.18	1.87	1.12	2.60

Fresh water applied
22,656,930.00 gallons
834.38 acre-inches
12.84 inches/acre

Process wastewater applied
7,867,900.00 gallons
289.75 acre-inches
4.46 inches/acre

Total harvests for the crop
1 harvests

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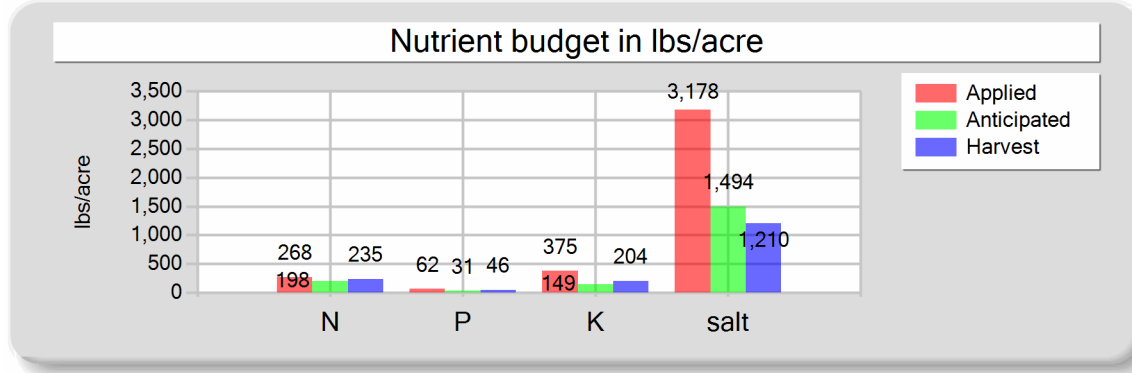
Reporting period 01/01/2023 to 12/31/2023.

19-2 - 11/13/2022: Wheat, silage, soft dough

Field name: 19-2

Crop: Wheat, silage, soft dough

Plant date: 11/13/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	261.10	62.16	374.83	2,779.77
Fresh water	0.35	0.00	0.00	397.97
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	268.44	62.16	374.83	3,177.74
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	235.04	46.24	204.21	1,209.86
Nutrient balance	33.41	15.92	170.62	1,967.88
Applied to removed ratio	1.14	1.34	1.84	2.63

Fresh water applied
26,956,000.00 <i>gallons</i>
992.70 <i>acre-inches</i>
12.73 <i>inches/acre</i>

Process wastewater applied
8,935,590.00 <i>gallons</i>
329.07 <i>acre-inches</i>
4.22 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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Reporting period 01/01/2023 to 12/31/2023.

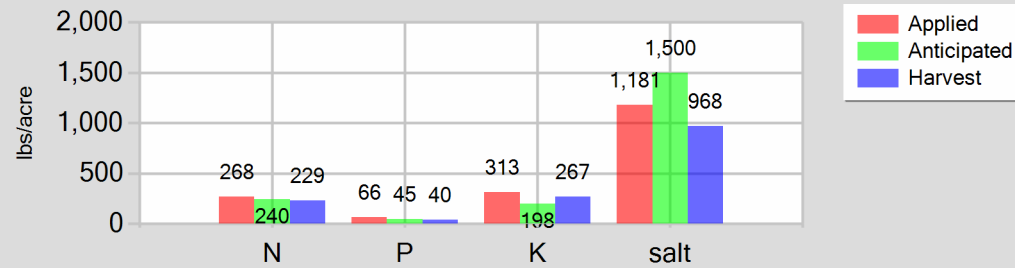
19-2 - 06/13/2023: Corn, silage

Field name: 19-2

Crop: Corn, silage

Plant date: 06/13/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	259.90	66.25	313.40	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	1.54	0.00	0.00	1,181.07
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	268.43	66.25	313.40	1,181.07
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	229.19	39.52	266.73	968.14
Nutrient balance	39.24	26.73	46.67	212.92
Applied to removed ratio	1.17	1.68	1.17	1.22

Fresh water applied
80,561,258.00 gallons
2,966.80 acre-inches
38.04 inches/acre
Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre
Total harvests for the crop
1 harvests

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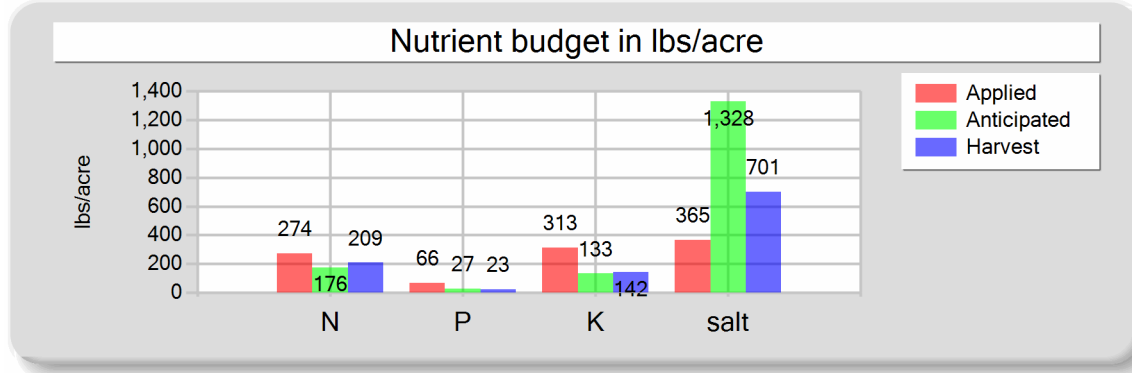
Reporting period 01/01/2023 to 12/31/2023.

19-3 - 11/14/2022: Ryegrass silage

Field name: 19-3

Crop: Ryegrass silage

Plant date: 11/14/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	259.90	66.25	313.40	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	365.23
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	273.90	66.25	313.40	365.23
Anticipated crop nutrient removal	176.00	27.20	132.80	1,328.00
Actual crop nutrient removal	208.57	22.52	141.98	701.11
Nutrient balance	65.33	43.73	171.42	-335.88
Applied to removed ratio	1.31	2.94	2.21	0.52

Fresh water applied
23,758,900.00 gallons
874.96 acre-inches
11.51 inches/acre

Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop
1 harvests

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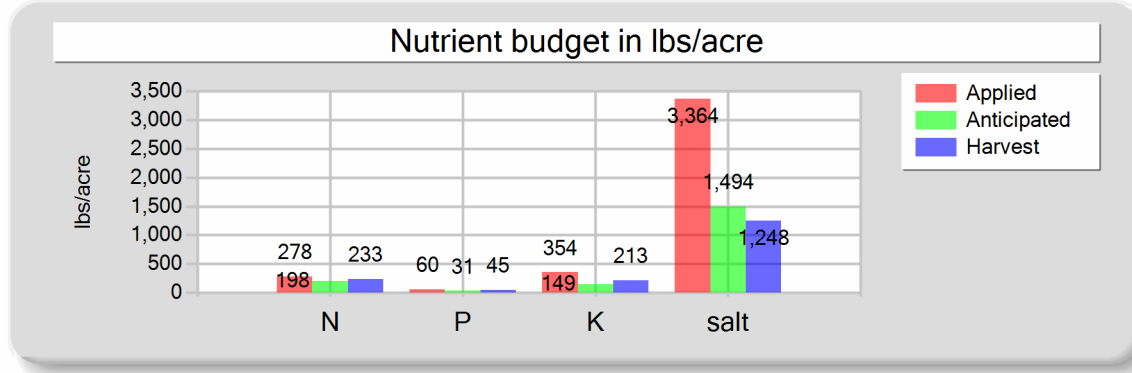
Reporting period 01/01/2023 to 12/31/2023.

19-4 - 11/15/2022: Wheat, silage, soft dough

Field name: 19-4

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	270.40	59.69	354.10	2,945.97
Fresh water	0.34	0.00	0.00	417.94
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	277.75	59.69	354.10	3,363.91
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	233.00	45.10	212.95	1,247.66
Nutrient balance	44.75	14.60	141.15	2,116.25
Applied to removed ratio	1.19	1.32	1.66	2.70

Fresh water applied
25,381,354.00 gallons
934.71 acre-inches
12.63 inches/acre

Process wastewater applied
7,836,890.00 gallons
288.61 acre-inches
3.90 inches/acre

Total harvests for the crop
1 harvests

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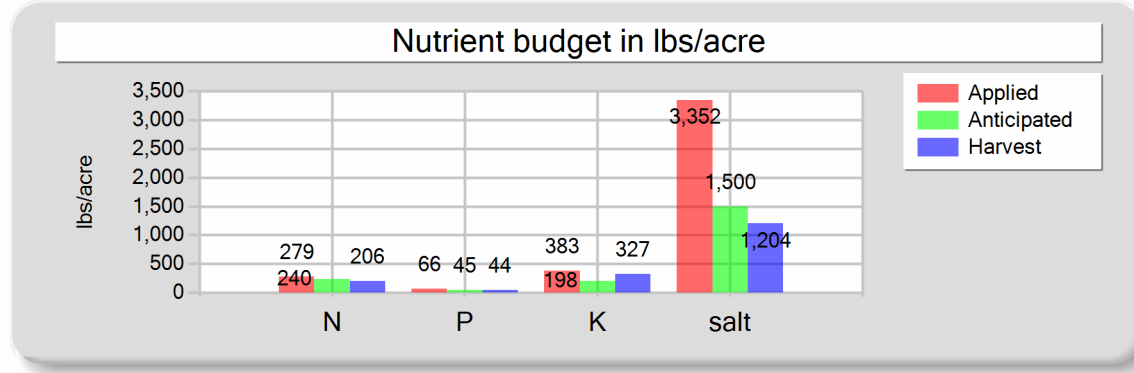
Reporting period 01/01/2023 to 12/31/2023.

19-4 - 06/07/2023: Corn, silage

Field name: 19-4

Crop: Corn, silage

Plant date: 06/07/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	271.68	65.71	382.67	2,145.66
Fresh water	0.00	0.00	0.00	1,206.32
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	278.68	65.71	382.67	3,351.97
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	206.19	43.79	326.62	1,204.31
Nutrient balance	72.49	21.92	56.05	2,147.67
Applied to removed ratio	1.35	1.50	1.17	2.78

Fresh water applied
71,314,229.00 gallons
2,626.26 acre-inches
35.49 inches/acre

Process wastewater applied
12,177,308.00 gallons
448.45 acre-inches
6.06 inches/acre

Total harvests for the crop
1 harvests

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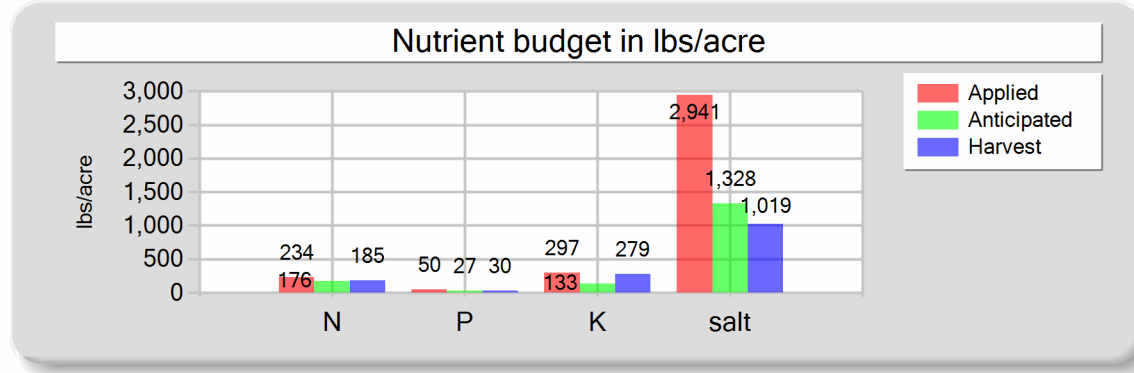
Reporting period 01/01/2023 to 12/31/2023.

19-5 - 11/18/2022: Ryegrass silage

Field name: 19-5

Crop: Ryegrass silage

Plant date: 11/18/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	219.99	49.71	297.16	2,572.03
Fresh water	0.00	0.00	0.00	368.73
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	233.99	49.71	297.16	2,940.76
Anticipated crop nutrient removal	176.00	27.20	132.80	1,328.00
Actual crop nutrient removal	185.18	30.49	278.88	1,018.85
Nutrient balance	48.81	19.22	18.28	1,921.91
Applied to removed ratio	1.26	1.63	1.07	2.89

Fresh water applied
23,986,454.00 <i>gallons</i>
883.34 <i>acre-inches</i>
11.62 <i>inches/acre</i>

Process wastewater applied
6,608,290.00 <i>gallons</i>
243.36 <i>acre-inches</i>
3.20 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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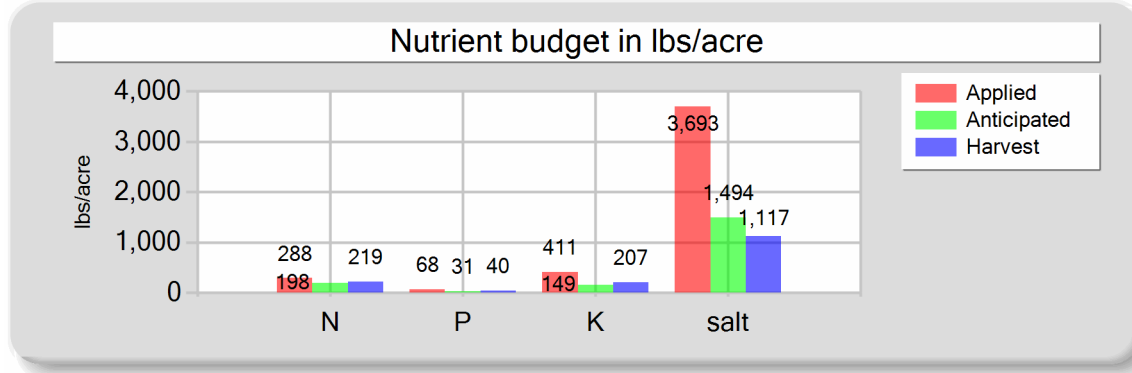
Reporting period 01/01/2023 to 12/31/2023.

19-6 - 11/15/2022: Wheat, silage, soft dough

Field name: 19-6

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	281.43	68.02	411.15	2,900.12
Fresh water	0.00	0.00	0.00	793.19
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	288.43	68.02	411.15	3,693.31
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	218.54	39.95	206.79	1,117.40
Nutrient balance	69.88	28.07	204.36	2,575.92
Applied to removed ratio	1.32	1.70	1.99	3.31

Fresh water applied
26,478,240.00 gallons
975.10 acre-inches
12.50 inches/acre

Process wastewater applied
9,925,250.00 gallons
365.51 acre-inches
4.69 inches/acre

Total harvests for the crop
1 harvests

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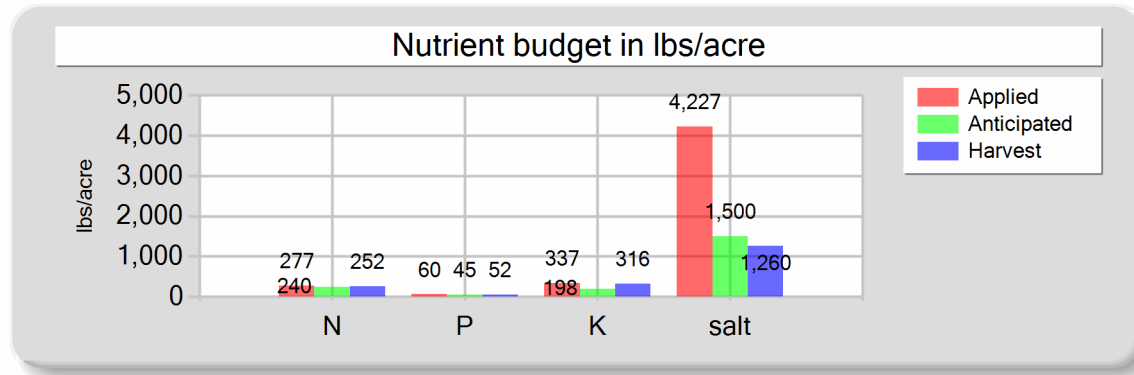
Reporting period 01/01/2023 to 12/31/2023.

19-6 - 06/04/2023: Corn, silage

Field name: 19-6

Crop: Corn, silage

Plant date: 06/04/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	268.55	60.02	337.05	2,303.75
Fresh water	1.41	0.00	0.00	1,923.61
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	276.97	60.02	337.05	4,227.36
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	251.98	51.63	316.00	1,259.88
Nutrient balance	24.99	8.38	21.05	2,967.49
Applied to removed ratio	1.10	1.16	1.07	3.36

Fresh water applied
76,009,884.00 <i>gallons</i>
2,799.19 <i>acre-inches</i>
35.89 <i>inches/acre</i>

Process wastewater applied
12,752,334.00 <i>gallons</i>
469.63 <i>acre-inches</i>
6.02 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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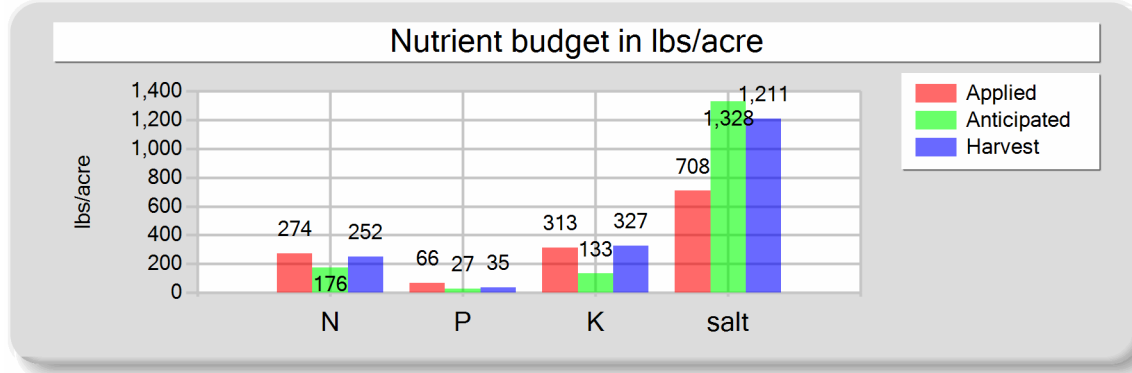
Reporting period 01/01/2023 to 12/31/2023.

19-7 - 11/16/2022: Ryegrass silage

Field name: 19-7

Crop: Ryegrass silage

Plant date: 11/16/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	259.90	66.25	313.40	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	707.63
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	273.90	66.25	313.40	707.63
Anticipated crop nutrient removal	176.00	27.20	132.80	1,328.00
Actual crop nutrient removal	252.25	34.86	326.55	1,210.80
Nutrient balance	21.65	31.39	-13.15	-503.17
Applied to removed ratio	1.09	1.90	0.96	0.58

Fresh water applied
23,319,240.00 gallons
858.77 acre-inches
11.15 inches/acre

Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop
1 harvests

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Reporting period 01/01/2023 to 12/31/2023.

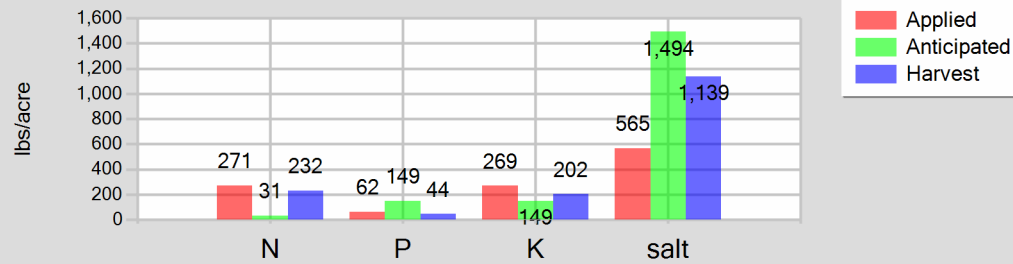
19-8 - 11/15/2022: Wheat, silage, soft dough

Field name: 19-8

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	262.96	62.28	269.02	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.82	0.00	0.00	565.27
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	270.78	62.28	269.02	565.27
Anticipated crop nutrient removal	30.60	149.40	149.40	1,494.00
Actual crop nutrient removal	232.14	44.27	202.23	1,139.16
Nutrient balance	38.64	18.01	66.79	-573.89
Applied to removed ratio	1.17	1.41	1.33	0.50

Fresh water applied
25,369,880.00 gallons
934.29 acre-inches
12.13 inches/acre
Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre
Total harvests for the crop
1 harvests

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Reporting period 01/01/2023 to 12/31/2023.

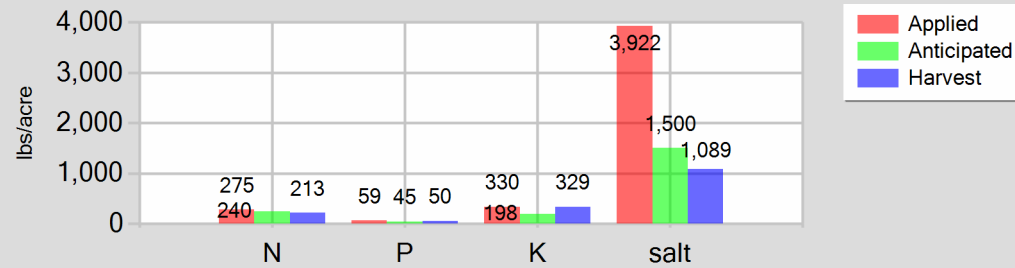
19-8 - 06/03/2023: Corn, silage

Field name: 19-8

Crop: Corn, silage

Plant date: 06/03/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	265.57	58.99	330.26	2,291.73
Fresh water	2.84	0.00	0.00	1,630.41
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	275.41	58.99	330.26	3,922.13
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	212.58	49.91	329.03	1,088.76
Nutrient balance	62.84	9.08	1.23	2,833.38
Applied to removed ratio	1.30	1.18	1.00	3.60

Fresh water applied
77,137,569.00 gallons
2,840.71 acre-inches
36.89 inches/acre
Process wastewater applied
12,453,890.00 gallons
458.63 acre-inches
5.96 inches/acre
Total harvests for the crop
1 harvests

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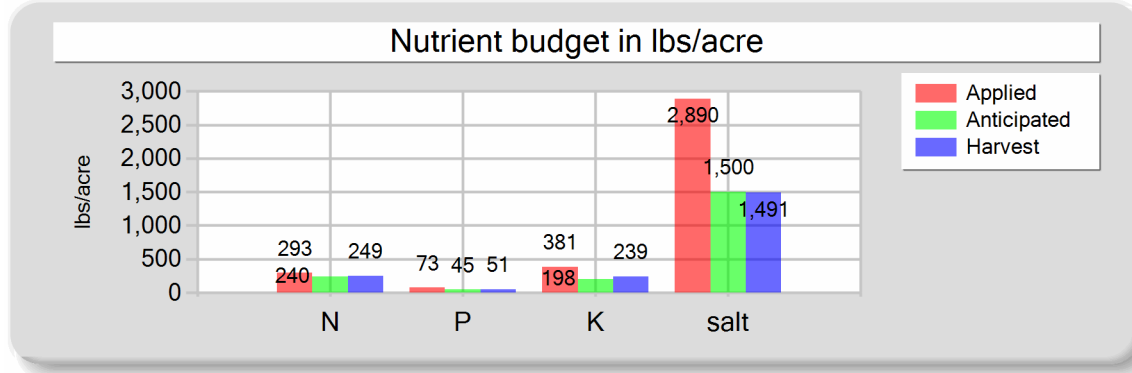
Reporting period 01/01/2023 to 12/31/2023.

20-1 - 05/15/2023: Corn, silage

Field name: 20-1

Crop: Corn, silage

Plant date: 05/15/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	185.64	47.32	223.86	0.00
Process wastewater	90.84	25.53	157.60	585.90
Fresh water	2.86	0.00	0.00	2,303.61
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	293.34	72.85	381.46	2,889.51
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	249.13	50.61	239.40	1,490.90
Nutrient balance	44.21	22.24	142.06	1,398.61
Applied to removed ratio	1.18	1.44	1.59	1.94

Fresh water applied
80,837,338.00 <i>gallons</i>
2,976.96 <i>acre-inches</i>
37.21 <i>inches/acre</i>

Process wastewater applied
4,354,100.00 <i>gallons</i>
160.35 <i>acre-inches</i>
2.00 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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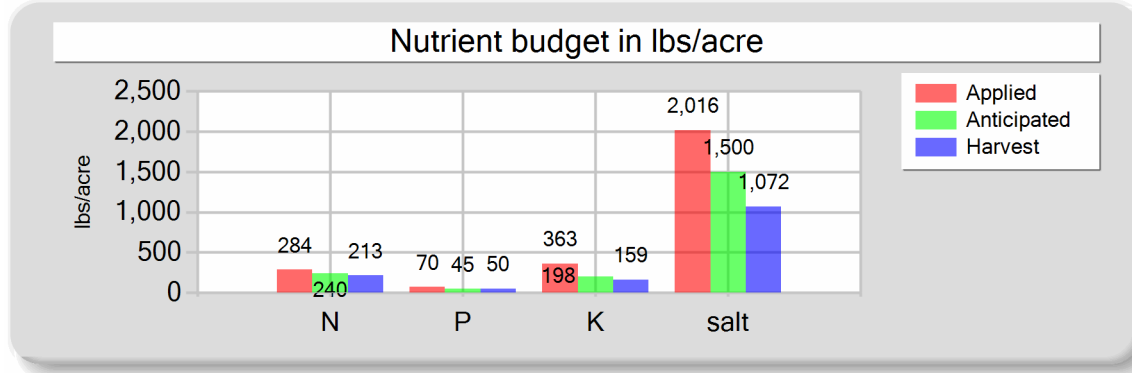
Reporting period 01/01/2023 to 12/31/2023.

20-2 - 05/16/2023: Corn, silage

Field name: 20-2

Crop: Corn, silage

Plant date: 05/16/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	185.64	47.32	223.86	0.00
Process wastewater	80.04	22.49	138.87	516.28
Fresh water	4.36	0.00	0.00	1,499.43
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	284.05	69.81	362.73	2,015.71
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	212.59	50.02	159.00	1,071.89
Nutrient balance	71.46	19.79	203.74	943.82
Applied to removed ratio	1.34	1.40	2.28	1.88

Fresh water applied
80,253,210.00 <i>gallons</i>
2,955.45 <i>acre-inches</i>
37.41 <i>inches/acre</i>

Process wastewater applied
3,788,720.00 <i>gallons</i>
139.53 <i>acre-inches</i>
1.77 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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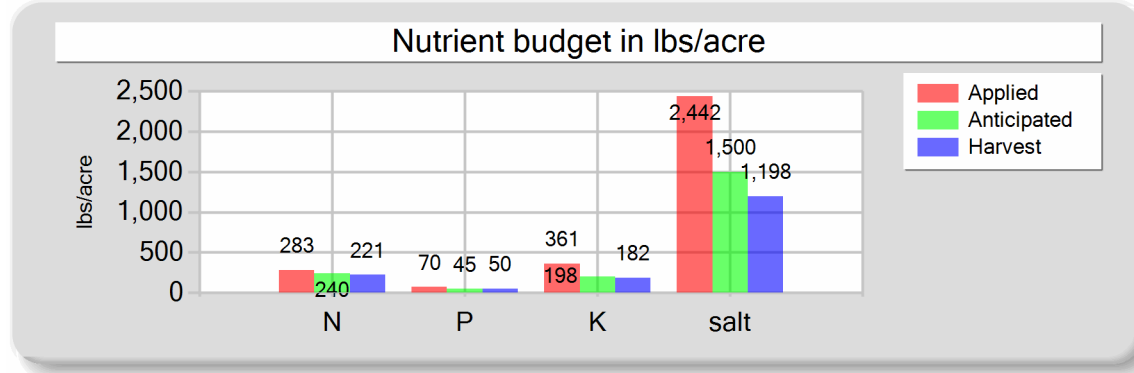
Reporting period 01/01/2023 to 12/31/2023.

20-3 - 05/18/2023: Corn, silage

Field name: 20-3

Crop: Corn, silage

Plant date: 05/18/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	185.64	47.32	223.86	0.00
Process wastewater	79.30	22.28	137.59	511.52
Fresh water	3.62	0.00	0.00	1,930.05
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	282.56	69.60	361.45	2,441.57
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	220.56	49.63	181.96	1,198.37
Nutrient balance	62.01	19.98	179.49	1,243.20
Applied to removed ratio	1.28	1.40	1.99	2.04

Fresh water applied
74,561,590.00 <i>gallons</i>
2,745.85 <i>acre-inches</i>
37.61 <i>inches/acre</i>

Process wastewater applied
3,468,700.00 <i>gallons</i>
127.74 <i>acre-inches</i>
1.75 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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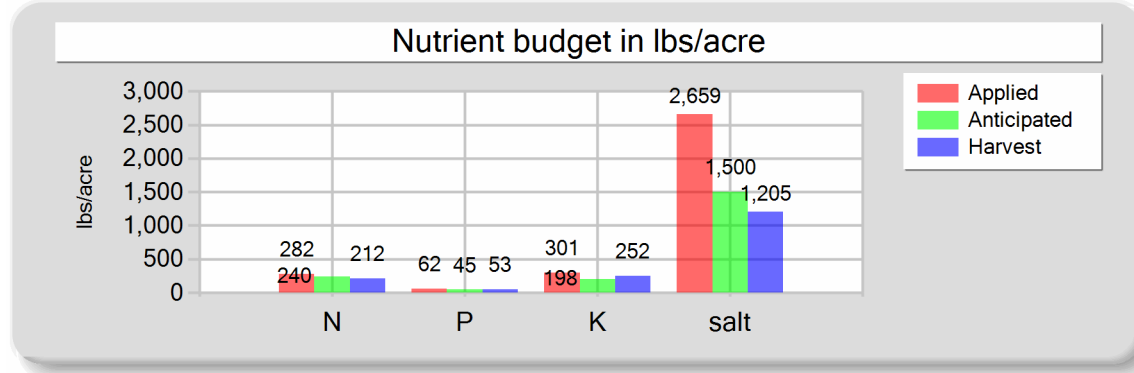
Reporting period 01/01/2023 to 12/31/2023.

20-4 - 06/20/2023: Corn, silage

Field name: 20-4

Crop: Corn, silage

Plant date: 06/20/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	185.64	47.32	223.86	0.00
Process wastewater	79.19	14.99	76.76	779.76
Fresh water	3.65	0.00	0.00	1,879.28
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	282.49	62.31	300.62	2,659.04
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	212.18	52.58	251.61	1,205.47
Nutrient balance	70.31	9.73	49.01	1,453.56
Applied to removed ratio	1.33	1.19	1.19	2.21

Fresh water applied
69,907,718.00 <i>gallons</i>
2,574.46 <i>acre-inches</i>
37.31 <i>inches/acre</i>

Process wastewater applied
3,358,002.00 <i>gallons</i>
123.66 <i>acre-inches</i>
1.79 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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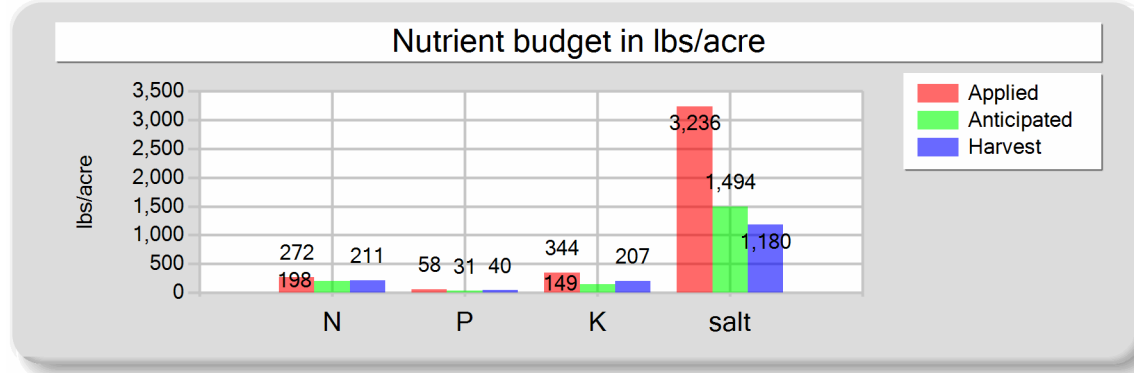
Reporting period 01/01/2023 to 12/31/2023.

8-1 - 11/15/2022: Wheat, silage, soft dough

Field name: 8-1

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	264.32	58.02	343.51	2,829.15
Fresh water	1.00	0.00	0.00	406.83
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	272.31	58.02	343.51	3,235.99
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	210.50	39.86	206.76	1,179.55
Nutrient balance	61.81	18.16	136.75	2,056.43
Applied to removed ratio	1.29	1.46	1.66	2.74

Fresh water applied
27,067,800.00 gallons
996.82 acre-inches
12.95 inches/acre

Process wastewater applied
7,953,427.00 gallons
292.90 acre-inches
3.80 inches/acre

Total harvests for the crop
1 harvests

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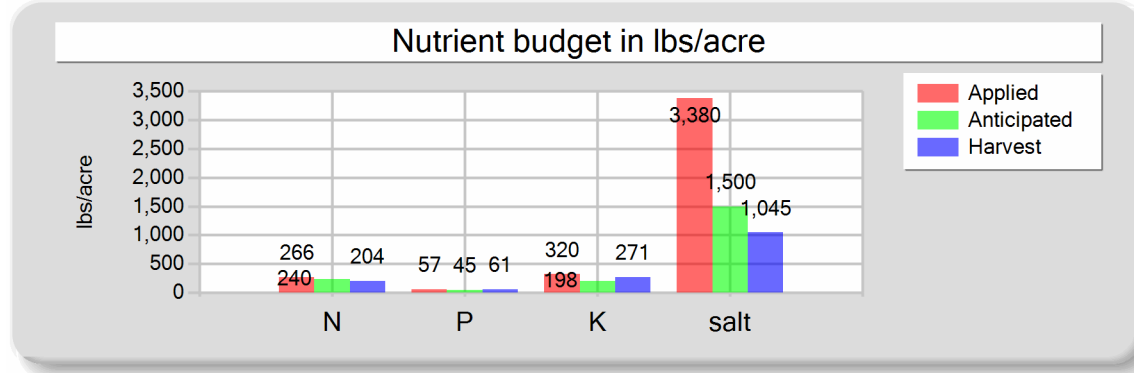
Reporting period 01/01/2023 to 12/31/2023.

8-1 - 06/08/2023: Corn, silage

Field name: 8-1

Crop: Corn, silage

Plant date: 06/08/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	257.10	57.16	320.20	2,216.52
Fresh water	2.17	0.00	0.00	1,163.96
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	266.27	57.16	320.20	3,380.49
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	204.21	61.26	271.04	1,045.18
Nutrient balance	62.06	-4.10	49.15	2,335.30
Applied to removed ratio	1.30	0.93	1.18	3.23

Fresh water applied
76,047,230.00 <i>gallons</i>
2,800.56 <i>acre-inches</i>
36.37 <i>inches/acre</i>

Process wastewater applied
12,055,825.00 <i>gallons</i>
443.98 <i>acre-inches</i>
5.77 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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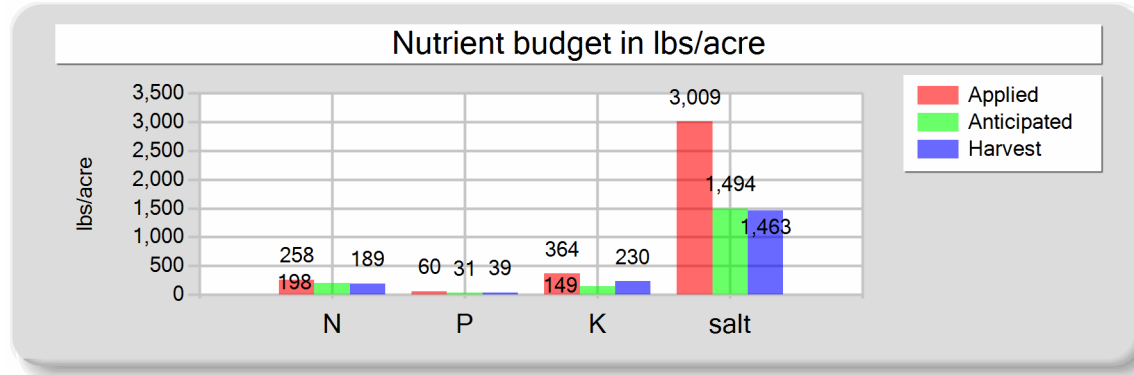
Reporting period 01/01/2023 to 12/31/2023.

8-2 - 11/16/2022: Wheat, silage, soft dough

Field name: 8-2

Crop: Wheat, silage, soft dough

Plant date: 11/16/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	250.17	60.24	363.94	2,604.77
Fresh water	0.34	0.00	0.00	404.05
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	257.51	60.24	363.94	3,008.82
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	189.43	39.19	229.93	1,463.20
Nutrient balance	68.07	21.05	134.01	1,545.62
Applied to removed ratio	1.36	1.54	1.58	2.06

Fresh water applied
24,554,150.00 <i>gallons</i>
904.25 <i>acre-inches</i>
12.22 <i>inches/acre</i>

Process wastewater applied
8,304,061.00 <i>gallons</i>
305.81 <i>acre-inches</i>
4.13 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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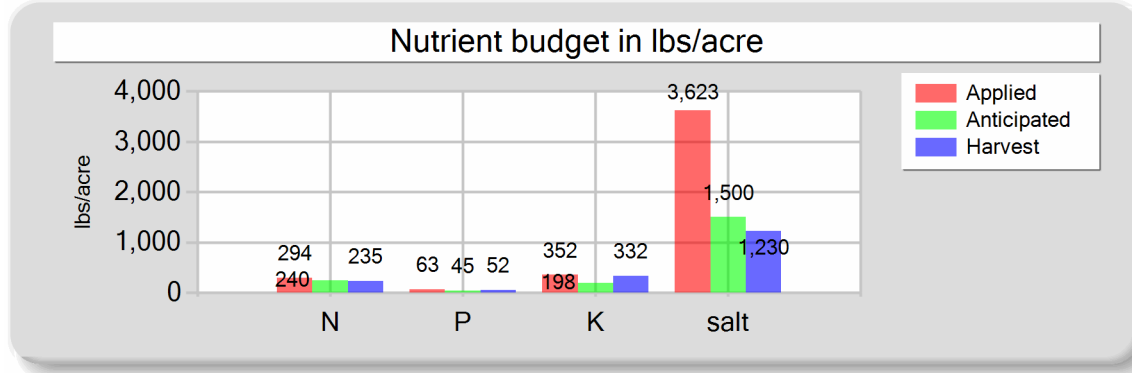
Reporting period 01/01/2023 to 12/31/2023.

8-2 - 06/09/2023: Corn, silage

Field name: 8-2

Crop: Corn, silage

Plant date: 06/09/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	284.10	62.89	351.50	2,459.59
Fresh water	2.90	0.00	0.00	1,162.94
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	294.00	62.89	351.50	3,622.53
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	234.69	51.56	332.48	1,230.37
Nutrient balance	59.31	11.32	19.02	2,392.16
Applied to removed ratio	1.25	1.22	1.06	2.94

Fresh water applied
74,470,165.00 gallons
2,742.48 acre-inches
37.06 inches/acre

Process wastewater applied
12,806,327.00 gallons
471.61 acre-inches
6.37 inches/acre

Total harvests for the crop
1 harvests

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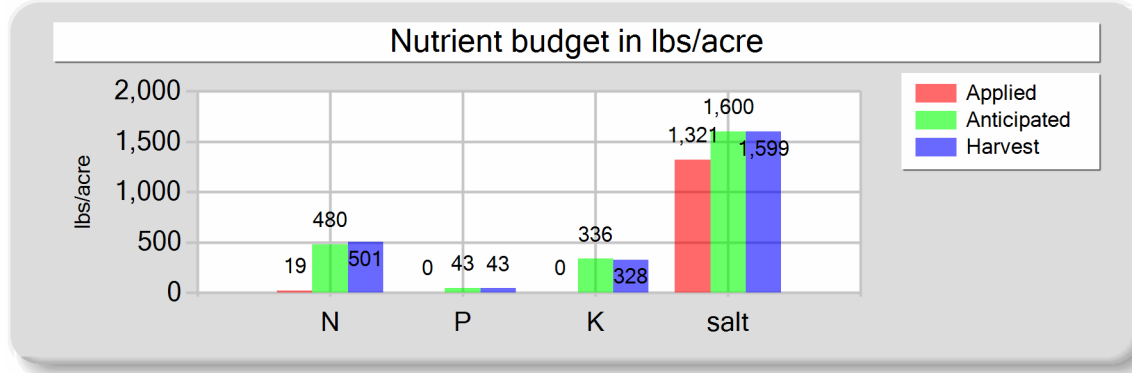
Reporting period 01/01/2023 to 12/31/2023.

9-5 - 03/01/2023: Alfalfa, hay

Field name: 9-5

Crop: Alfalfa, hay

Plant date: 03/01/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	5.24	0.00	0.00	1,320.65
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	19.24	0.00	0.00	1,320.65
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00
Actual crop nutrient removal	501.21	42.84	328.43	1,599.31
Nutrient balance	-481.97	-42.84	-328.43	-278.66
Applied to removed ratio	0.04	0.00	0.00	0.83

Fresh water applied
72,508,240.00 gallons
2,670.23 acre-inches
40.46 inches/acre

Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop
1 harvests

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Reporting period 01/01/2023 to 12/31/2023.

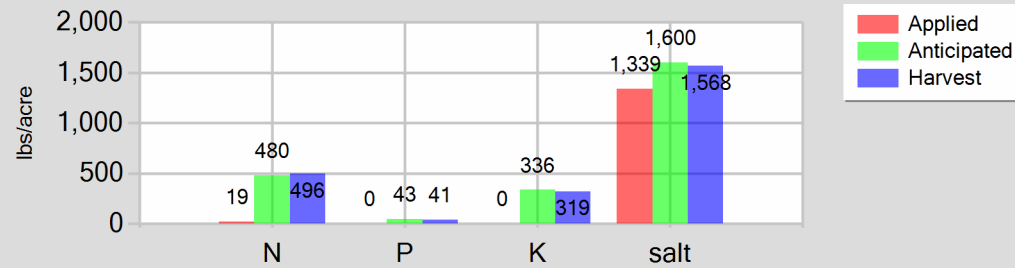
9-6 - 03/01/2023: Alfalfa, hay

Field name: 9-6

Crop: Alfalfa, hay

Plant date: 03/01/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	4.95	0.00	0.00	1,339.12
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	18.95	0.00	0.00	1,339.12
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00
Actual crop nutrient removal	495.89	40.97	319.29	1,568.19
Nutrient balance	-476.94	-40.97	-319.29	-229.06
Applied to removed ratio	0.04	0.00	0.00	0.85

Fresh water applied
74,386,110.00 gallons
2,739.39 acre-inches
39.13 inches/acre
Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre
Total harvests for the crop
1 harvests

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Reporting period 01/01/2023 to 12/31/2023.

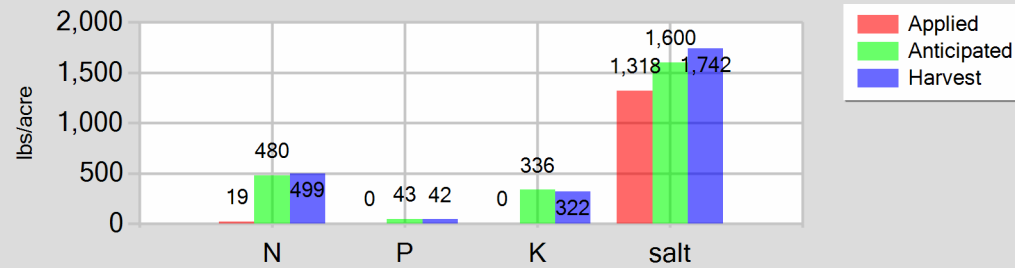
9-7 - 03/01/2023: Alfalfa, hay

Field name: 9-7

Crop: Alfalfa, hay

Plant date: 03/01/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	5.27	0.00	0.00	1,318.49
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	19.27	0.00	0.00	1,318.49
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00
Actual crop nutrient removal	498.85	42.16	321.79	1,742.45
Nutrient balance	-479.58	-42.16	-321.79	-423.96
Applied to removed ratio	0.04	0.00	0.00	0.76

Fresh water applied
78,190,140.00 <i>gallons</i>
2,879.48 <i>acre-inches</i>
40.56 <i>inches/acre</i>

Process wastewater applied
0.00 <i>gallons</i>
0.00 <i>acre-inches</i>
0.00 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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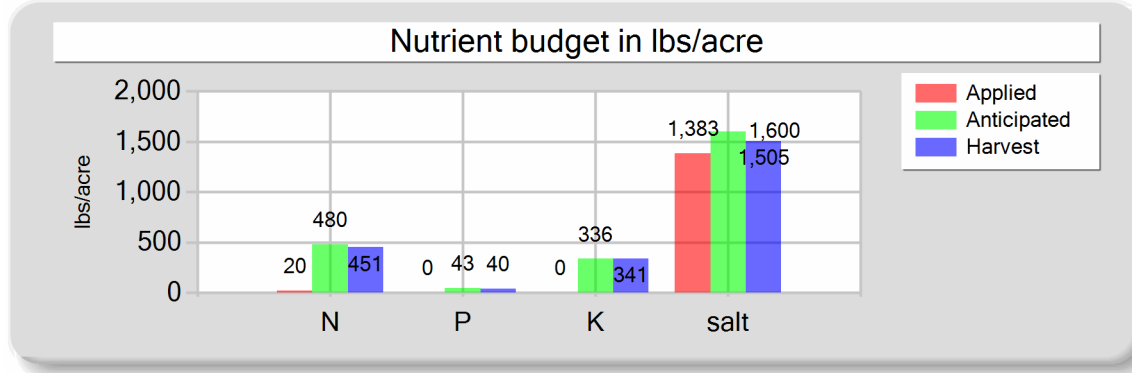
Reporting period 01/01/2023 to 12/31/2023.

9-8 - 03/01/2023: Alfalfa, hay

Field name: 9-8

Crop: Alfalfa, hay

Plant date: 03/01/2023



	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	79,469,590.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	2,926.59 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	42.41 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	0.00	0.00	0.00	0.00	
Fresh water	5.50	0.00	0.00	1,382.70	
Atmospheric deposition	14.00	0.00	0.00	0.00	
Total nutrients applied	19.50	0.00	0.00	1,382.70	
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00	
Actual crop nutrient removal	451.48	40.13	341.12	1,504.92	
Nutrient balance	-431.98	-40.13	-341.12	-122.22	
Applied to removed ratio	0.04	0.00	0.00	0.92	
					Process wastewater applied
					0.00 <i>gallons</i>
					0.00 <i>acre-inches</i>
					0.00 <i>inches/acre</i>
					Total harvests for the crop
					1 <i>harvests</i>

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Reporting period 01/01/2023 to 12/31/2023.

NUTRIENT ANALYSES

A. MANURE ANALYSES

Manure

Sample and source description: Manure

Sample date: 10/05/2022 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 13.5 %

	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	30,400.00	7,200.00	31,100.00							
DL	100.00	200.00	200.00							

Manure

Sample and source description: Manure

Sample date: 05/01/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 9.0 %

	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	20,400.00	5,200.00	24,600.00							
DL	100.00	200.00	200.00							

Manure

Sample and source description: Manure

Sample date: 10/11/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 11.9 %

	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	27,200.00	6,100.00	22,200.00							
DL	100.00	200.00	200.00							

B. PROCESS WASTEWATER ANALYSES

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

Lagoon

Sample and source description: Lagoon

Sample date: 11/08/2022 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	292.00	215.00	0.00	0.00	72.40	445.00								6,610.00	4,390
DL	10.00	2.00	2.00	2.00	0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample date: 02/21/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	315.00	129.00	0.00	0.00	64.40	372.00								3,990.00	2,650
DL	10.00	2.00	2.00	2.00	0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample date: 05/01/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	200.00	181.00	0.00	0.00	56.20	347.00								1,950.00	1,290
DL	10.00	2.00	2.00	2.00	0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample date: 08/02/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	195.00	114.00	0.00	0.00	36.90	189.00								2,890.00	1,920
DL	10.00	2.00	2.00	2.00	0.20	0.50								100.00	10

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Reporting period 01/01/2023 to 12/31/2023.

Lagoon

Sample and source description: Lagoon

Sample date: 11/10/2023 Material type: Process wastewater Source of analysis: Lab analysis pH:

	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	119.00	84.40	0.00	0.00	10.00	135.00								2,020.00	1,340
DL	10.00	2.00	2.00	2.00	0.20	0.50								100.00	10

C. FRESH WATER ANALYSES

17-1

Irrigation well

Sample description: Irrigation well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00								285.00	150
DL	0.30	0.20	0.20								1.00	20

17-4

Irrigation well

Sample description: Irrigation well

Sample date: 12/20/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	1.00		1.00	41.00	0.00	84.00	30.00	20.00	31.40	80.00	583.00	340
DL	0.50		0.10	1.00	1.00	1.00	10.00	10.00	0.17	1.00	1.00	20

19-2

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Reporting period 01/01/2023 to 12/31/2023.

19-2

Irrigation Well

Sample description: Irrigation Well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00								238.00	140
DL	0.50	0.50	0.10								1.00	20

19-4E

Irrigation Well

Sample description: Irrigation Well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00								243.00	150
DL	0.50	0.50	0.10								1.00	20

19-4W

Irrigation Well

Sample description: Irrigation Well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00								251.00	140
DL	0.50	0.20	0.20								1.00	20

19-8

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Reporting period 01/01/2023 to 12/31/2023.

19-8

Irrigation Well

Sample description: Irrigation Well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00	7.00	0.00	83.00	30.00	0.00	21.00	84.00	493.00	280
DL	0.50	0.20	0.20	1.00	1.00	1.00	10.00	10.00	0.17	1.00	1.00	20

20-3

Irrigation Well

Sample description: Irrigation Well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00								841.00	460
DL	0.50	0.20	0.20								1.00	20

8-1

Irrigation well

Sample description: Irrigation well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.00	0.00	0.00								221.00	150
DL	0.20	0.20	0.20								1.00	20

9-7

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

9-7

Irrigation Well

Sample description: Irrigation Well

Sample date: 07/11/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.50	0.00	0.50	11.00	0.00	54.00	40.00	20.00	7.90	41.00	304.00	180
DL	0.50	0.10	0.10	1.00	1.00	1.00	10.00	10.00	0.17	1.00	1.00	20

Semi Tropic ID

Canal Water

Sample description: Canal Water

Sample date: 07/18/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	0.60	0.00	0.60								204.00	130
DL	0.50	0.40	0.40								1.00	20

D. SOIL ANALYSES

No soil analyses entered.

E. PLANT TISSUE ANALYSES

17-1 - 11/07/2022: Wheat, silage, soft dough

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Reporting period 01/01/2023 to 12/31/2023.

17-1 - 11/07/2022: Wheat, silage, soft dough

wheat sample

Sample and source description: wheat sample

Sample date: 05/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,900.00	3,400.00	18,700.00		11.50
DL	500.00	200.00	200.00		0.05

17-1 - 05/22/2023: Corn, silage

corn sample

Sample and source description: corn sample

Sample date: 09/24/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,700.00	2,100.00	14,100.00		5.03
DL	500.00	200.00	200.00		0.05

17-2 - 11/07/2022: Wheat, silage, soft dough

wheat sample

Sample and source description: wheat sample

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 63.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,400.00	3,400.00	18,800.00		10.50
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

17-2 - 05/23/2023: Corn, silage

Corn Silage

Sample and source description: Corn Silage

Sample date: 09/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,800.00	2,100.00	15,500.00		6.65
DL	500.00	200.00	200.00		0.05

17-3 - 11/08/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 66.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,100.00	3,600.00	16,700.00		10.20
DL	500.00	200.00	200.00		0.05

17-3 - 06/10/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 09/25/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,400.00	2,100.00	14,000.00		5.29
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

17-4 - 05/12/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 08/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 71.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,300.00	2,800.00	18,900.00		7.30
DL	500.00	200.00	200.00		0.05

17-5 - 11/08/2022: Wheat, silage, soft dough

wheat sample

Sample and source description: wheat sample

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,300.00	3,500.00	16,900.00		9.35
DL	500.00	200.00	200.00		0.05

17-6 - 11/09/2022: Wheat, silage, soft dough

wheat sample

Sample and source description: wheat sample

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,600.00	3,200.00	18,100.00		11.30
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

17-7 - 11/09/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	19,700.00	3,100.00	17,200.00		10.60
DL	500.00	200.00	200.00		0.05

17-7 - 06/26/2023: Corn, silage

corn sample

Sample and source description: corn sample

Sample date: 10/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,900.00	2,300.00	13,400.00		5.88
DL	500.00	200.00	200.00		0.05

19-1 - 11/15/2022: Ryegrass Silage

Ryegrass sample

Sample and source description: Ryegrass sample

Sample date: 05/16/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 63.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	26,700.00	3,900.00	39,300.00		13.70
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

19-2 - 11/13/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,300.00	3,600.00	15,900.00		9.42
DL	500.00	200.00	200.00		0.05

19-2 - 06/13/2023: Corn, silage

corn sample

Sample and source description: corn sample

Sample date: 09/25/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 66.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,600.00	2,000.00	13,500.00		4.90
DL	500.00	200.00	200.00		0.05

19-3 - 11/14/2022: Ryegrass silage

Ryegrass sample

Sample and source description: Ryegrass sample

Sample date: 05/12/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 61.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	21,300.00	2,300.00	14,500.00		7.16
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

19-4 - 11/15/2022: Wheat, silage, soft dough

wheat sample

Sample and source description: wheat sample

Sample date: 05/04/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,600.00	3,600.00	17,000.00		9.96
DL	500.00	200.00	200.00		0.05

19-4 - 06/07/2023: Corn, silage

corn sample

Sample and source description: corn sample

Sample date: 09/18/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,300.00	2,400.00	17,900.00		6.60
DL	500.00	200.00	200.00		0.05

19-5 - 11/18/2022: Ryegrass silage

Ryegrass sample

Sample and source description: Ryegrass sample

Sample date: 04/15/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	24,900.00	4,100.00	37,500.00		13.70
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

19-6 - 11/15/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/04/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,600.00	3,400.00	17,600.00		9.51
DL	500.00	200.00	200.00		0.05

19-6 - 06/04/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 09/18/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,200.00	2,500.00	15,300.00		6.10
DL	500.00	200.00	200.00		0.05

19-7 - 11/16/2022: Ryegrass silage

Ryegrass sample

Sample and source description: Ryegrass sample

Sample date: 05/12/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	27,500.00	3,800.00	35,600.00		13.20
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

19-8 - 11/15/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/04/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	19,400.00	3,700.00	16,900.00		9.52
DL	500.00	200.00	200.00		0.05

19-8 - 06/03/2023: Corn, silage

corn sample

Sample and source description: corn sample

Sample date: 09/13/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,500.00	2,700.00	17,800.00		5.89
DL	500.00	200.00	200.00		0.05

20-1 - 05/15/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 08/26/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 66.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,800.00	2,600.00	12,300.00		7.66
DL	500.00	200.00	200.00		0.05

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Reporting period 01/01/2023 to 12/31/2023.

20-2 - 05/16/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 08/26/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,900.00	2,800.00	8,900.00		6.00
DL	500.00	200.00	200.00		0.05

20-3 - 05/18/2023: Corn, silage

Corn Sample

Sample and source description: Corn Sample

Sample date: 09/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,000.00	2,700.00	9,900.00		6.52
DL	500.00	200.00	200.00		0.05

20-4 - 06/20/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 10/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 67.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,300.00	2,800.00	13,400.00		6.42
DL	500.00	200.00	200.00		0.05

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

8-1 - 11/15/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	16,900.00	3,200.00	16,600.00		9.47
DL	500.00	200.00	200.00		0.05

8-1 - 06/08/2023: Corn, silage

Corn sample

Sample and source description: Corn sample

Sample date: 09/13/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,000.00	3,300.00	14,600.00		5.63
DL	500.00	200.00	200.00		0.05

8-2 - 11/16/2022: Wheat, silage, soft dough

Wheat sample

Sample and source description: Wheat sample

Sample date: 05/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	14,500.00	3,000.00	17,600.00		11.20
DL	500.00	200.00	200.00		0.05

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

8-2 - 06/09/2023: Corn, silage

corn sample

Sample and source description: corn sample

Sample date: 09/13/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,200.00	2,900.00	18,700.00		6.92
DL	500.00	200.00	200.00		0.05

9-5 - 03/01/2023: Alfalfa, hay

Alfalfa

Sample and source description: Alfalfa

Sample date: 11/10/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,100.00	3,000.00	23,000.00		11.20
DL	500.00	200.00	200.00		0.05

9-6 - 03/01/2023: Alfalfa, hay

Alfalfa

Sample and source description: Alfalfa

Sample date: 11/10/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,100.00	2,900.00	22,600.00		11.10
DL	500.00	200.00	200.00		0.05

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

9-7 - 03/01/2023: Alfalfa, hay

Alfalfa

Sample and source description: Alfalfa

Sample date: 11/10/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,500.00	3,000.00	22,900.00		12.40
DL	500.00	200.00	200.00		0.05

9-8 - 03/01/2023: Alfalfa, hay

Alfalfa

Sample and source description: Alfalfa

Sample date: 11/10/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	31,500.00	2,800.00	23,800.00		10.50
DL	500.00	200.00	200.00		0.05

F. SUBSURFACE (TILE) DRAINAGE ANALYSES

No subsurface (tile) drainage analyses entered.

Annual Report - General Order No. R5-2007-0035

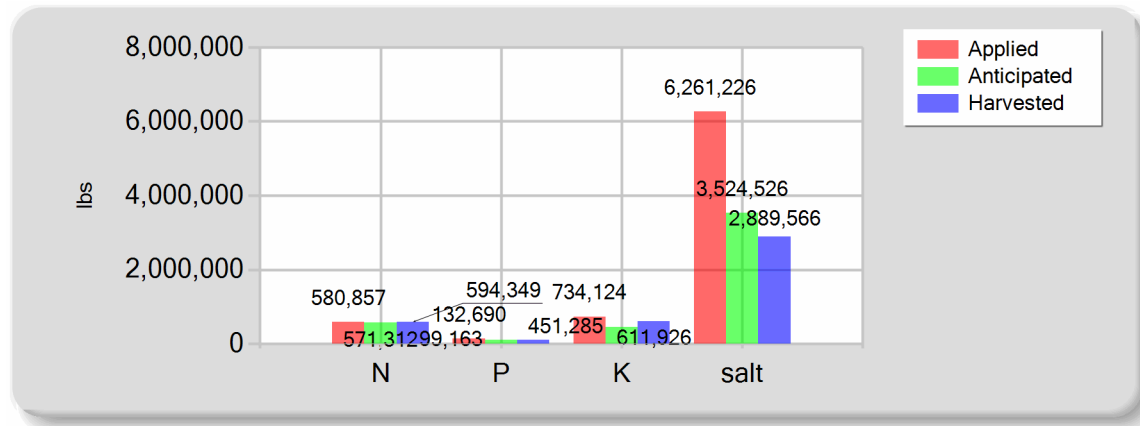
Reporting period 01/01/2023 to 12/31/2023.

NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

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

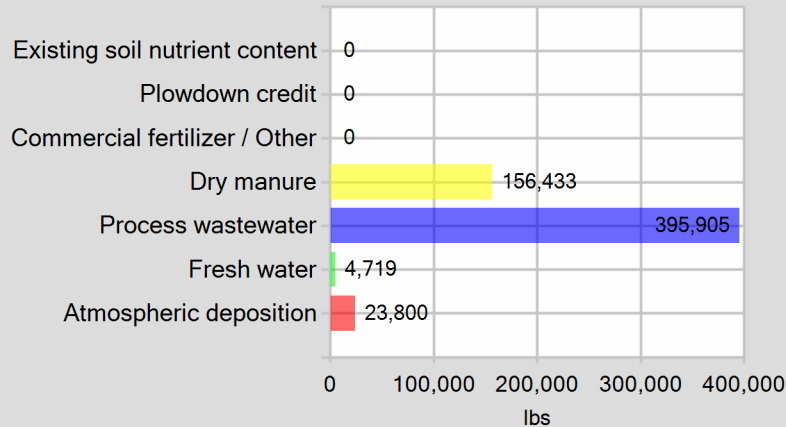
	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	156,433.42	39,509.51	184,937.85	0.00
Process wastewater	395,905.24	93,180.63	549,185.96	3,732,953.52
Fresh water	4,718.77	0.00	0.00	2,528,272.82
Atmospheric deposition	23,800.00	0.00	0.00	0.00
Total nutrients applied	580,857.44	132,690.14	734,123.81	6,261,226.35
Anticipated crop nutrient removal	571,312.20	99,163.20	451,284.60	3,524,526.00
Actual crop nutrient removal	594,349.28	101,736.03	611,925.76	2,889,566.39
Nutrient balance	-13,491.84	30,954.11	122,198.06	3,371,659.96
Applied to removed ratio	0.98	1.30	1.20	2.17

B. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL

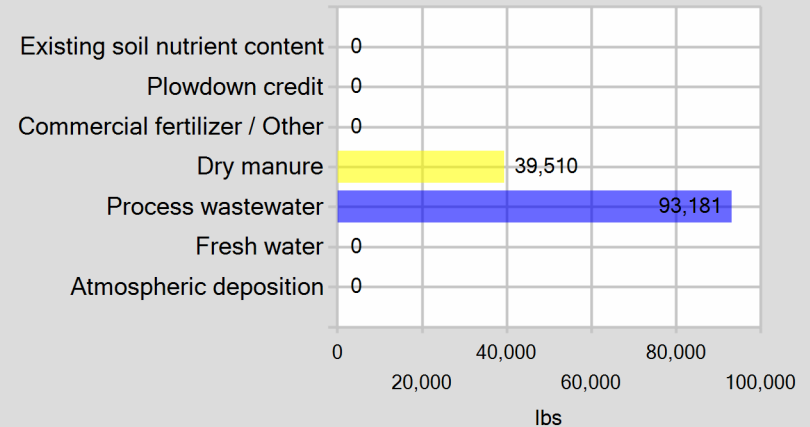


C. POUNDS OF NUTRIENT APPLIED BY MATERIAL TYPE

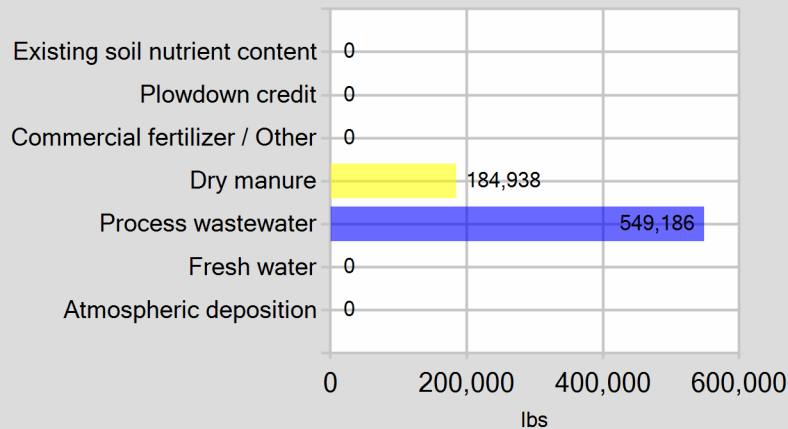
Pounds of nitrogen applied



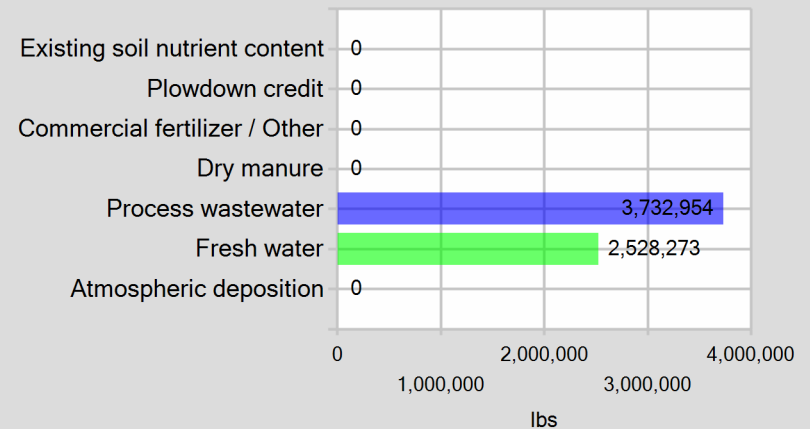
Pounds of phosphorus applied



Pounds of potassium applied



Pounds of salt applied



Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

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.

No manure or process wastewater discharges occurred during the reporting period.

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.

No stormwater discharges occurred during the reporting period.

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.

No land application area to surface water discharges occurred during the reporting period.

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? No

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

ADDITIONAL NOTES

A. NOTES

Wells~ 9-6, 9-8, 8-2, 17-8, 20-4NW, 20-4S, DN and DS were out of service for 2023.

Fields 4-5, 4-8, 9-1, 9-2, 9-3, and 9-4 are being moved into ILRP for 2023.

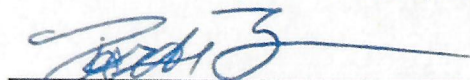
Wells 9-1, 9-3, 9-4, and 4-8 were removed from the facility.

Annual Report - General Order No. R5-2007-0035
Reporting period 01/01/2023 to 12/31/2023.

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

Peter Bouma

PRINT OR TYPE NAME

6/11/24

DATE



SIGNATURE OF OPERATOR OF FACILITY

SAME AS OWNER

PRINT OR TYPE NAME

6/11/24

DATE

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

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.

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.

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.

August 11, 2023

Sentry Ag Services
 Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Lab No. : VI 2344660
Customer No. : 4019696
Reference : 3057

Laboratory Report

Introduction: This report package contains a total of 3 pages divided into 3 sections:

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(1 page)	: Results for each sample submitted.
Quality Control	(1 page)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
Semi Tropic ID	07/18/2023	07/18/2023	VI 2344660-001	AGW

Sampling and Receipt Information:

The Sample was received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. The Sample was received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.

Test Summary

EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

Certification: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2023-08-14

August 11, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : Semi Tropic ID
 Project : Semi Tropic ID

Lab No. : VI 2344660-001
 Customer No. : 4019696
 Reference : 3057
 Sampled On : July 18, 2023 at 08:30
 Sampled By : Klay
 Received On : July 18, 2023 at 15:17
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	0.6	0.5	mg/L		1		08/08/2023	08:55	sta	EPA 351.2	08/10/2023	17:40	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/19/2023	12:15	lfs	SM 4500-NO3 F	07/19/2023	15:06	lfs
Nitrogen, Total as Nitrogen	0.6	0.5	mg/L		1		08/08/2023	08:55	sta	Calc.	08/10/2023	17:40	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/19/2023	12:15	lfs	SM 4500-NO3 F	07/19/2023	15:06	lfs
Kjeldahl Nitrogen	0.6	0.5	mg/L		1		08/08/2023	08:55	sta	EPA 351.2	08/10/2023	17:40	lcr
Conductivity	204	1	umhos/cm		1		07/31/2023	17:05	amm	SM 4500-H+B	07/31/2023	20:34	amm
Solids, Total Dissolved (TDS)	130	20	mg/L		1		07/21/2023	09:30	ctl	SM 2540 C	07/24/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

853 Corporation Street
 Santa Paula, CA 93060
 TEL: (805)392-2000
 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
 CA ELAP Certification No. 1573

Office & Laboratory

2500 Stagecoach Road
 Stockton, CA 95215
 TEL: (209)942-0182
 FAX: (209)942-0423
 CA ELAP Certification No. 1563

Office & Laboratory

563 E. Lindo Avenue
 Chico, CA 95926
 TEL: (530)343-5818
 FAX: (530)343-3807
 CA ELAP Certification No. 2670

Office & Laboratory

3442 Empresa Drive, Suite D
 San Luis Obispo, CA 93401
 TEL: (805)783-2940
 FAX: (805)783-2912
 CA ELAP Certification No. 2775

Office & Laboratory

9415 W. Goshen Avenue
 Visalia, CA 93291
 TEL: (559)734-9473
 FAX: (559)734-8435
 CA ELAP Certification No. 2810

August 11, 2023
Sentry Ag Service

Lab No. : VI 2344660
Customer No. : 4019696

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2344710-008)	Dup	umhos/cm		0.3%	5	
Solids, Total Dissolved	2540CE	07/21/2023:207986CTL (SP 2312256-003) (SP 2312256-003)	Blank	mg/L	991.5	ND	<20	
			LCS	mg/L		101%	90-110	
			Dup	mg/L		0.2%	5	
			Dup	mg/L		3.10%	5	
Nitrogen, Total Kjeldahl	351.2	08/08/2023:208707STA (VI 2344654-002) (VI 2344644-003)	Blank	mg/L	12.00	ND	<0.5	
			LCS	mg/L		91.3%	73-124	
			MS	mg/L		85.5%	54-136	
			MSD	mg/L		85.3%	54-136	
			MSRPD	mg/L		0.3%	≤27	
			MS	mg/L		82.8%	54-136	
			MSD	mg/L		82.5%	54-136	
			MSRPD	mg/L		0.3%	≤27	
Nitrate + Nitrite as N	4500NO3F	07/19/2023:207926LFS (STK2339515-001)	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		97.8%	80-120	
			MS	mg/L		91.9%	66-125	
			MSD	mg/L		94.5%	66-125	
			MSRPD	mg/L		1.2%	≤30.4	
Nitrate Nitrogen	4500NO3F	07/19/2023:207926LFS (STK2339515-001)	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		97.8%	80-120	
			MS	mg/L		91.9%	66-125	
			MSD	mg/L		94.5%	66-125	
			MSRPD	mg/L		1.2%	≤30.4	

Definition

Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.



2344660

Laboratory Analysis Work Order

3057

SITE NAME: Semi Tropic IDLABORATORY: VT | FGL 4-19696Billing: Sentry Ag Services, LLC
P.O. Box 7750, Visalia, CA 93290Authorized Copy Release to:
labs@sentryagservices.com

ANALYSIS TO BE COMPLETED

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
 W2 EC, NO₃N, TDS, TN (Irr)
 W3 NH₄-N (Ammonium)
 W4 EC, NO₃N, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
 W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
 W6 NO₃N, NO₂ (Dom ILRP, Annually)
 W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
 W8 Other: _____

Plant Tissue

- P1 TN, NO₃N, PO₄P, K (Mid Season - Wheat)
 P2 TN, P, K (Mid-season - Corn)
 P3 TN, TP, TK, Ash, %M (At Harvest)
 P4 TN, %M
 P5 % Moisture
 P6 NIR
 P7 Other: _____

Process Waste Water (lagoon)

- L1 EC, NH₄N, TKN, TP, TK, TDS (Quarterly)
 L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)
 L3 Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Biennially)
 L4 Other: _____

Manure

- M1 TN, TP, TK, %M (2/year)
 M2 TN, TP, K, %M, Ca, Mg, Na, S, Cl, ash (Biennially)
 M3 Other: _____

Soil

- S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄S
 S2 S1 + CEC, CaCO₃, OM, C:N, TN
 S3 NO₃N, NH₄N
 S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS		
						NH ₃ N *	pH	Temp
1	Semi Tropic ID	Canal H ₂ O	W1	7/18/23 8:30	Klay	-		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

* Field Test of ammonium nitrogen may only be made by a trained technician. Positive test to be analyzed for ammonium nitrogen by the laboratory.

All samples are to follow the procedures noted in the Sampling & Analysis Plan of the NMP and the RWQCB specifications. Any samples taken outside of these procedures shall provide the procedures on the notes below. Additionally, if any preservatives are used in the collections or processing of samples, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st	Klay	JAS		7/18/23 15:17
2 nd	SRD	FGL	7/18/23 1517	
3 rd	SRD	FGL		7/18/23 1730
4 th		GLS	7/18/23 1730	

LABORATORY USE ONLY

Logged In By: _____ Total Samples: _____ Laboratory No.: _____

ROI
5.3°CGLS 7/19/23
MLC 1100

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: STK CC

CH VI

1. Number of ice chests/packages received: 1 Shipping tracking # OTC

2. Were samples received in a chilled condition? Temps: 201 / 5.3°C / / /
Surface water SWTR bact samples: A sample that has a temperature upon receipt of >10° C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

3. Do the number of bottles received agree with the COC? ☒ Yes No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes No

5. VOAs checked for Headspace? Yes No ☒ N/A

6. Were sample custody seals intact? Yes No ☒ N/A

7. If required, was sample split for pH analysis? Yes No ☒ N/A

8. Were all analyses within holding times at time of receipt? ☒ Yes No

9. Verify sample date, time and sampler name ☒ Yes No

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples.

Sample Receipt Review completed by (initials): SRC

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: 3C / / / /

Acceptable is above freezing to 6°C. If many packages are received at one time check for tests/H.T.'s/rushes/

2. Shipping tracking numbers: 559787246
6815

3. Do the number of bottles received agree with the COC? ☒ Yes No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes No

5. Were sample custody seals intact? Yes No ☒ N/A

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? ☒ Yes No

2. Did bottle labels correspond with the client's ID's? ☒ Yes No

3. Were all bottles requiring sample preservation properly preserved? ☒ Yes No N/A FGL
[Exception: Oil & Grease, VOA and CrVI verified in lab]

4. VOAs checked for Headspace? Yes No ☒ N/A

5. Have rush or project due dates been checked and accepted? Yes No ☒ N/A

6. Were all analyses within holding times at time of receipt? ☒ Yes No

Attach labels to the containers and include a copy of the COC for lab delivery.

Sample Receipt, Login and Verification completed by (initials): MYC

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____

Initiated By: _____ Date: _____

Problem: _____

Resolution: _____

2. Person Contacted: _____ Phone Number: _____

Initiated By: _____

Problem: _____

Resolution: _____

(Please use the back of this sheet for additional contacts)

(4019696)
Sentry Ag Service
VI 2344660

iv 07/19/2023 08:11:16



VI 2344660

August 3, 2023

Sentry Ag Services
 Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Lab No. : VI 2344462
Customer No. : 4019696
Reference : 3053

Laboratory Report

Introduction: This report package contains a total of 15 pages divided into 3 sections:

Case Narrative	(2 pages)	: An overview of the work performed at FGL.
Sample Results	(8 pages)	: Results for each sample submitted.
Quality Control	(5 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
9-7	07/11/2023	07/11/2023	VI 2344462-001	AGW
19-8	07/11/2023	07/11/2023	VI 2344462-002	AGW
8-1	07/11/2023	07/11/2023	VI 2344462-003	AGW
17-1	07/11/2023	07/11/2023	VI 2344462-004	AGW
19-2	07/11/2023	07/11/2023	VI 2344462-005	AGW
19-4W	07/11/2023	07/11/2023	VI 2344462-006	AGW
19-4E	07/11/2023	07/11/2023	VI 2344462-007	AGW
20-3	07/11/2023	07/11/2023	VI 2344462-009	AGW

Sampling and Receipt Information:

All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples were received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.

Test Summary

EPA 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

Certification: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-08-03

August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : 9-7
 Project : Poso Creek

Lab No. : VI 2344462-001
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 07:30
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO ₃)	60	10	mg/L		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	07:12	amm
Bicarbonate	40	10	mg/L		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	07:12	amm
Carbonate	20	10	mg/L		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	07:12	amm
Hydroxide	20	10	mg/L		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	07:12	amm
Chloride	41	1	mg/L		1		07/12/2023	15:00	ldm	EPA 300.0	07/13/2023	13:01	krh
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/31/2023	20:05	lcr
Nitrate Nitrogen	0.5	0.1	mg/L		1		07/12/2023	15:00	ldm	EPA 300.0	07/13/2023	13:01	krh
Nitrogen, Total as Nitrogen	0.5	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/31/2023	20:05	lcr
Nitrate + Nitrite as N	0.5	0.1	mg/L		1		07/12/2023	15:00	ldm	EPA 300.0	07/13/2023	13:01	krh
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/31/2023	20:05	lcr
Conductivity	304	1	umhos/cm		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	07:12	amm
Sulfate Sulfur	7.90	0.17	mg/L		1		07/12/2023	15:00	ldm	EPA 300.0	07/13/2023	13:01	krh
Solids, Total Dissolved (TDS)	180	20	mg/L		1		07/14/2023	10:00	ctl	SM 2540 C	07/17/2023	11:10	ctl
Calcium	11	1	mg/L		1		07/17/2023	06:45	ejc	EPA 200.7	07/18/2023	17:07	ac
Magnesium	ND	1	mg/L		1	U	07/17/2023	06:45	ejc	EPA 200.7	07/18/2023	17:07	ac
Sodium	54	1	mg/L		1	h	07/17/2023	06:45	ejc	EPA 200.7	07/18/2023	17:07	ac

DQF Flags Definition:

- U Constituent results were non-detect.
- h The MS/MSD did not meet QC criteria.

ND=Non-Detected, RL=Reporting Level, Dil.=Dilution

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August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez

P.O. Box 7750

Visalia, CA 93290

Description : 19-8
Project : Poso Creek

Lab No. : VI 2344462-002
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 08:00
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO ₃)	40	10	mg/L		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	08:04	amm
Bicarbonate	30	10	mg/L		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	08:04	amm
Carbonate	ND	10	mg/L		1	U	07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	08:04	amm
Hydroxide	ND	10	mg/L		1	U	07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	08:04	amm
Chloride	84	1	mg/L		1	lb	07/12/2023	11:07	ldm	EPA 300.0	07/13/2023	05:19	krh
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/31/2023	20:21	lcr
Nitrate Nitrogen	ND	0.1	mg/L		1	J	07/12/2023	11:07	ldm	EPA 300.0	07/13/2023	05:19	krh
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	UJ	07/28/2023	08:46	sta	Calc.	07/31/2023	20:21	lcr
Nitrate + Nitrite as N	ND	0.1	mg/L		1	J	07/12/2023	11:07	ldm	EPA 300.0	07/13/2023	05:19	krh
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/31/2023	20:21	lcr
Conductivity	493	1	umhos/cm		1		07/16/2023	18:48	amm	SM 4500-H+B	07/17/2023	08:04	amm
Sulfate Sulfur	21.0	0.17	mg/L		1	l	07/12/2023	11:07	ldm	EPA 300.0	07/13/2023	05:19	krh
Solids, Total Dissolved (TDS)	280	20	mg/L		1		07/14/2023	10:00	ctl	SM 2540 C	07/17/2023	11:10	ctl
Calcium	7	1	mg/L		1		07/14/2023	06:55	ejc	EPA 200.7	07/14/2023	19:02	ac
Magnesium	ND	1	mg/L		1	U	07/14/2023	06:55	ejc	EPA 200.7	07/14/2023	19:02	ac
Sodium	83	1	mg/L		1		07/14/2023	06:55	ejc	EPA 200.7	07/14/2023	19:02	ac

DQF Flags Definition:

- U Constituent results were non-detect.
- l The MS/MSD did not meet QC criteria.
- b The Blank was positive for constituent but less than the PQL
- J Reported value is estimated; detected at a concentration below the RL and above the laboratory MDL.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

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August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez

P.O. Box 7750

Visalia, CA 93290

Description : 8-1
Project : Poso Creek

Lab No. : VI 2344462-003
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 07:35
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:28	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	14:59	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/28/2023	17:28	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	14:59	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:28	lcr
Conductivity	221	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	16:16	amm
Solids, Total Dissolved (TDS)	150	20	mg/L		1		07/13/2023	11:00	ctl	SM 2540 C	07/14/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

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August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez

P.O. Box 7750

Visalia, CA 93290

Description : 17-1
 Project : Poso Creek

Lab No. : VI 2344462-004
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 07:40
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:39	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:02	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/28/2023	17:39	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:02	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:39	lcr
Conductivity	285	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	18:30	amm
Solids, Total Dissolved (TDS)	150	20	mg/L		1		07/13/2023	11:00	ctl	SM 2540 C	07/14/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

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August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : 19-2
 Project : Poso Creek

Lab No. : VI 2344462-005
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 07:45
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:23	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:04	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/28/2023	17:23	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:04	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:23	lcr
Conductivity	238	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	16:42	amm
Solids, Total Dissolved (TDS)	140	20	mg/L		1		07/13/2023	09:40	ctl	SM 2540 C	07/14/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

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August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez

P.O. Box 7750

Visalia, CA 93290

Description : 19-4W
 Project : Poso Creek

Lab No. : VI 2344462-006
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 07:55
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:21	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:07	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/28/2023	17:21	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:07	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:21	lcr
Conductivity	251	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	16:22	amm
Solids, Total Dissolved (TDS)	140	20	mg/L		1		07/13/2023	11:00	ctl	SM 2540 C	07/14/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

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August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : 19-4E
 Project : Poso Creek

Lab No. : VI 2344462-007
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 08:10
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:42	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:09	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/28/2023	17:42	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:09	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:42	lcr
Conductivity	243	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	18:55	amm
Solids, Total Dissolved (TDS)	150	20	mg/L		1		07/13/2023	11:00	ctl	SM 2540 C	07/14/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

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 CA ELAP Certification No. 2810

August 3, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : 20-3
 Project : Poso Creek

Lab No. : VI 2344462-009
 Customer No. : 4019696
 Reference : 3053
 Sampled On : July 11, 2023 at 08:15
 Sampled By : Brandon
 Received On : July 11, 2023 at 11:40
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:25	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:12	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/28/2023	17:25	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	15:12	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/28/2023	17:25	lcr
Conductivity	841	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	17:14	amm
Solids, Total Dissolved (TDS)	460	20	mg/L		1		07/14/2023	10:00	ctl	SM 2540 C	07/17/2023	11:10	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

853 Corporation Street
 Santa Paula, CA 93060
 TEL: (805)392-2000
 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
 CA ELAP Certification No. 1573

Office & Laboratory

2500 Stagecoach Road
 Stockton, CA 95215
 TEL: (209)942-0182
 FAX: (209)942-0423
 CA ELAP Certification No. 1563

Office & Laboratory

563 E. Lindo Avenue
 Chico, CA 95926
 TEL: (530)343-5818
 FAX: (530)343-3807
 CA ELAP Certification No. 2670

Office & Laboratory

3442 Empresa Drive, Suite D
 San Luis Obispo, CA 93401
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 CA ELAP Certification No. 2810

August 3, 2023
Sentry Ag Service

Lab No. : VI 2344462
Customer No. : 4019696

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals Calcium	200.7	07/14/2023:207699EJC (CC 2382234-001) (SP 2311901-001)	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	103%	85-115	
			MS	mg/L	12.00	76.5%	75-125	
			MSD	mg/L	12.00	79.5%	75-125	
			MSRPD	mg/L		0.6%	≤20.0	
			MS	mg/L	12.00	117%	75-125	
			MSD	mg/L	12.00	97.4%	75-125	
			MSRPD	mg/L		8.0%	≤20.0	
			Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	105%	85-115	
Magnesium	200.7	07/17/2023:207762EJC (CC 2382158-004) (SP 2311986-001)	MS	mg/L	12.00	111%	75-125	
			MSD	mg/L	12.00	117%	75-125	
			MSRPD	mg/L		2.7%	≤20.0	
			MS	mg/L	12.00	-6.42%	<¼	406
			MSD	mg/L	12.00	132%	<1/4	
			MSRPD	mg/L		7.7%	≤20.0	
			Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	106%	85-115	
			MS	mg/L	12.00	80.0%	75-125	
			MSD	mg/L	12.00	83.5%	75-125	
Sodium	200.7	07/14/2023:207699EJC (CC 2382234-001) (SP 2311901-001)	MSRPD	mg/L		0.9%	≤20	
			MS	mg/L	12.00	114%	75-125	
			MSD	mg/L	12.00	101%	75-125	
			MSRPD	mg/L		7.3%	≤20	
			Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	104%	85-115	
			MS	mg/L	12.00	107%	75-125	
			MSD	mg/L	12.00	110%	75-125	
			MSRPD	mg/L		1.9%	≤20	
			MS	mg/L	12.00	54.0%	<¼	406
Sodium	200.7	07/17/2023:207762EJC (CC 2382158-004) (SP 2311986-001)	MSD	mg/L	12.00	96.7%	75-125	
			MSRPD	mg/L		5.9%	≤20	
			Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	103%	85-115	
			MS	mg/L	12.00	37.4%	<¼	406
			MSD	mg/L	12.00	56.8%	<1/4	
			MSRPD	mg/L		1.9%	≤20.0	
			MS	mg/L	12.00	253%	<¼	406
			MSD	mg/L	12.00	87.8%	75-125	
			MSRPD	mg/L		7.9%	≤20.0	
	200.7	07/17/2023:207762EJC (CC 2382158-004)	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	105%	85-115	
			MS	mg/L	12.00	114%	75-125	
			MSD	mg/L	12.00	129%	75-125	435
			MSRPD	mg/L		2.8%	≤20.0	
			MS	mg/L	12.00	44.1%	<¼	406

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
		(SP 2311986-001)	MSD	mg/L	12.00	108%	75-125	
			MSRPD	mg/L		6.3%	≤20.0	

Definition

- Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
- DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
- LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
- MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
- ND : Non-detect - Result was below the DQO listed for the analyte.

Explanation

- 406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.
- 435 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO ₃)	2320B	07/16/2023:207757AMM	ND	mg/L		0.05%	10	435
Bicarbonate	2320B	(CC 2381927-002)	Dup	mg/L		0.08%	10	
E. C.	2320B	(CC 2381927-002)	Dup	umhos/cm		0%	5	
	2320B	(VI 2344461-007)	Dup	umhos/cm		0.6%	5	
		(VI 2344444-001)	Dup	umhos/cm		0.6%	5	
		(CC 2382229-003)	Dup	umhos/cm		0.2%	5	
Solids, Total Dissolved	2540CE	07/13/2023:207664CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	102%	90-110	
			(VI 2344526-001)	Dup	mg/L	4.00%	5	
			(VI 2344526-001)	Dup	mg/L	3.93%	5	
			Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	96.6%	90-110	
			(STK2339157-001)	Dup	mg/L	1.07%	5	
			(STK2339157-001)	Dup	mg/L	0.9%	5	
			Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	101%	90-110	
			(SP 2311803-001)	Dup	mg/L	0.03%	5	
			(SP 2311803-001)	Dup	mg/L	1%	5	
Chloride	300.0	07/14/2023:207703CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	99.0%	90-110	
			(SP 2311840-005)	Dup	mg/L	1.59%	5	
			(SP 2311840-005)	Dup	mg/L	2.13%	5	
Nitrate + Nitrite as N	300.0	07/12/2023:207721LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	99.8 %	90-110	
			MS	mg/L	40.00	104 %	85-119	
			(CC 2381926-002)	MSD	mg/L	40.00	96.9 %	85-119
			MSRPD	mg/L	10.00	5.9%	≤19	
			MS	mg/L	40.00	100 %	85-119	
			(CC 2381926-001)	MSD	mg/L	40.00	97.6 %	85-119
			MSRPD	mg/L	10.00	2.2%	≤19	
			Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	101 %	90-110	
			MS	mg/L	40.00	105 %	85-119	
			(STK2339189-001)	MSD	40.00	103 %	85-119	

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Nitrate Nitrogen	300.0	07/12/2023:207721LDM	MSRPD	mg/L	10.00	2.0%	≤19	
			MS	mg/L	40.00	103 %	85-119	
			MSD	mg/L	40.00	102 %	85-119	
			MSRPD	mg/L	10.00	1.3%	≤19	
		(CC 2381926-002)	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	99.8 %	90-110	
			MS	mg/L	40.00	104 %	85-119	
			MSD	mg/L	40.00	96.9 %	85-119	
		(CC 2381926-001)	MSRPD	mg/L	10.00	5.9%	≤19	
			MS	mg/L	40.00	100 %	85-119	
			MSD	mg/L	40.00	97.6 %	85-119	
			MSRPD	mg/L	10.00	2.2%	≤19	
		(STK2339189-001)	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	101 %	90-110	
			MS	mg/L	40.00	105 %	85-119	
			MSD	mg/L	40.00	103 %	85-119	
Sulfate Sulfur	300.0	07/12/2023:207721LDM	MSRPD	mg/L	10.00	2.0%	≤19	
			MS	mg/L	40.00	103 %	85-119	
			MSD	mg/L	40.00	102 %	85-119	
			MSRPD	mg/L	10.00	1.3%	≤19	
		(CC 2381926-002)	Blank	mg/L		ND	<0.5	435
			LCS	mg/L	50.00	102 %	90-110	
			MS	mg/L	100.0	70.6 %	82-124	
			MSD	mg/L	100.0	53.6 %	82-124	
		(CC 2381926-001)	MSRPD	mg/L	10.00	5.0%	≤23	435
			MS	mg/L	100.0	86.4 %	82-124	
			MSD	mg/L	100.0	78.4 %	82-124	
			MSRPD	mg/L	10.00	2.7%	≤23	
		(STK2339189-001)	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	103 %	90-110	
			MS	mg/L	100.0	104 %	82-124	
			MSD	mg/L	100.0	102 %	82-124	
Nitrogen, Total Kjeldahl	351.2	07/28/2023:208341STA	MSRPD	mg/L	10.00	1.9%	≤23	
			MS	mg/L	100.0	101 %	82-124	
			MSD	mg/L	100.0	99.4 %	82-124	
			MSRPD	mg/L	10.00	1.2%	≤23	
		(SP 2311944-003)	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	94.9%	73-124	
			MS	mg/L	12.00	94.6%	54-136	
			MSD	mg/L	12.00	94.6%	54-136	
		(SP 2311944-004)	MSRPD	mg/L	12.00	0.0%	≤27	
			MS	mg/L	12.00	93.8%	54-136	
			MSD	mg/L	12.00	92.6%	54-136	
			MSRPD	mg/L	12.00	1.2%	≤27	
		(STK2339188-001)	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	98.2%	73-124	
			MS	mg/L	12.00	99.6%	54-136	
			MSD	mg/L	12.00	93.1%	54-136	
		(VI 2344560-001)	MSRPD	mg/L	12.00	6.7%	≤27	406
			MS	mg/L	12.00	38.3%	<¼	
			MSD	mg/L	12.00	28.6%	<1/4	

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Nitrate + Nitrite as N	4500NO3F	07/12/2023:207621LFS (SP 2311816-001)	MSRPD	mg/L		29.6%	≤27	435
			Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	101%	80-120	
			MS	mg/L	5.609	96.6%	66-125	
			MSD	mg/L	5.609	96.5%	66-125	
Nitrate Nitrogen	4500NO3F	07/12/2023:207621LFS (SP 2311816-001)	MSRPD	mg/L		0.0%	≤30.4	
			Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	101%	80-120	
			MS	mg/L	5.609	96.6%	66-125	
			MSD	mg/L	5.609	96.5%	66-125	
			MSRPD	mg/L		0.0%	≤30.4	

Definition

Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.

Explanation

406	: Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.



Laboratory Analysis Work Order

3053

SITE NAME: Pogo Creek

LABORATORY: VT FGL 4-19696

Billing: Sentry Ag Services, LLC
P.O. Box 7750, Visalia, CA 93290

Authorized Copy Release to:
labs@sentryagservices.com

ANALYSIS TO BE COMPLETED

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
W2 EC, NO₃N, TDS, TN (Irr) *801 5.4*
W3 NH₄-N (Ammonium)
W4 EC, NO₃N, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
W6 NO₃N, NO₂ (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
W8 Other: _____

Plant Tissue

- P1 TN, NO₃N, PO₄P, K (Mid Season - Wheat)
P2 TN, P, K (Mid-season - Corn)
P3 TN, TP, TK, Ash, %M (At Harvest)
P4 TN, %M
P5 % Moisture
P6 NIR
P7 Other: _____

Process Waste Water (lagoon)

- L1 EC, NH₄N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)
L3 Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Biennially)
L4 Other: _____

Manure

- M1 TN, TP, TK, %M (2/year)
M2 TN, TP, K, %M, Ca, Mg, Na, S, Cl, ash (Biennially)
M3 Other: _____

Soil

- S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄S
S2 S1 + CEC, CaCO₃, OM, C:N, TN
S3 NO₃N, NH₄N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS		
						NH ₃ N *	pH	Temp
1	9-7	irrigation	W5	7/11/23 7:30	Brandon	Q		
2	19-8		W5	8:00		Q		
3	8-1		W2	7:35		Q		
4	17-1			7:40		Q		
5	19-2			7:45		Q		
6	19-4W			7:55		Q		
7	19-4E			8:10		Q		
8								
9	20-3	1	W2	7/11/23 8:15	Brandon	Q		
10								
11								
12								

* Field Test of ammonium nitrogen may only be made by a trained technician. Positive test to be analyzed for ammonium nitrogen by the laboratory.

All samples are to follow the procedures noted in the Sampling & Analysis Plan of the NMP and the RWQCB specifications. Any samples taken outside of these procedures shall provide the procedures on the notes below. Additionally, if any preservatives are used in the collections or processing of samples, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st	<i>[Signature]</i>	SAS	7/11/23 11:40	7/11/23 11:40
2 nd	A. J. H.	FGL	7/11/23 11:40	
3 rd	A. J. H.		7/11/23 11:30	7/11/23 11:30
4 th	G. W.			

LABORATORY USE ONLY

Logged In By: _____ Total Samples: 7/11/23 Laboratory No.: 1130

[Handwritten signature]
[Handwritten signature]

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: STK CC CH VI

1. Number of ice chests/packages received: () Shipping tracking # OTL

2. Were samples received in a chilled condition? Temps 5.0 / 5.0 / 5.0 / 5.0

Surface water SWTR bact samples: A sample that has a temperature upon receipt of $>10^{\circ}\text{C}$, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

3. Do the number of bottles received agree with the COC? Yes No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) Yes No N/A

5. VOAs checked for Headspace? Yes No N/A

6. Were sample custody seals intact? Yes No N/A

7. If required, was sample split for pH analysis? Yes No N/A

8. Were all analyses within holding times at time of receipt? Yes No

9. Verify sample date, time and sampler name Yes No

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples.

Sample Receipt Review completed by (initials): EDJ

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: 5 / 6 / 4 / 2

Acceptable is above freezing to 6°C . If many packages are received at one time check for tests/H.T.'s/rushes/

2. Shipping tracking numbers:

554745345, 554745144, 554745137, 554745133

3. Do the number of bottles received agree with the COC? Yes No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) Yes No

5. Were sample custody seals intact? Yes No N/A

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? Yes No

2. Did bottle labels correspond with the client's ID's? Yes No

3. Were all bottles requiring sample preservation properly preserved? Yes No N/A FGL

[Exception: Oil & Grease, VOA and CrVI verified in lab]

4. VOAs checked for Headspace? Yes No N/A

5. Have rush or project due dates been checked and accepted? Yes No N/A

6. Were all analyses within holding times at time of receipt? Yes No

Attach labels to the containers and include a copy of the COC for lab delivery.

Sample Receipt, Login and Verification completed by (initials): ll

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____

Initiated By: _____ Date: _____

Problem: _____

Resolution: _____

2. Person Contacted: _____

Initiated By: _____

Problem: _____

Resolution: _____

(Please use the back of this sheet for additional contacts)

(4019696)
Sentry Ag Service
VI 2344462

iv 07/12/2023 09:04:51



VI 2344462

2344462

January 9, 2024

Sentry Ag Services
 Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Lab No. : VI 2348737
Customer No. : 4019696
Reference : 3507

Laboratory Report

Introduction: This report package contains a total of 5 pages divided into 3 sections:

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(1 page)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
17-4	12/20/2023	12/20/2023	VI 2348737-001	AGW

Sampling and Receipt Information:

The Sample was received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. The Sample was received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.


Test Summary

EPA 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

Certification: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.**

 Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2024-01-09

January 9, 2024

Sentry Ag Services

Attn: Monique Baldiviez

P.O. Box 7750

Visalia, CA 93290

Description : 17-4
 Project : Poso Creek

Lab No. : VI 2348737-001
 Customer No. : 4019696
 Reference : 3507
 Sampled On : December 20, 2023 at 09:30
 Sampled By : Brandon
 Received On : December 20, 2023 at 15:43
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO ₃)	60	10	mg/L		1		12/25/2023	21:20	amm	SM 4500-H+B	12/26/2023	00:44	amm
Bicarbonate	30	10	mg/L		1		12/25/2023	21:20	amm	SM 4500-H+B	12/26/2023	00:44	amm
Carbonate	20	10	mg/L		1		12/25/2023	21:20	amm	SM 4500-H+B	12/26/2023	00:44	amm
Hydroxide	20	10	mg/L		1		12/25/2023	21:20	amm	SM 4500-H+B	12/26/2023	00:44	amm
Chloride	80	1	mg/L		1		12/21/2023	11:42	ldm	EPA 300.0	12/21/2023	21:33	ldm
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	UI	01/03/2024	09:40	sta	EPA 351.2	01/08/2024	17:40	lcr
Nitrate Nitrogen	1.0	0.1	mg/L		1		12/21/2023	11:42	ldm	EPA 300.0	12/21/2023	21:33	ldm
Nitrogen, Total as Nitrogen	1	0.5	mg/L		1	l	01/03/2024	09:40	sta	Calc.	01/08/2024	17:40	lcr
Nitrate + Nitrite as N	1.0	0.1	mg/L		1		12/21/2023	11:42	ldm	EPA 300.0	12/21/2023	21:33	ldm
Kjeldahl Nitrogen	ND	0.5	mg/L		1	UI	01/03/2024	09:40	sta	EPA 351.2	01/08/2024	17:40	lcr
Conductivity	583	1	umhos/cm		1		12/25/2023	21:20	amm	SM 4500-H+B	12/26/2023	00:44	amm
Sulfate Sulfur	31.4	0.17	mg/L		1		12/21/2023	11:42	ldm	EPA 300.0	12/21/2023	21:33	ldm
Solids, Total Dissolved (TDS)	340	20	mg/L		1		12/22/2023	11:00	ctl	SM 2540 C	12/26/2023	11:00	ctl
Calcium	41	1	mg/L		1		12/22/2023	06:00	ac	EPA 200.7	12/23/2023	18:41	ac
Magnesium	ND	1	mg/L		1	U	12/22/2023	06:00	ac	EPA 200.7	12/23/2023	18:41	ac
Sodium	84	1	mg/L		1		12/22/2023	06:00	ac	EPA 200.7	12/23/2023	18:41	ac

DQF Flags Definition:

- U Constituent results were non-detect.
- l The MS/MSD did not meet QC criteria.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

Corporate Offices & Laboratory

853 Corporation Street
 Santa Paula, CA 93060
 TEL: (805)392-2000
 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
 CA ELAP Certification No. 1573

Office & Laboratory

2500 Stagecoach Road
 Stockton, CA 95215
 TEL: (209)942-0182
 FAX: (209)942-0423
 CA ELAP Certification No. 1563

Office & Laboratory

563 E. Lindo Avenue
 Chico, CA 95926
 TEL: (530)343-5818
 FAX: (530)343-3807
 CA ELAP Certification No. 2670

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3442 Empresa Drive, Suite D
 San Luis Obispo, CA 93401
 TEL: (805)783-2940
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 CA ELAP Certification No. 2775

Office & Laboratory

9415 W. Goshen Avenue
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 TEL: (559)734-9473
 FAX: (559)734-8435
 CA ELAP Certification No. 2810

January 9, 2024
Sentry Ag Service

Lab No. : VI 2348737
Customer No. : 4019696

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	12/22/2023:214432AC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101%	85-115	
			MS	mg/L	12.00	113%	75-125	
			MSD	mg/L	12.00	-152%	<1/4	
		(SP 2320933-001)	MSRPD	mg/L		2.5%	≤20.0	
			MS	mg/L	12.00	-1230%	<1/4	406
			MSD	mg/L	12.00	-1090%	<1/4	
			MSRPD	mg/L		1.5%	≤20.0	
Magnesium	200.7	12/22/2023:214432AC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	95.4%	85-115	
			MS	mg/L	12.00	809%	<1/4	406
			MSD	mg/L	12.00	744%	<1/4	
		(SP 2320933-001)	MSRPD	mg/L		2.3%	≤20	
			MS	mg/L	12.00	-358%	<1/4	406
			MSD	mg/L	12.00	-269%	<1/4	
			MSRPD	mg/L		3.1%	≤20	
Sodium	200.7	12/22/2023:214432AC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	102%	85-115	
			MS	mg/L	12.00	41.7%	<1/4	406
			MSD	mg/L	12.00	-180%	<1/4	
		(SP 2320933-001)	MSRPD	mg/L		2.7%	≤20.0	
			MS	mg/L	12.00	-976%	<1/4	406
			MSD	mg/L	12.00	-804%	<1/4	
			MSRPD	mg/L		2.4%	≤20.0	

Definition

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.

ND : Non-detect - Result was below the DQO listed for the analyte.

Explanation

406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO ₃)	2320B	(CH 2390727-001)	Dup	mg/L		3.47%	10	
Bicarbonate	2320B	(CH 2390727-001)	Dup	mg/L		3.42%	10	
E. C.	2320B	(CH 2390727-001)	Dup	umhos/cm		1.11%	5	
Solids, Total Dissolved	2540CE	12/22/2023:214452CTL (VI 2348755-001) (VI 2348755-001)	Blank	mg/L	991.5	ND	<20	
			LCS	mg/L		101%	90-110	
			Dup	mg/L		0.08%	5	
			Dup	mg/L		0.8%	5	
Chloride	300.0	12/21/2023:214427LDM (SP 2320887-001) (STK2356641-006)	Blank	mg/L	25.00 50.00 50.00 50.00 50.00 50.00	ND	<1	
			LCS	mg/L		98.7%	90-110	
			MS	mg/L		98.5%	67-117	
			MSD	mg/L		98.5%	67-117	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L		98.8%	67-117	
			MSD	mg/L		99.0%	67-117	
			MSRPD	mg/L		0.2%	≤7	
Nitrate + Nitrite as N	300.0	12/21/2023:214427LDM (SP 2320887-001) (STK2356641-006)	Blank	mg/L	20.00 40.00 40.00 40.00 40.00 40.00	ND	<0.4	
			LCS	mg/L		98.5%	90-110	
			MS	mg/L		99.6%	86-112	
			MSD	mg/L		99.6%	86-112	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L		101%	86-112	
			MSD	mg/L		101%	86-112	
			MSRPD	mg/L		0.1%	≤7	
Nitrate Nitrogen	300.0	12/21/2023:214427LDM (SP 2320887-001) (STK2356641-006)	Blank	mg/L	20.00 40.00 40.00 40.00 40.00 40.00	ND	<0.4	
			LCS	mg/L		98.5%	90-110	
			MS	mg/L		99.6%	86-112	
			MSD	mg/L		99.6%	86-112	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L		101%	86-112	
			MSD	mg/L		101%	86-112	
			MSRPD	mg/L		0.1%	≤7	
Sulfate Sulfur	300.0	12/21/2023:214427LDM (SP 2320887-001) (STK2356641-006)	Blank	mg/L	50.00 100.0 100.0 100.0 100.0 100.0	ND	<0.5	
			LCS	mg/L		99.9%	90-110	
			MS	mg/L		98.6%	18-165	
			MSD	mg/L		98.7%	18-165	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L		101%	18-165	
			MSD	mg/L		101%	18-165	
			MSRPD	mg/L		0.2%	≤7	
Nitrogen, Total Kjeldahl	351.2	01/03/2024:200075STA (STK2357472-005) (VI 2348737-001)	Blank	mg/L	12.00 12.00 12.00 12.00 12.00 12.00	ND	<0.5	
			LCS	mg/L		99.0%	73-124	
			MS	mg/L		88.6%	90-110	
			MSD	mg/L		93.3%	90-110	
			MSRPD	mg/L		5.2%	≤20	
			MS	mg/L		90.4%	90-110	
			MSD	mg/L		92.2%	90-110	
			MSRPD	mg/L		2.0%	≤20	

Definition

Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.

Explanation

435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
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2348737

No. 3507

Laboratory Analysis Work Order

SITE NAME: Poso CreekLABORATORY: VT | FGL 4-19696Billing: Sentry Ag Services, LLC
P.O. Box 7750, Visalia, CA 93290Authorized Copy Release to:
labs@sentryagservices.com

ANALYSIS TO BE COMPLETED

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
 W2 EC, NO₃N, TDS, TN (Irr) *201 7.36 TDS*
 W3 NH₄-N (Ammonium)
 W4 EC, NO₃N, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
 W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
 W6 NO₃N, NO₂ (Dom ILRP, Annually)
 W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
 W8 Other: _____

Plant Tissue

- P1 TN, NO₃N, PO₄P, K (Mid Season - Wheat)
 P2 TN, P, K (Mid-season - Corn)
 P3 TN, TP, TK, Ash, %M (At Harvest)
 P4 TN, %M
 P5 % Moisture
 P6 NIR
 P7 Other: _____

Process Waste Water (lagoon)

- L1 EC, NH₄N, TKN, TP, TK, TDS (Quarterly)
 L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)
 L3 Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Biennially)
 L4 Other: _____

Manure

- M1 TN, TP, TK, %M (2/year)
 M2 TN, TP, K, %M, Ca, Mg, Na, S, Cl, ash (Biennially)
 M3 Other: _____

Soil

- S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄S
 S2 S1 + CEC, CaCO₃, OM, C:N, TN
 S3 NO₃N, NH₄N
 S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS		
						NH ₃ N *	pH	Temp
1	17-4	irrigation	W5	12/20/23 9:30	Brandon	0		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

* Field Test of ammonium nitrogen may only be made by a trained technician. Positive test to be analyzed for ammonium nitrogen by the laboratory.

All samples are to follow the procedures noted in the Sampling & Analysis Plan of the NMP and the RWQCB specifications. Any samples taken outside of these procedures shall provide the procedures on the notes below. Additionally, if any preservatives are used in the collections or processing of samples, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st				12/20/23 15:43
2 nd		FGL	12/20/23 15:43	
3 rd				12/20/23 17:30
4 th			12/20/23 15:30	

LABORATORY USE ONLY

Logged In By: _____

Total Samples: _____

Laboratory No.: _____

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: CC CH STK VI

1. Number of ice chests/packages received: 1 Shipping tracking #(s): OTL

2. Temp IR Gun ID #: 467

3. Were samples received on ice? ☒ Yes ☐ No Temps: 7.3i / / /

Surface water SWTR bact samples: A sample that has a temperature upon receipt of $>10^{\circ}\text{C}$, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

4. Do the number of bottles received agree with the COC? ☒ Yes ☐ No ☐ N/A

5. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes ☐ No

6. VOAs checked for Headspace? ☒ Yes ☐ No ☒ N/A

7. Were all analyses within holding times at time of receipt? ☒ Yes ☐ No

8. Verify sample date, time and sampler name ☒ Yes ☐ No

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples.

Sample Receipt Review completed by (initials): 1/4

Sample Receipt at SP:

1. Number of ice chests/packages received: 4 Shipping tracking #(s): 50010910, 50010911, 50010912, 50010913

2. Temp IR Gun ID #: 760

3. Were samples received on ice? ☒ Yes ☐ No Temps: 3/ 3/ 3/ 3/

Acceptable is above freezing to 6°C . If many packages are received at one time check for tests/H.T.'s/rushes/

4. Do the number of bottles received agree with the COC? ☒ Yes ☐ No ☐ N/A

5. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes ☐ No

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? ☒ Yes ☐ No

2. Did bottle labels correspond with the client's ID's? ☒ Yes ☐ No

3. Were all bottles requiring sample preservation properly preserved? ☒ Yes ☐ No ☐ N/A ☐ FGL

[Exception: Oil & Grease, VOA and CrVI verified in lab]

4. VOAs checked for Headspace? ☒ Yes ☐ No ☒ N/A

5. Have rush or project due dates been checked and accepted? ☒ Yes ☐ No ☒ N/A

6. Were all analyses within holding times at time of receipt? ☒ Yes ☐ No

Attach labels to the containers and include a copy of the COC for lab delivery.

Sample Receipt, Login and Verification completed by (initials): 1/4

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____

Initiated By: _____ Date: _____

Problem: _____

Resolution: _____

2. Person Contacted: _____ Phone Number: _____

Initiated By: _____

Problem: _____

Resolution: _____

(4019696)
Sentry Ag Service
VI 2348737

cda 12/21/2023 11:57:10

