

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:** HANSEN & SONS INC.

Physical address of dairy:

13348 AVENUE 20

Number and Street

CHOWCHILLA

City

Madera

County

93610

Zip Code

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

Date facility was originally placed in operation: 06/01/1930Regional Water Quality Control Board Basin Plan designation: San Joaquin River Basin

County Assessor Parcel Number(s) for dairy facility:

0023-0040-0001-0000**B. OPERATORS**

Hansen, Dennis

Operator name: Hansen, DennisTelephone no.: (559) 665-3885(559) 977-0665

Landline

Cellular

13431 Avenue 19 1/2

Mailing Address Number and Street

Chowchilla

City

CA

State

93610

Zip Code

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

Hansen, Dennis

Legal owner name: Hansen, DennisTelephone no.: (559) 665-3885(559) 977-0665

Landline

Cellular

13431 Avenue 19 1/2

Mailing Address Number and Street

Chowchilla

City

CA

State

93610

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	47	42	12	13	135	0
Number under roof	265	0	0	0	0	40
Maximum number	390	58	70	80	150	48
Average number	312	42	12	13	135	40
Avg live weight (lbs)	1,400	1,450	1,000	750		

Predominant milk cow breed: HolsteinAverage milk production: 68 pounds per cow per day

B. MANURE GENERATED

Total manure excreted by the herd: 9,400.70 tons per reporting periodTotal nitrogen from manure: 122,661.09 lbs per reporting periodAfter ammonia losses (30% loss applied): 85,862.76 lbs per reporting periodTotal phosphorus from manure: 19,584.27 lbs per reporting periodTotal potassium from manure: 59,340.91 lbs per reporting periodTotal salt from manure: 156,563.10 lbs per reporting period

C. PROCESS WASTEWATER GENERATED

Process wastewater generated: 11,232,000 gallonsTotal nitrogen generated: 26,064.44 lbsTotal phosphorus generated: 5,247.98 lbsTotal potassium generated: 44,736.94 lbsTotal salt generated: 122,827.72 lbs

11,232,000 gallons applied
+ 0 gallons exported
- 0 gallons imported
= 11,232,000 gallons generated

D. FRESH WATER SOURCES

Source Description	Type
Bowen-Dom	Ground water
CWD Canal	Surface water
Dairy Dom.	Ground water
DW-1	Ground water
DW-2	Ground water

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Source Description	Type
DW-Bowen	Ground water
DW-Haynes	Ground water
DW-RBLVD	Ground water
Laws Dom	Ground water
RBVD-dom	Ground 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
Field BN	40	40	1	none	0024-0141-0011-0000 0024-0141-0012-0000
Field BS	39	39	2	both	0024-0141-0017-0000
Field D	58	58	2	both	0023-0040-0001-0000
Field H E&W	49	49	2	both	0023-0040-0004-0000 0023-0040-0019-0000
Field L	40	40	2	both	0023-0040-0007-0000
Field MN	20	19	1	none	0024-0141-0013-0000
Field MS	20	20	1	none	0024-0141-0013-0000
Field RBN	38	38	2	manure	0023-0020-0003-0000
Field RBS	39	39	2	none	0023-0020-0003-0000
Totals for areas that were used for application	224	224	10		
Totals for areas that were not used for application	119	118	5		
Land application area totals	343	342	15		

B. CROPS AND HARVESTS

Field BN																				
Field name: <u>Field BN</u>																				
01/05/2014: Almond, in shell																				
Crop: <u>Almond, in shell</u> Acres planted: <u>40</u> Plant date: <u>01/05/2014</u>																				
<table><tr><th>Harvest date</th><th>Yield</th><th>Reporting basis</th><th>Density (lbs/cu ft)</th><th>Moisture (%)</th><th>N (mg/kg)</th><th>P (mg/kg)</th><th>K (mg/kg)</th><th>Salt (mg/kg)</th><th>TFS (%)</th></tr><tr><td>09/29/2023</td><td>36.00 ton</td><td>Dry-weight</td><td></td><td>5.0</td><td>68,419.00</td><td>10,526.00</td><td>52,628.00</td><td></td><td>4.50</td></tr></table>	Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)	09/29/2023	36.00 ton	Dry-weight		5.0	68,419.00	10,526.00	52,628.00		4.50
Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)											
09/29/2023	36.00 ton	Dry-weight		5.0	68,419.00	10,526.00	52,628.00		4.50											
<table><tr><th></th><th>Yield (tons/acre)</th><th>Total N (lbs/acre)</th><th>Total P (lbs/acre)</th><th>Total K (lbs/acre)</th><th>Salt (lbs/acre)</th></tr><tr><td>Anticipated harvest content</td><td>1.00</td><td>130.00</td><td>20.00</td><td>100.00</td><td>44.00</td></tr><tr><td>Total actual harvest content</td><td>0.90</td><td>117.00</td><td>18.00</td><td>89.99</td><td>76.95</td></tr></table>		Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)	Anticipated harvest content	1.00	130.00	20.00	100.00	44.00	Total actual harvest content	0.90	117.00	18.00	89.99	76.95		
	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)															
Anticipated harvest content	1.00	130.00	20.00	100.00	44.00															
Total actual harvest content	0.90	117.00	18.00	89.99	76.95															

Field BS
Field name: <u>Field BS</u>

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Field BS

12/16/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 39 Plant date: 12/16/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/28/2023	312.00 ton	Dry-weight		8.8	18,500.00	2,030.00	19,200.00		10.90

	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	1,080.00
Total actual harvest content	8.00	269.95	29.62	280.17	1,590.53

06/28/2023: Corn, silage

Crop: Corn, silage Acres planted: 39 Plant date: 06/28/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/16/2023	1,140.00 ton	Dry-weight		61.4	10,200.00	1,540.00	11,500.00		5.50

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	28.00	252.00	42.00	184.80	1,120.00
Total actual harvest content	29.23	230.17	34.75	259.51	1,241.14

Field D

Field name: Field D

12/09/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 58 Plant date: 12/09/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/23/2023	1,084.00 ton	Dry-weight		66.0	14,300.00	2,640.00	20,700.00		10.00

	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	1,080.00
Total actual harvest content	18.69	181.74	33.55	263.08	1,270.90

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Field D

06/27/2023: Corn, silage

Crop: Corn, silage Acres planted: 58 Plant date: 06/27/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/15/2023	1,580.00 ton	Dry-weight		72.2	15,900.00	2,530.00	19,900.00		7.90

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	28.00	252.00	42.00	184.80	1,120.00
Total actual harvest content	27.24	240.82	38.32	301.41	1,196.55

Field H E&W

Field name: Field H E&W

01/10/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 49 Plant date: 01/10/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/20/2023	92.00 ton	Dry-weight		59.9	38,400.00	3,800.00	13,100.00		0.00
05/25/2023	340.00 ton	Dry-weight		18.6	41,920.00	4,300.00	20,400.00		9.60

	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	1,480.00
Total actual harvest content	8.82	531.36	54.30	250.17	1,084.45

Field L

Field name: Field L

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Field L

12/09/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 40 Plant date: 12/09/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/23/2023	668.00 ton	Dry-weight		64.4	19,600.00	3,000.00	21,400.00		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	1,080.00
Total actual harvest content	16.70	233.05	35.67	254.45	1,212.82

06/29/2023: Corn, silage

Crop: Corn, silage Acres planted: 40 Plant date: 06/29/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/15/2023	1,148.00 ton	Dry-weight		66.0	11,200.00	1,760.00	11,700.00		5.30

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	28.00	252.00	42.00	184.80	1,120.00
Total actual harvest content	28.70	218.58	34.35	228.34	1,034.35

Field MN

Field name: Field MN

01/03/2012: Almond, in shell

Crop: Almond, in shell Acres planted: 19 Plant date: 01/03/2012

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/29/2023	17.00 ton	Dry-weight		5.0	68,419.00	10,526.00	52,628.00		4.50

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	1.00	130.00	20.00	100.00	44.00
Total actual harvest content	0.89	116.31	17.89	89.47	76.50

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Field MS

Field name: Field MS

01/02/2020: Almond, in shell

Crop: Almond, in shell Acres planted: 20 Plant date: 01/02/2020

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/29/2023	11.00 ton	Dry-weight		5.0	68,419.00	10,526.00	52,628.00		4.50

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	1.00	130.00	20.00	100.00	44.00
Total actual harvest content	0.55	71.50	11.00	55.00	47.03

Field RBN

Field name: Field RBN

12/08/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 38 Plant date: 12/08/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/22/2023	686.00 ton	Dry-weight		60.8	17,500.00	2,600.00	17,600.00		11.60

	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	1,080.00
Total actual harvest content	18.05	247.68	36.80	249.10	1,641.78

07/18/2023: Corn, silage

Crop: Corn, silage Acres planted: 38 Plant date: 07/18/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/11/2023	1,080.00 ton	Dry-weight		70.6	14,100.00	2,140.00	15,000.00		6.90

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	28.00	252.00	42.00	184.80	1,120.00
Total actual harvest content	28.42	235.63	35.76	250.67	1,153.10

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Field RBS

Field name: Field RBS

11/17/2019: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 39 Plant date: 11/17/2019

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
02/24/2023	69.00 <i>ton</i>	Dry-weight		58.9	42,240.00	4,200.00	15,000.00		0.00
05/25/2023	285.00 <i>ton</i>	Dry-weight		18.6	41,920.00	4,300.00	20,400.00		9.60

	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	1,480.00
Total actual harvest content	9.08	560.15	57.26	264.51	1,142.10

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NUTRIENT BUDGET

A. LAND APPLICATIONS

Field BN - 01/05/2014: Almond, in shell

Field name: Field BN

Crop: Almond, in shell

Plant date: 01/05/2014

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
09/18/2023	Total Irrigation Water this Season	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Uan-32 Fertilizer in Irrigations	Liquid commercial fertilizer	100.00	0.00	0.00	0.00	
DW-Bowen	Ground water	26.97	0.00	0.00	1,413.66	19,584,000.00 gal
CWD Canal	Surface water	0.00	0.00	0.00	69.46	19,584,000.00 gal
Application event totals		126.97	0.00	0.00	1,483.11	

Field BS - 12/16/2022: Wheat, silage, soft dough

Field name: Field BS

Crop: Wheat, silage, soft dough

Plant date: 12/16/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/20/2022	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 Application	Corral solids	160.22	49.06	314.23	7,203.60	390.00 ton
Application event totals		160.22	49.06	314.23	7,203.60	

12/20/2022	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
Blended Lg and Fresh Water Application	Process wastewater	22.92	5.71	38.70	216.92	576,000.00 gal
Application event totals		22.92	5.71	38.70	216.92	

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Field BS - 12/16/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
02/26/2023	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
Blended Lg and Fresh Water Application	Process wastewater	47.94	9.71	93.67	177.48	576,000.00 <i>gal</i>
Application event totals		47.94	9.71	93.67	177.48	
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
DW-Bowen	Ground water	6.52	0.00	0.00	342.04	4,620,000.00 <i>gal</i>
Application event totals		6.52	0.00	0.00	342.04	
05/14/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	16.59	4,560,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.59	

Field BS - 06/28/2023: Corn, silage

Field name: Field BS

Crop: Corn, silage

Plant date: 06/28/2023

Application date	Application method		Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following		
06/09/2023	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 Application			Corral solids	164.10	56.09	213.56	0.00	390.00 <i>ton</i>
Application event totals				164.10	56.09	213.56	0.00	
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 Water Application			Process wastewater	42.52	7.72	54.85	205.42	960,000.00 <i>gal</i>
DW-Bowen			Ground water	6.19	0.00	0.00	324.27	4,380,000.00 <i>gal</i>
Application event totals				48.71	7.72	54.85	529.69	

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Field BS - 06/28/2023: 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
CWD Canal	Surface water	0.00	0.00	0.00	16.37	4,500,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.37	
08/07/2023	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
DW-Bowen	Ground water	6.19	0.00	0.00	324.27	4,380,000.00 <i>gal</i>
Application event totals		6.19	0.00	0.00	324.27	
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
CWD Canal	Surface water	0.00	0.00	0.00	15.71	4,320,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	15.71	
08/31/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	15.65	4,302,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	15.65	
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
DW-Bowen	Ground water	6.08	0.00	0.00	318.50	4,302,000.00 <i>gal</i>
Application event totals		6.08	0.00	0.00	318.50	
09/24/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	15.50	4,260,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	15.50	

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Field BS - 06/28/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/06/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	15.71	4,320,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	15.71	

Field D - 12/09/2022: Wheat, silage, soft dough

Field name: Field D

Crop: Wheat, silage, soft dough

Plant date: 12/09/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/20/2022	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 Application	Corral solids	128.17	39.25	251.38	5,762.88	464.00 <i>ton</i>
Application event totals		128.17	39.25	251.38	5,762.88	
12/26/2022	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
Blended Lg and Fresh Water Application	Process wastewater	20.55	5.12	34.70	194.48	768,000.00 <i>gal</i>
Application event totals		20.55	5.12	34.70	194.48	
01/10/2023	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
Blended Lg and Fresh Water Application	Process wastewater	64.48	13.06	125.97	238.68	1,152,000.00 <i>gal</i>
Application event totals		64.48	13.06	125.97	238.68	
04/13/2023	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 Water Application	Process wastewater	22.87	4.15	29.50	110.50	768,000.00 <i>gal</i>
DW-1	Ground water	1.85	0.00	0.00	244.83	6,570,000.00 <i>gal</i>
Application event totals		24.73	4.15	29.50	355.33	

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Field D - 12/09/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/11/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	16.73	6,840,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.73	

Field D - 06/27/2023: Corn, silage

Field name: Field D

Crop: Corn, silage

Plant date: 06/27/2023

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following		
06/08/2023	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 Application			Corral solids	164.10	56.09	213.56	0.00	580.00 <i>ton</i>	
Application event totals				164.10	56.09	213.56	0.00		
06/15/2023	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	
DW-1			Ground water	1.88	0.00	0.00	248.18	6,660,000.00 <i>gal</i>	
Application event totals				1.88	0.00	0.00	248.18		
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	
CWD Canal			Surface water	0.00	0.00	0.00	16.07	6,570,000.00 <i>gal</i>	
Application event totals				0.00	0.00	0.00	16.07		
08/06/2023	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 Water Application			Process wastewater	42.89	7.79	55.32	207.19	1,440,000.00 <i>gal</i>	
CWD Canal			Surface water	0.00	0.00	0.00	15.85	6,480,000.00 <i>gal</i>	
Application event totals				42.89	7.79	55.32	223.04		

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Field D - 06/27/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior		Precipitation during application			Precipitation 24 hours following	
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	
DW-2		Ground water	5.66	0.00	0.00	285.93	6,390,000.00 <i>gal</i>	
Application event totals			5.66	0.00	0.00	285.93		
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	
CWD Canal		Surface water	0.00	0.00	0.00	15.63	6,390,000.00 <i>gal</i>	
Application event totals			0.00	0.00	0.00	15.63		
09/11/2023	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	
DW-2		Ground water	5.74	0.00	0.00	289.96	6,480,000.00 <i>gal</i>	
Application event totals			5.74	0.00	0.00	289.96		
09/23/2023	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	
DW-2		Ground water	5.74	0.00	0.00	289.96	6,480,000.00 <i>gal</i>	
Application event totals			5.74	0.00	0.00	289.96		
10/05/2023	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	
DW-2		Ground water	5.69	0.00	0.00	287.14	6,417,000.00 <i>gal</i>	
Application event totals			5.69	0.00	0.00	287.14		

Field H E&W - 01/10/2023: Alfalfa, hay

Field name: Field H E&W

Crop: Alfalfa, hay

Plant date: 01/10/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Field H E&W - 01/10/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/22/2022	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 Application	Corral solids	160.22	49.06	314.23	7,203.60	490.00 <i>ton</i>
Application event totals		160.22	49.06	314.23	7,203.60	
03/24/2023	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
Blended Lg and Fresh Water Application	Process wastewater	76.32	15.46	149.11	282.52	1,152,000.00 <i>gal</i>
Application event totals		76.32	15.46	149.11	282.52	
04/15/2023	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
DW-Haynes	Ground water	9.95	0.00	0.00	386.40	5,616,000.00 <i>gal</i>
Application event totals		9.95	0.00	0.00	386.40	
05/13/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	16.26	5,616,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.26	
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
CWD Canal	Surface water	0.00	0.00	0.00	16.26	5,616,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.26	
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
CWD Canal	Surface water	0.00	0.00	0.00	16.68	5,760,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.68	

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Field H E&W - 01/10/2023: Alfalfa, hay

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	
DW-Haynes		Ground water	10.07	0.00	0.00	391.36	5,688,000.00 <i>gal</i>	
Application event totals			10.07	0.00	0.00	391.36		
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	
CWD Canal		Surface water	0.00	0.00	0.00	16.47	5,688,000.00 <i>gal</i>	
Application event totals			0.00	0.00	0.00	16.47		
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	
CWD Canal		Surface water	0.00	0.00	0.00	16.68	5,760,000.00 <i>gal</i>	
Application event totals			0.00	0.00	0.00	16.68		

Field L - 12/09/2022: Wheat, silage, soft dough

Field name: Field L

Crop: Wheat, silage, soft dough

Plant date: 12/09/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/21/2022	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 Application	Corral solids	96.13	29.44	188.54	4,322.16	240.00 <i>ton</i>
Application event totals		96.13	29.44	188.54	4,322.16	
01/16/2023	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
Blended Lg and Fresh Water Application	Process wastewater	22.35	5.56	37.73	211.50	576,000.00 <i>gal</i>
Application event totals		22.35	5.56	37.73	211.50	

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Field L - 12/09/2022: Wheat, silage, soft dough

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following
03/12/2023	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
Blended Lg and Fresh Water Application		Process wastewater	140.24	28.41	273.98	519.13	1,728,000.00 <i>gal</i>
Application event totals			140.24	28.41	273.98	519.13	
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
DW-1		Ground water	1.89	0.00	0.00	249.64	4,620,000.00 <i>gal</i>
Application event totals			1.89	0.00	0.00	249.64	
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
Lagoon Water Application		Process wastewater	24.87	4.52	32.08	120.17	576,000.00 <i>gal</i>
CWD Canal		Surface water	0.00	0.00	0.00	15.75	4,440,000.00 <i>gal</i>
Application event totals			24.87	4.52	32.08	135.92	

Field L - 06/29/2023: Corn, silage

Field name: Field L

Crop: Corn, silage

Plant date: 06/29/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
06/08/2023	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 Application		Corral solids	164.10	56.09	213.56	0.00	400.00 <i>ton</i>
Application event totals			164.10	56.09	213.56	0.00	

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Field L - 06/29/2023: 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 Water Application	Process wastewater	41.46	7.53	53.47	200.28	960,000.00 <i>gal</i>
CWD Canal	Surface water	0.00	0.00	0.00	16.32	4,602,000.00 <i>gal</i>
Application event totals		41.46	7.53	53.47	216.60	
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
CWD Canal	Surface water	0.00	0.00	0.00	16.17	4,560,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.17	
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
DW-2	Ground water	5.86	0.00	0.00	295.86	4,560,000.00 <i>gal</i>
Application event totals		5.86	0.00	0.00	295.86	
08/20/2023	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
CWD Canal	Surface water	0.00	0.00	0.00	16.39	4,620,000.00 <i>gal</i>
Application event totals		0.00	0.00	0.00	16.39	
09/01/2023	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
DW-2	Ground water	6.07	0.00	0.00	306.37	4,722,000.00 <i>gal</i>
Application event totals		6.07	0.00	0.00	306.37	
09/13/2023	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
DW-1	Ground water	1.90	0.00	0.00	250.61	4,638,000.00 <i>gal</i>
Application event totals		1.90	0.00	0.00	250.61	

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Field L - 06/29/2023: Corn, silage

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following
09/25/2023	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
CWD Canal		Surface water	0.00	0.00	0.00	16.39	4,620,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	16.39	
10/07/2023	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
CWD Canal		Surface water	0.00	0.00	0.00	16.39	4,620,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	16.39	

Field MN - 01/03/2012: Almond, in shell

Field name: Field MN

Crop: Almond, in shell

Plant date: 01/03/2012

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
09/18/2023	Total Irrigation Water this Season	No precipitation	No precipitation	No precipitation		
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Uan-32 Fertilizer in Irrigations	Liquid commercial fertilizer	100.00	0.00	0.00	0.00	
DW-Bowen	Ground water	26.72	0.00	0.00	1,400.53	9,216,000.00 <i>gal</i>
CWD Canal	Surface water	0.00	0.00	0.00	68.81	9,216,000.00 <i>gal</i>
Application event totals		126.72	0.00	0.00	1,469.34	

Field MS - 01/02/2020: Almond, in shell

Field name: Field MS

Crop: Almond, in shell

Plant date: 01/02/2020

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Field MS - 01/02/2020: Almond, in shell

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
09/18/2023	Total Irrigation Water this Season	No precipitation	No precipitation			No precipitation	
Source description		Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Uan-32 Fertilizer in Irrigations		Liquid commercial fertilizer	80.00	0.00	0.00	0.00	
DW-1		Ground water	7.07	0.00	0.00	933.71	8,640,000.00 <i>gal</i>
CWD Canal		Surface water	0.00	0.00	0.00	61.29	8,640,000.00 <i>gal</i>
Application event totals			87.07	0.00	0.00	994.99	

Field RBN - 12/08/2022: Wheat, silage, soft dough

Field name: Field RBN

Crop: Wheat, silage, soft dough

Plant date: 12/08/2022

Application date	Application method		Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following		
10/21/2022	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 Application			Corral solids		240.33	73.59	471.34	10,805.40	570.00 <i>ton</i>
Application event totals					240.33	73.59	471.34	10,805.40	
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
DW-RBLVD			Ground water		9.98	0.00	0.00	439.88	4,680,000.00 <i>gal</i>
Application event totals					9.98	0.00	0.00	439.88	
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
DW-RBLVD			Ground water		9.60	0.00	0.00	422.96	4,500,000.00 <i>gal</i>
Application event totals					9.60	0.00	0.00	422.96	

Field RBN - 07/18/2023: Corn, silage

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Field RBN - 07/18/2023: Corn, silage

Field name: Field RBN

Crop: Corn, silage

Plant date: 07/18/2023

Application date	Application method	Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
06/09/2023	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 Application		Corral solids	314.34	105.42	425.57	0.00	380.00 <i>ton</i>
Application event totals			314.34	105.42	425.57	0.00	
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
CWD Canal		Surface water	0.00	0.00	0.00	16.46	4,410,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	16.46	
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
CWD Canal		Surface water	0.00	0.00	0.00	16.80	4,500,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	16.80	
08/27/2023	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
CWD Canal		Surface water	0.00	0.00	0.00	16.80	4,500,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	16.80	
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
CWD Canal		Surface water	0.00	0.00	0.00	5.70	1,527,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	5.70	
09/20/2023	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
CWD Canal		Surface water	0.00	0.00	0.00	17.14	4,590,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	17.14	

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

Field RBN - 07/18/2023: Corn, silage

Application date	Application method		Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
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
CWD Canal			Surface water	0.00	0.00	0.00	16.46	4,410,000.00 <i>gal</i>
Application event totals				0.00	0.00	0.00	16.46	
10/17/2023	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
DW-RBLVD			Ground water	9.21	0.00	0.00	406.04	4,320,000.00 <i>gal</i>
Application event totals				9.21	0.00	0.00	406.04	

Field RBS - 11/17/2019: Alfalfa, hay

Field name: Field RBS

Crop: Alfalfa, hay

Plant date: 11/17/2019

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following		
04/15/2023	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		
CWD Canal		Surface water	0.00	0.00	0.00	16.37	4,500,000.00 <i>gal</i>		
Application event totals			0.00	0.00	0.00	16.37			
05/13/2023	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		
CWD Canal		Surface water	0.00	0.00	0.00	16.04	4,410,000.00 <i>gal</i>		
Application event totals			0.00	0.00	0.00	16.04			
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		
DW-RBLVD		Ground water	8.98	0.00	0.00	395.63	4,320,000.00 <i>gal</i>		
Application event totals			8.98	0.00	0.00	395.63			

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Field RBS - 11/17/2019: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior		Precipitation during application			Precipitation 24 hours following
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
DW-RBLVD		Ground water	8.84	0.00	0.00	389.86	4,257,000.00 <i>gal</i>
Application event totals			8.84	0.00	0.00	389.86	
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
CWD Canal		Surface water	0.00	0.00	0.00	15.39	4,230,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	15.39	
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
CWD Canal		Surface water	0.00	0.00	0.00	15.71	4,320,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	15.71	
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
CWD Canal		Surface water	0.00	0.00	0.00	15.71	4,320,000.00 <i>gal</i>
Application event totals			0.00	0.00	0.00	15.71	
09/30/2023	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
DW-RBLVD		Ground water	8.84	0.00	0.00	389.86	4,257,000.00 <i>gal</i>
Application event totals			8.84	0.00	0.00	389.86	

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

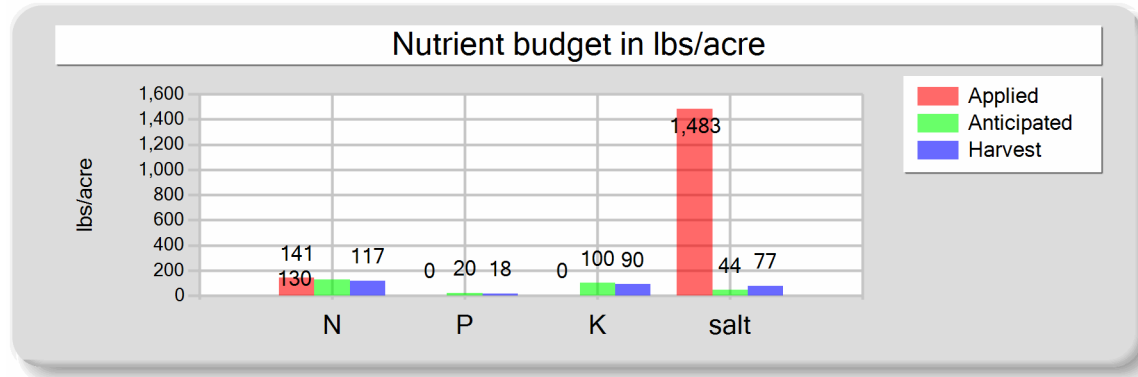
B. NUTRIENT BUDGET

Field BN - 01/05/2014: Almond, in shell

Field name: Field BN

Crop: Almond, in shell

Plant date: 01/05/2014



	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	39,168,000.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	1,442.42 <i>acre-inches</i>
Commercial fertilizer / Other	100.00	0.00	0.00	0.00	36.06 <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	26.97	0.00	0.00	1,483.11	
Atmospheric deposition	14.00	0.00	0.00	0.00	
Total nutrients applied	140.97	0.00	0.00	1,483.11	
Anticipated crop nutrient removal	130.00	20.00	100.00	44.00	
Actual crop nutrient removal	117.00	18.00	89.99	76.95	
Nutrient balance	23.97	-18.00	-89.99	1,406.16	
Applied to removed ratio	1.20	0.00	0.00	19.27	
					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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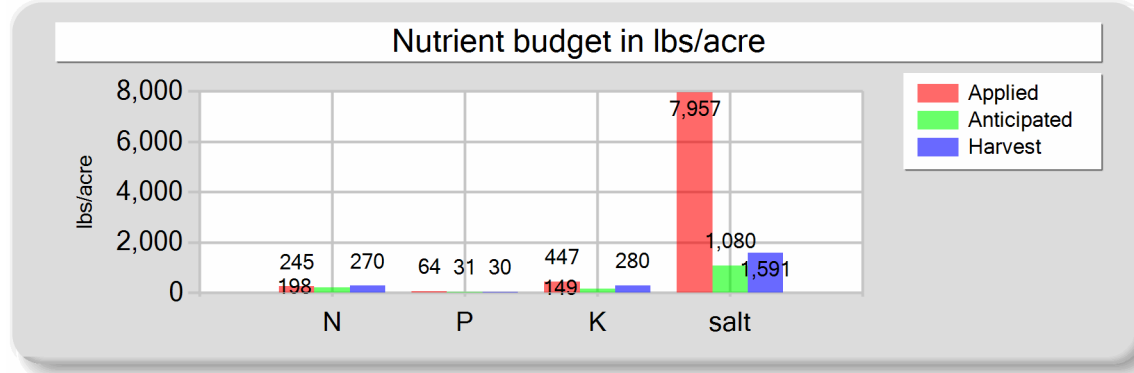
Reporting period 01/01/2023 to 12/31/2023.

Field BS - 12/16/2022: Wheat, silage, soft dough

Field name: Field BS

Crop: Wheat, silage, soft dough

Plant date: 12/16/2022



	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	160.22	49.06	314.23	7,203.60
Process wastewater	70.87	15.42	132.37	394.40
Fresh water	6.52	0.00	0.00	358.63
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	244.61	64.48	446.60	7,956.63
Anticipated crop nutrient removal	198.00	30.60	149.40	1,080.00
Actual crop nutrient removal	269.95	29.62	280.17	1,590.53
Nutrient balance	-25.34	34.86	166.43	6,366.10
Applied to removed ratio	0.91	2.18	1.59	5.00

Fresh water applied
9,180,000.00 <i>gallons</i>
338.07 <i>acre-inches</i>
8.67 <i>inches/acre</i>

Process wastewater applied
1,152,000.00 <i>gallons</i>
42.42 <i>acre-inches</i>
1.09 <i>inches/acre</i>

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

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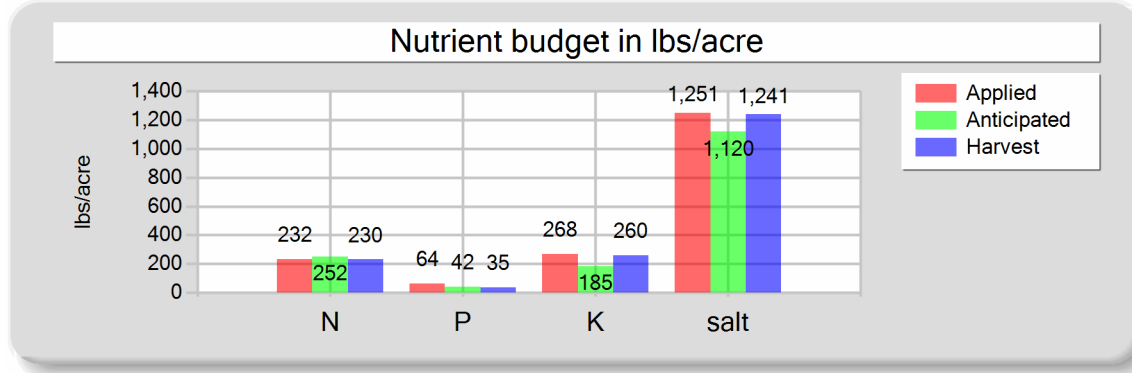
Reporting period 01/01/2023 to 12/31/2023.

Field BS - 06/28/2023: Corn, silage

Field name: Field BS

Crop: Corn, silage

Plant date: 06/28/2023



	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	164.10	56.09	213.56	0.00
Process wastewater	42.52	7.72	54.85	205.42
Fresh water	18.45	0.00	0.00	1,045.99
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	232.07	63.81	268.41	1,251.40
Anticipated crop nutrient removal	252.00	42.00	184.80	1,120.00
Actual crop nutrient removal	230.17	34.75	259.51	1,241.14
Nutrient balance	1.90	29.06	8.90	10.27
Applied to removed ratio	1.01	1.84	1.03	1.01

Fresh water applied
34,764,000.00 <i>gallons</i>
1,280.24 <i>acre-inches</i>
32.83 <i>inches/acre</i>

Process wastewater applied
960,000.00 <i>gallons</i>
35.35 <i>acre-inches</i>
0.91 <i>inches/acre</i>

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

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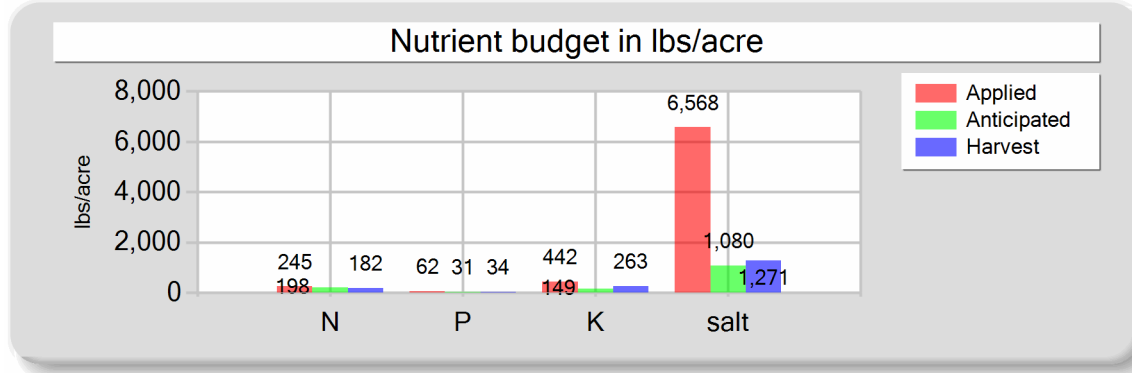
Reporting period 01/01/2023 to 12/31/2023.

Field D - 12/09/2022: Wheat, silage, soft dough

Field name: Field D

Crop: Wheat, silage, soft dough

Plant date: 12/09/2022



	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	128.17	39.25	251.38	5,762.88
Process wastewater	107.90	22.33	190.17	543.66
Fresh water	1.85	0.00	0.00	261.56
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	244.93	61.58	441.55	6,568.10
Anticipated crop nutrient removal	198.00	30.60	149.40	1,080.00
Actual crop nutrient removal	181.74	33.55	263.08	1,270.90
Nutrient balance	63.19	28.03	178.47	5,297.20
Applied to removed ratio	1.35	1.84	1.68	5.17

Fresh water applied
13,410,000.00 <i>gallons</i>
493.84 <i>acre-inches</i>
8.51 <i>inches/acre</i>

Process wastewater applied
2,688,000.00 <i>gallons</i>
98.99 <i>acre-inches</i>
1.71 <i>inches/acre</i>

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

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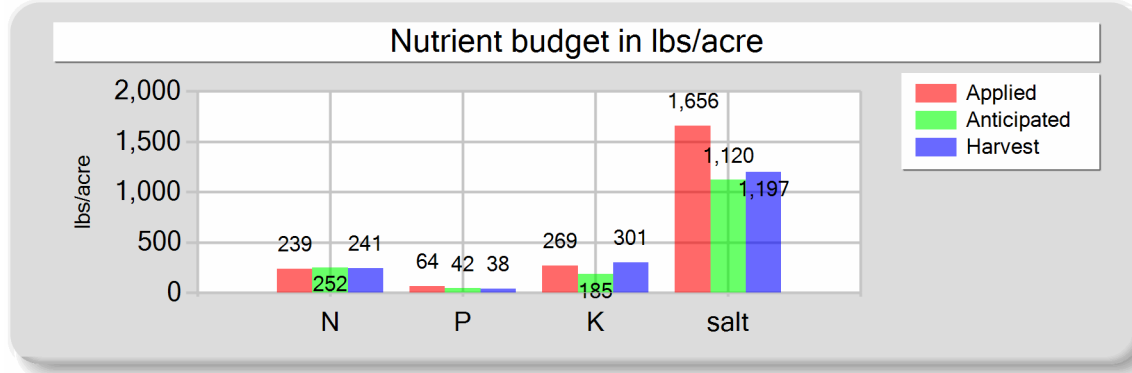
Reporting period 01/01/2023 to 12/31/2023.

Field D - 06/27/2023: Corn, silage

Field name: Field D

Crop: Corn, silage

Plant date: 06/27/2023



	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	164.10	56.09	213.56	0.00
Process wastewater	42.89	7.79	55.32	207.19
Fresh water	24.72	0.00	0.00	1,448.71
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	238.71	63.88	268.88	1,655.90
Anticipated crop nutrient removal	252.00	42.00	184.80	1,120.00
Actual crop nutrient removal	240.82	38.32	301.41	1,196.55
Nutrient balance	-2.12	25.56	-32.53	459.35
Applied to removed ratio	0.99	1.67	0.89	1.38

Fresh water applied
51,867,000.00 <i>gallons</i>
1,910.09 <i>acre-inches</i>
32.93 <i>inches/acre</i>

Process wastewater applied
1,440,000.00 <i>gallons</i>
53.03 <i>acre-inches</i>
0.91 <i>inches/acre</i>

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

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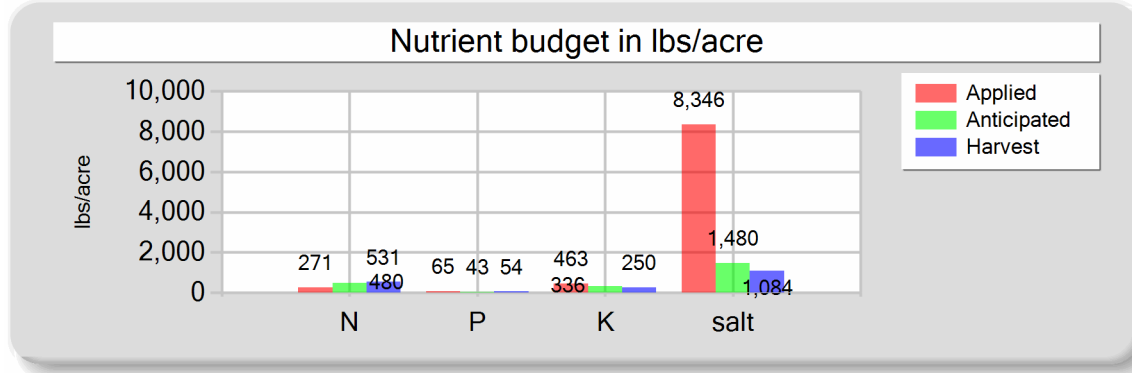
Reporting period 01/01/2023 to 12/31/2023.

Field H E&W - 01/10/2023: Alfalfa, hay

Field name: Field H E&W

Crop: Alfalfa, hay

Plant date: 01/10/2023



	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	160.22	49.06	314.23	7,203.60
Process wastewater	76.32	15.46	149.11	282.52
Fresh water	20.02	0.00	0.00	860.10
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	270.56	64.52	463.33	8,346.21
Anticipated crop nutrient removal	480.00	43.20	336.00	1,480.00
Actual crop nutrient removal	531.36	54.30	250.17	1,084.45
Nutrient balance	-260.81	10.22	213.16	7,261.77
Applied to removed ratio	0.51	1.19	1.85	7.70

Fresh water applied
39,744,000.00 <i>gallons</i>
1,463.64 <i>acre-inches</i>
29.87 <i>inches/acre</i>

Process wastewater applied
1,152,000.00 <i>gallons</i>
42.42 <i>acre-inches</i>
0.87 <i>inches/acre</i>

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

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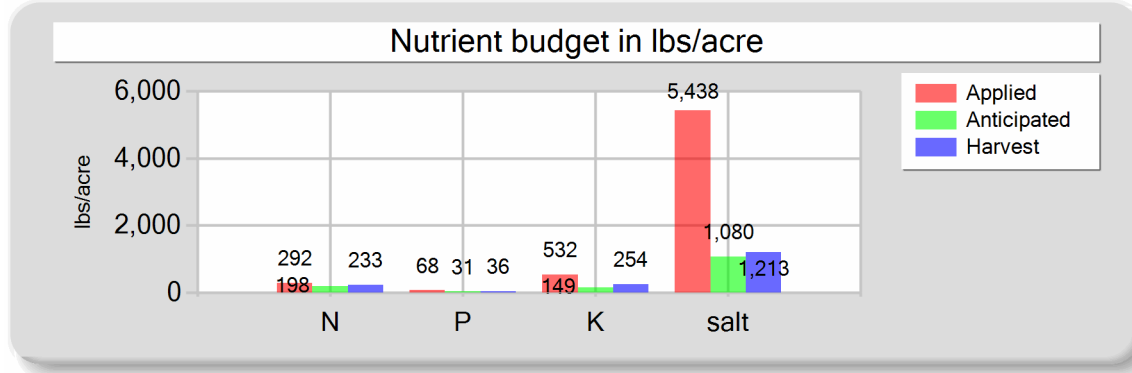
Reporting period 01/01/2023 to 12/31/2023.

Field L - 12/09/2022: Wheat, silage, soft dough

Field name: Field L

Crop: Wheat, silage, soft dough

Plant date: 12/09/2022



	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	96.13	29.44	188.54	4,322.16
Process wastewater	187.46	38.49	343.80	850.79
Fresh water	1.89	0.00	0.00	265.38
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	292.48	67.93	532.34	5,438.33
Anticipated crop nutrient removal	198.00	30.60	149.40	1,080.00
Actual crop nutrient removal	233.05	35.67	254.45	1,212.82
Nutrient balance	59.43	32.25	277.88	4,225.51
Applied to removed ratio	1.26	1.90	2.09	4.48

Fresh water applied
9,060,000.00 <i>gallons</i>
333.65 <i>acre-inches</i>
8.34 <i>inches/acre</i>

Process wastewater applied
2,880,000.00 <i>gallons</i>
106.06 <i>acre-inches</i>
2.65 <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.

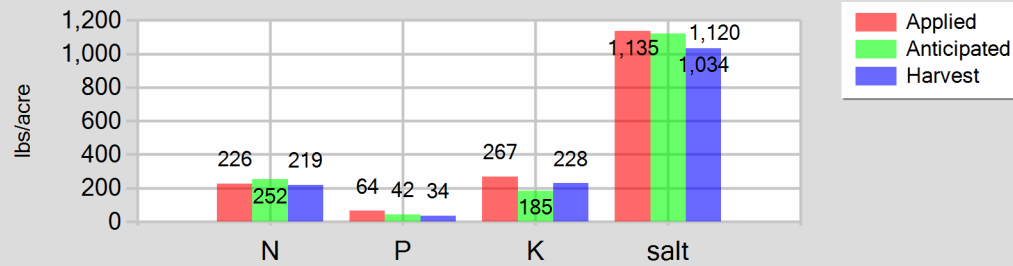
Field L - 06/29/2023: Corn, silage

Field name: Field L

Crop: Corn, silage

Plant date: 06/29/2023

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	164.10	56.09	213.56	0.00
Process wastewater	41.46	7.53	53.47	200.28
Fresh water	13.83	0.00	0.00	934.50
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	226.39	63.62	267.03	1,134.78
Anticipated crop nutrient removal	252.00	42.00	184.80	1,120.00
Actual crop nutrient removal	218.58	34.35	228.34	1,034.35
Nutrient balance	7.81	29.27	38.70	100.43
Applied to removed ratio	1.04	1.85	1.17	1.10

Fresh water applied
36,942,000.00 <i>gallons</i>
1,360.45 <i>acre-inches</i>
34.01 <i>inches/acre</i>
Process wastewater applied
960,000.00 <i>gallons</i>
35.35 <i>acre-inches</i>
0.88 <i>inches/acre</i>
Total harvests for the crop
1 <i>harvests</i>

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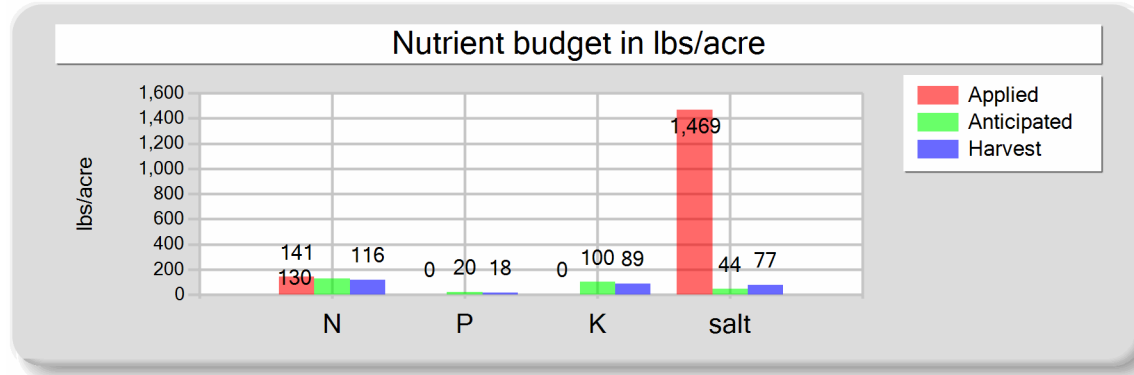
Reporting period 01/01/2023 to 12/31/2023.

Field MN - 01/03/2012: Almond, in shell

Field name: Field MN

Crop: Almond, in shell

Plant date: 01/03/2012



	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	100.00	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	26.72	0.00	0.00	1,469.34
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	140.72	0.00	0.00	1,469.34
Anticipated crop nutrient removal	130.00	20.00	100.00	44.00
Actual crop nutrient removal	116.31	17.89	89.47	76.50
Nutrient balance	24.40	-17.89	-89.47	1,392.84
Applied to removed ratio	1.21	0.00	0.00	19.21

Fresh water applied
18,432,000.00 <i>gallons</i>
678.79 <i>acre-inches</i>
35.73 <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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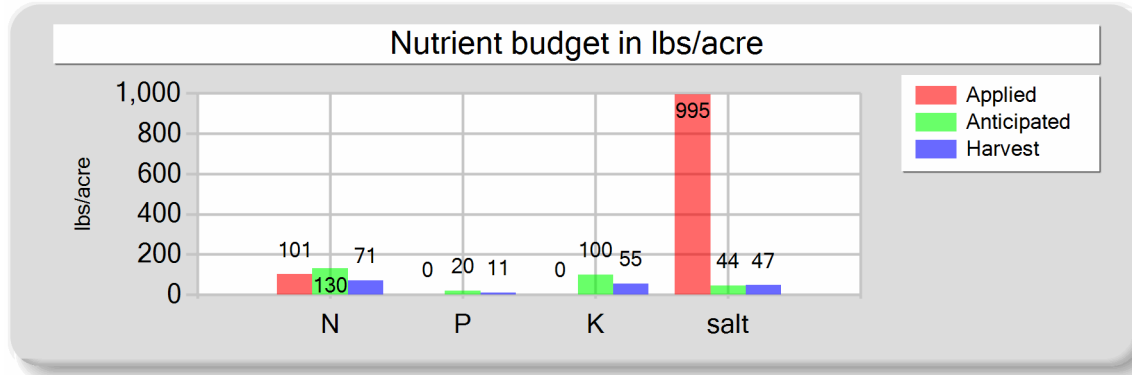
Reporting period 01/01/2023 to 12/31/2023.

Field MS - 01/02/2020: Almond, in shell

Field name: Field MS

Crop: Almond, in shell

Plant date: 01/02/2020



	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	80.00	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	7.07	0.00	0.00	994.99
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	101.07	0.00	0.00	994.99
Anticipated crop nutrient removal	130.00	20.00	100.00	44.00
Actual crop nutrient removal	71.50	11.00	55.00	47.03
Nutrient balance	29.57	-11.00	-55.00	947.97
Applied to removed ratio	1.41	0.00	0.00	21.16

Fresh water applied
17,280,000.00 <i>gallons</i>
636.36 <i>acre-inches</i>
31.82 <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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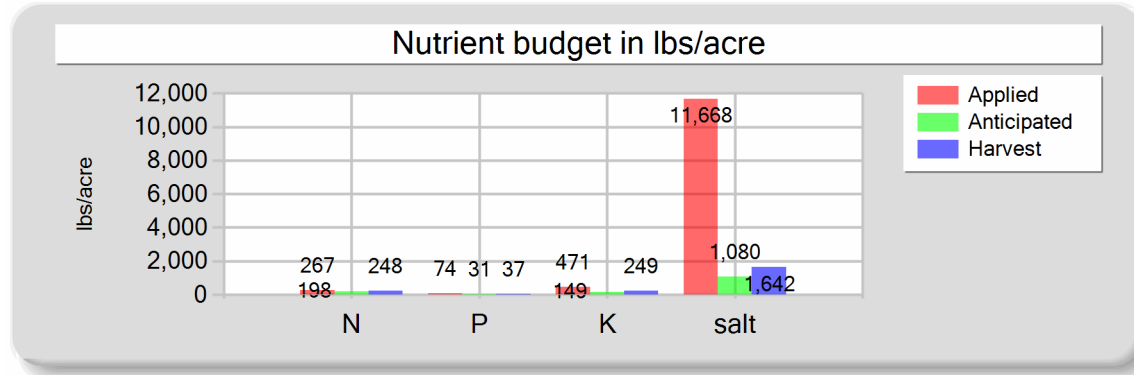
Reporting period 01/01/2023 to 12/31/2023.

Field RBN - 12/08/2022: Wheat, silage, soft dough

Field name: Field RBN

Crop: Wheat, silage, soft dough

Plant date: 12/08/2022



	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	240.33	73.59	471.34	10,805.40
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	19.58	0.00	0.00	862.84
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	266.90	73.59	471.34	11,668.24
Anticipated crop nutrient removal	198.00	30.60	149.40	1,080.00
Actual crop nutrient removal	247.68	36.80	249.10	1,641.78
Nutrient balance	19.22	36.79	222.24	10,026.46
Applied to removed ratio	1.08	2.00	1.89	7.11

Fresh water applied
9,180,000.00 <i>gallons</i>
338.07 <i>acre-inches</i>
8.90 <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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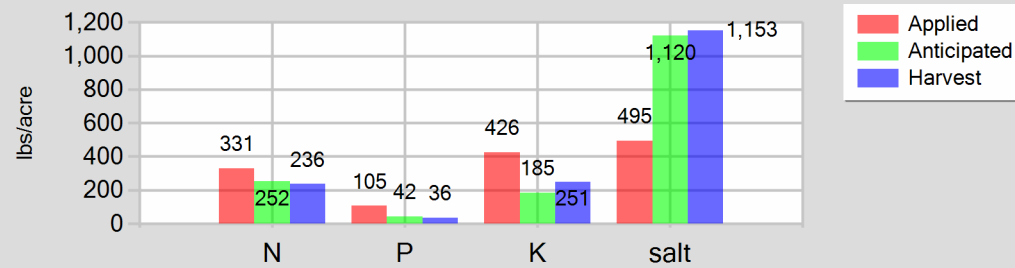
Field RBN - 07/18/2023: Corn, silage

Field name: Field RBN

Crop: Corn, silage

Plant date: 07/18/2023

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	314.34	105.42	425.57	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	9.21	0.00	0.00	495.41
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	330.55	105.42	425.57	495.41
Anticipated crop nutrient removal	252.00	42.00	184.80	1,120.00
Actual crop nutrient removal	235.63	35.76	250.67	1,153.10
Nutrient balance	94.92	69.66	174.89	-657.69
Applied to removed ratio	1.40	2.95	1.70	0.43

Fresh water applied
28,257,000.00 gallons
1,040.61 acre-inches
27.38 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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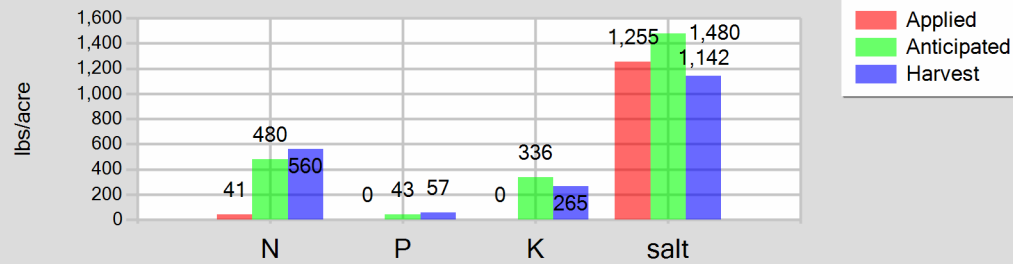
Field RBS - 11/17/2019: Alfalfa, hay

Field name: Field RBS

Crop: Alfalfa, hay

Plant date: 11/17/2019

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	26.67	0.00	0.00	1,254.58
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	40.67	0.00	0.00	1,254.58
Anticipated crop nutrient removal	480.00	43.20	336.00	1,480.00
Actual crop nutrient removal	560.15	57.26	264.51	1,142.10
Nutrient balance	-519.48	-57.26	-264.51	112.47
Applied to removed ratio	0.07	0.00	0.00	1.10

Fresh water applied
34,614,000.00 <i>gallons</i>
1,274.72 <i>acre-inches</i>
32.69 <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
2 <i>harvests</i>

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NUTRIENT ANALYSES

A. MANURE ANALYSES

Corral solids - 2022

Sample and source description: Corral solids - 2022

Sample date: 09/21/2022 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 37.9 %

	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	12,900.00	3,950.00	25,300.00							58.00
DL	1,000.00	1,000.00	1,000.00							0.10

Corral Solids

Sample and source description: Corral Solids

Sample date: 06/01/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 43.8 %

	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	14,600.00	4,990.00	19,000.00							0.00
DL	1,000.00	1,000.00	1,000.00							0.10

Sinks Heifer Manure

Sample and source description: Sinks Heifer Manure

Sample date: 06/08/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 19.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	19,500.00	6,540.00	26,400.00							0.00
DL	1,000.00	1,000.00	1,000.00							0.10

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Corral Solids

Sample and source description: Corral Solids

Sample date: 11/07/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 35.1 %

	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	11,300.00	6,130.00	38,400.00							0.00
DL	1,000.00	1,000.00	1,000.00							0.10

B. PROCESS WASTEWATER ANALYSES

LG-2-4, 2022

Sample and source description: LG-2-4, 2022

Sample date: 11/17/2022 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	186.00	135.00	0.00	0.00	46.30	314.00								2,750.00	1,760
DL	0.50	0.50	0.50	0.50	0.50	2.00								1.00	10

LG-2-1

Sample and source description: LG-2-1

Sample date: 03/16/2023 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	389.00	126.00	0.00	0.00	78.80	760.00								2,850.00	1,440
DL	0.50	0.50	0.50	0.50	0.50	2.00								1.00	10

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LG-2-2

Sample and source description: LG-2-2

Sample date: 06/08/2023 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	207.00	106.50	0.00	0.00	37.60	267.00								2,620.00	1,000
DL	0.50	0.50	0.50	0.50	0.50	2.00								1.00	10

LG-2-3

Sample and source description: LG-2-3

Sample date: 08/23/2023 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	137.00	67.20	0.00	0.00	21.50	215.00								2,010.00	920
DL	0.50	0.50	0.50	0.50	0.50	2.00								1.00	10

LG-2-4

Sample and source description: LG-2-4

Sample date: 11/07/2023 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	230.00	160.00	0.00	0.00	18.60	312.00								3,040.00	1,500
DL	0.50	0.50	0.50	0.50	0.50	2.00								1.00	10

Export Slurry

Sample and source description: Export Slurry

Sample date: 12/05/2023 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	924.00	168.00	0.00	0.00	12.50	51.60								2,570.00	1,320
DL	0.50	0.50	0.50	0.50	0.50	2.00								1.00	10

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C. FRESH WATER ANALYSES

Bowen-Dom

Bowen-Dom

Sample description: Bowen-Dom

Sample date: 12/26/2023 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	6.51	0.00	6.51								458.00	293
DL	0.50	0.50	0.50								1.00	10

CWD Canal

CWD Canal

Sample description: CWD Canal

Sample date: 08/23/2023 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								100.00	17
DL	0.50	0.50	0.50								1.00	10

Dairy Dom.

Dairy-Dom

Sample description: Dairy-Dom

Sample date: 12/26/2023 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	1.99	0.00	1.99								693.00	444
DL	0.50	0.50	0.50								1.00	10

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DW-1

DW-1

Sample description: DW-1Sample date: 12/26/2023 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	1.96	0.00	1.96								404.00	259
DL	0.50	0.50	0.50								1.00	10

DW-2

DW-2

Sample description: DW-2Sample date: 12/26/2023 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	6.16	0.00	6.16								486.00	311
DL	0.50	0.50	0.50								1.00	10

DW-Bowen

DW-Bowen

Sample description: DW-BowenSample date: 12/26/2023 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	6.60	0.00	6.60								540.00	346
DL	0.50	0.50	0.50								1.00	10

DW-Haynes

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DW-Haynes

DW-Haynes

Sample description: DW-HaynesSample date: 12/26/2023 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	10.40	0.00	10.40								631.00	404
DL	0.50	0.50	0.50								1.00	10

DW-RBLVD

DW-RBLVD

Sample description: DW-RBLVDSample date: 12/26/2023 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	9.71	0.00	9.71								669.00	428
DL	0.50	0.50	0.50								1.00	10

Laws Dom

Laws-Dom

Sample description: Laws-DomSample date: 12/26/2023 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	10.80	0.00	10.80								620.00	397
DL	0.50	0.50	0.50								1.00	10

RBVD-dom

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RBVD-dom

RBLVD-Dom

Sample description: RBLVD-Dom

Sample date: 12/26/2023 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	8.79	0.00	8.79								542.00	347
DL	0.50	0.50	0.50								1.00	10

D. SOIL ANALYSES

No soil analyses entered.

E. PLANT TISSUE ANALYSES

Field BN - 01/05/2014: Almond, in shell

Almonds

Sample and source description: Almonds

Sample date: 09/29/2023 Source of analysis: Other/estimated Method of reporting: Dry-weight

Moisture: 5.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	68,419.00	10,526.00	52,628.00		4.50
DL	1,000.00	1,000.00	1,000.00		0.10

Field BS - 12/16/2022: Wheat, silage, soft dough

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Field BS - 12/16/2022: Wheat, silage, soft dough

Wheat Hay

Sample and source description: Wheat Hay

Sample date: 05/25/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 54.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,000.00	2,300.00	18,300.00		0.00
DL	1,000.00	1,000.00	1,000.00		0.10

Wheat Hay

Sample and source description: Wheat Hay

Sample date: 05/28/2023 Source of analysis: Other/estimated Method of reporting: Dry-weight

Moisture: 8.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,500.00	2,030.00	19,200.00		10.90
DL	1,000.00	1,000.00	1,000.00		0.10

Field BS - 06/28/2023: Corn, silage

Corn Silages

Sample and source description: Corn Silages

Sample date: 10/16/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 61.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	10,200.00	1,540.00	11,500.00		5.50
DL	1,000.00	1,000.00	1,000.00		0.10

Field D - 12/09/2022: Wheat, silage, soft dough

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Field D - 12/09/2022: Wheat, silage, soft dough

Winter Forage

Sample and source description: Winter Forage

Sample date: 05/23/2023 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	14,300.00	2,640.00	20,700.00		10.00
DL	1,000.00	1,000.00	1,000.00		0.10

Field D - 06/27/2023: Corn, silage

Corn Silages

Sample and source description: Corn Silages

Sample date: 10/15/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 72.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,900.00	2,530.00	19,900.00		7.90
DL	1,000.00	1,000.00	1,000.00		0.10

Field H E&W - 01/10/2023: Alfalfa, hay

Alfalfa Hay

Sample and source description: Alfalfa Hay

Sample date: 05/25/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 18.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	41,920.00	4,300.00	20,400.00		9.60
DL	1,000.00	1,000.00	1,000.00		0.10

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Field H E&W - 01/10/2023: Alfalfa, hay

Alfalfa Haylage

Sample and source description: Alfalfa Haylage

Sample date: 05/25/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 59.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	38,400.00	3,800.00	13,100.00		0.00
DL	1,000.00	1,000.00	1,000.00		0.10

Field L - 12/09/2022: Wheat, silage, soft dough

Winter Forage

Sample and source description: Winter Forage

Sample date: 05/23/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	19,600.00	3,000.00	21,400.00		10.20
DL	1,000.00	1,000.00	1,000.00		0.10

Field L - 06/29/2023: Corn, silage

Corn Silages

Sample and source description: Corn Silages

Sample date: 10/15/2023 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	11,200.00	1,760.00	11,700.00		5.30
DL	1,000.00	1,000.00	1,000.00		0.10

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Field MN - 01/03/2012: Almond, in shell

Almonds

Sample and source description: Almonds

Sample date: 09/29/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	68,419.00	10,526.00	52,628.00		4.50
DL	1,000.00	1,000.00	1,000.00		0.10

Field MS - 01/02/2020: Almond, in shell

Almonds

Sample and source description: Almonds

Sample date: 09/29/2023 Source of analysis: Other/estimated Method of reporting: Dry-weight

Moisture: 5.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	68,419.00	10,526.00	52,628.00		4.50
DL	1,000.00	1,000.00	1,000.00		0.10

Field RBN - 12/08/2022: Wheat, silage, soft dough

Winter Forage

Sample and source description: Winter Forage

Sample date: 05/22/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 60.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	17,500.00	2,600.00	17,600.00		11.60
DL	1,000.00	1,000.00	1,000.00		0.10

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

Field RBN - 07/18/2023: Corn, silage

Corn SilagesSample and source description: Corn SilagesSample date: 11/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 70.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	14,100.00	2,140.00	15,000.00		6.90
DL	1,000.00	1,000.00	1,000.00		0.10

Field RBS - 11/17/2019: Alfalfa, hay

Alfalfa HaylageSample and source description: Alfalfa HaylageSample date: 02/24/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 58.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	42,240.00	4,200.00	15,000.00		0.00
DL	1,000.00	1,000.00	1,000.00		0.10

Alfalfa HaySample and source description: Alfalfa HaySample date: 05/25/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 18.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	41,920.00	4,300.00	20,400.00		9.60
DL	1,000.00	1,000.00	1,000.00		0.10

F. SUBSURFACE (TILE) DRAINAGE ANALYSES*No subsurface (tile) drainage analyses entered.*

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

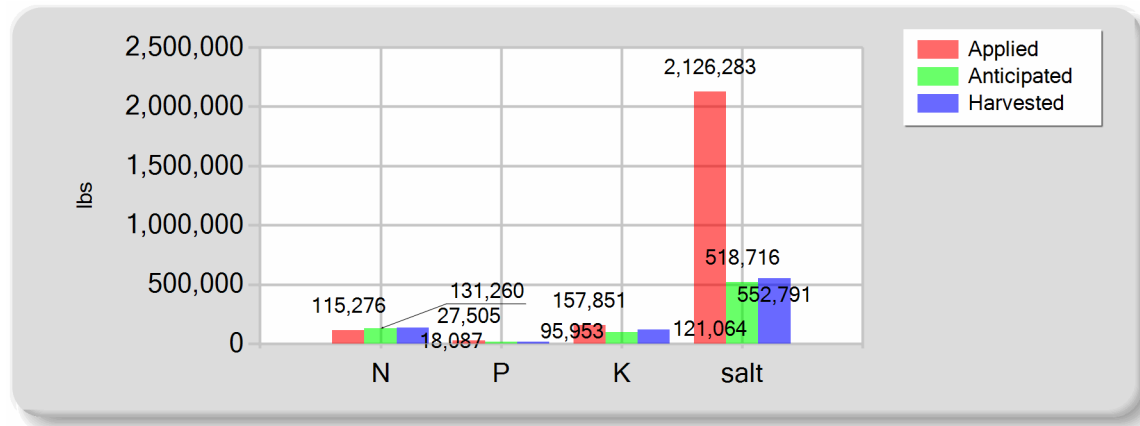
Reporting period 01/01/2023 to 12/31/2023.

NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

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

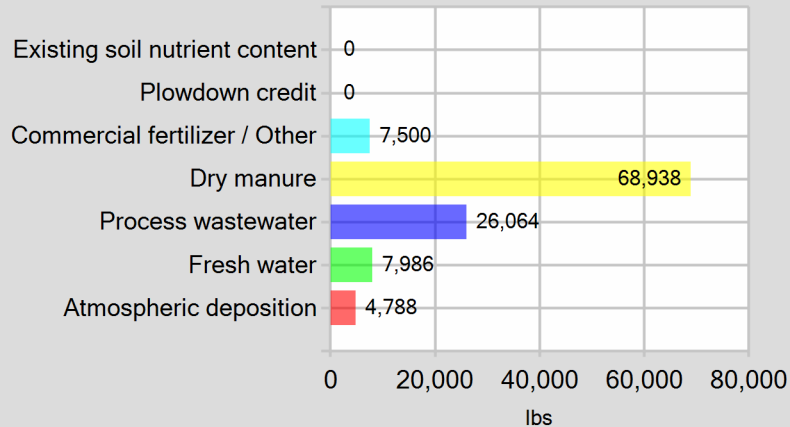
	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	7,500.00	0.00	0.00	0.00
Dry manure	68,938.13	22,257.45	113,113.58	1,551,655.44
Process wastewater	26,064.44	5,247.98	44,736.94	122,827.72
Fresh water	7,985.82	0.00	0.00	451,799.54
Atmospheric deposition	4,788.00	0.00	0.00	0.00
Total nutrients applied	115,276.38	27,505.43	157,850.53	2,126,282.69
Anticipated crop nutrient removal	131,260.00	18,086.60	95,953.00	518,716.00
Actual crop nutrient removal	136,647.24	18,411.03	121,064.42	552,791.01
Nutrient balance	-21,370.86	9,094.40	36,786.10	1,573,491.69
Applied to removed ratio	0.84	1.49	1.30	3.85

B. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL

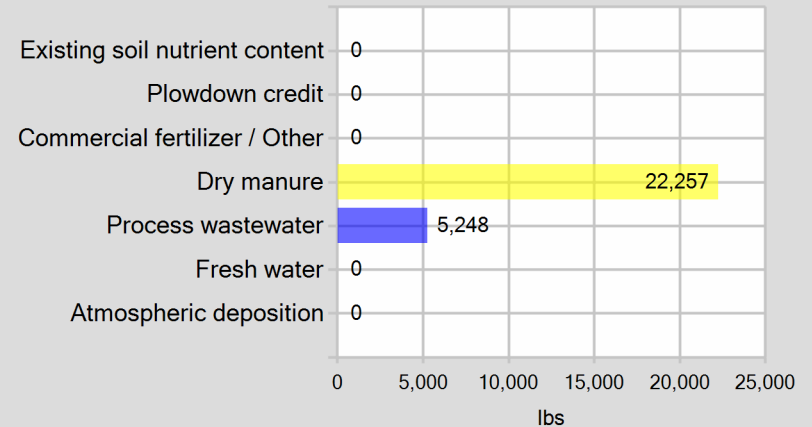


C. POUNDS OF NUTRIENT APPLIED BY MATERIAL TYPE

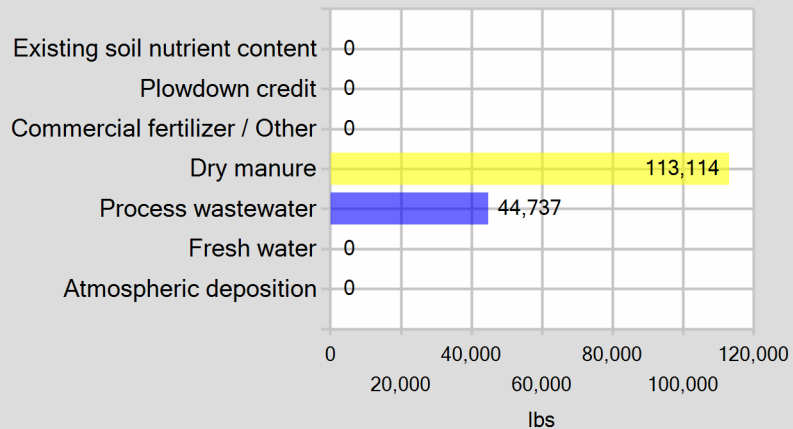
Pounds of nitrogen applied



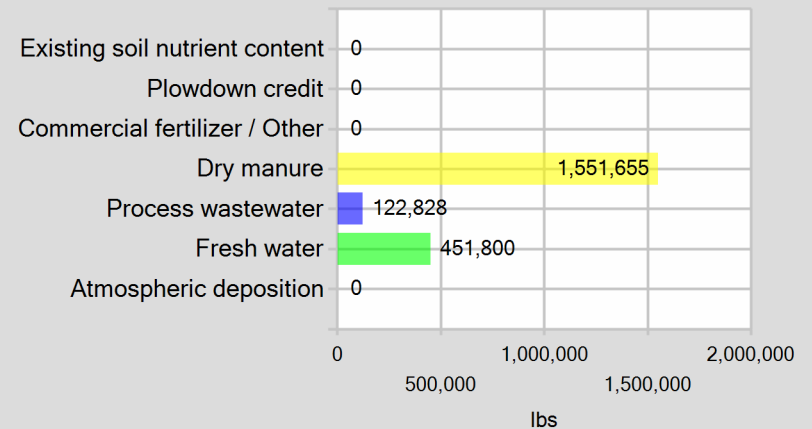
Pounds of phosphorus applied



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

ADDITIONAL NOTES

A. NOTES

HANSEN DAIRY

Dairy sold Milk Cows and Dry Cows on November 1, 2023. Heifers, 7-24 months were moved back to the dairy site.

Almonds are irrigated by drip and fertilizer is applied through the drip is used to fertilize the trees.

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.

Dennis Hansen
Dennis Hansen (Jun 19, 2024 08:47 PDT)

SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
Dennis Hansen	SAME AS OWNER
PRINT OR TYPE NAME	PRINT OR TYPE NAME
Jun 19, 2024	
DATE	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.



Denele Analytical, Inc.

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Phone (530) 666-9056 - Fax (530) 666-9058

Compliance Analysis Report

Customer

Hansen & Sons, Inc.
20279 Road 13
Chowchilla, CA 93610

Grower

Consultant:

Heartland Consulting
P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 8/23/23 2:30 PM
SUBMITTED BY: Dan
ANALYZED DATE: 8/25/23

Irrigation/ Ground Water (H1)
SOURCE: Canal Water

NOTES: Temperature was above qualifying at 25.2c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
C.W.D. Canal	T3235032B	Electrical Conductivity (EC)	EPA 120.1 and	< 0.100	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	< 0.140	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	16.6	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	101	95.1 (T3235024B)	95.9 (T3235024B)	0.815
Electrical Conductivity (EC)	97.1			4.81
Nitrate Nitrogen (NO3-N)	104			7.24

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**DENELE ANALYTICAL, INC.**

865 S. KILROY

TURLOCK, CA 95380

PH# 209-634-9055 FAX# 209-634-9057

DAIRY COMPLIANCEClient: HANSEN DAIRYMailing address: 20279 Road 13, Chowchilla CA93610

(not facility address)

Phone#: 559-416-6999

Authorized Copy Released To:

hlcdan@yahoo.comSampled By: Daniel Roos

Project ID: _____

ANALYSIS TO BE COMPLETED:**IRRIGATION/GROUND WATER**

H1 EC*, NO3-N, NH4-N*

H6 EC, TN, TDS

H7 Combination of H1 & H6

H14 EC, NO3-N, NH4-N, Ca, Mg, Na, Bicarb

Carb, SO4, Cl, TDS

PROCESS WASTE WATER

H3 EC*, NH4-N, TKN, TP, K, TDS

H4 EC*, NO3-N, NH4-N, TKN, TP, K, TDS

H5 Ca, Mg, Na, Bicarb, Carb, SO4, Cl

H8 Combination of H3 & H5

H9 Combination of H4 & H5

TILE DRAIN

H2 EC*, NO3-N, TP, NH4-N*, TDS

* Required Field Measurement

____ (Check here if performed)

DISCHARGE WATER

E1 EC*, Temp*, pH*, NO3-N, NH4-N, TKN, TP, K, TDS, Dissolved Oxygen*,

BOD 5, TSS, Total & Fecal Coliforms

E2 EC*, Temp*, pH*, NO3-N, NH4-N*, Turbidity, TP, Dissolved Oxygen*,

Total & Fecal Coliforms

E3 EC*, Temp*, pH*, NO3-N, NH4-N*, TP, Total & Fecal Coliforms

E4 EC*, Temp*, pH*, NO3-N, NH4-N*, Turbidity, TP, Total & Fecal Coliform

MANURE

M1 % Moisture

M3 TN TP, K, % Moisture

M4 Ca, Mg, Na, Bicarb, Carb, SO4, Cl, Ash

M7 Combination of M3 & M4

PLANT TISSUE

F18 % Moisture, Ash, TN, P, K, DM and as received

F18+ % Moisture, Ash, TN, P, K, DM and as received

(Package also includes NIR DCAD)

F19+ % Moisture, TN (Package includes complete plant tissue analysis)

SOIL

K3 Soluble Phosphorus

K4 1ft NO3, Organic Matter

K5 Pre-Plant (2ft NO3), Fall (1-2ft NO3), Fall (2-3ft NO3)

K6 0-1ft EC, NO3, Soluble P, K, Organic Matter

K7 Combination of K3 & K4

K8 Combination of K3 & K5

H1	H3	M3	F18	OTHER

	Date Collected	Time Collected	Sample ID	Description	Temp	Well Purge	Analysis			
1	8-23-23	1125	16-2-3		24.4C			X		
2	8-23-23	1135	C.W.D. Canal		25.2C		X			
3										
4										
5										
6										
7										
8										
9										
10										

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time	(LABORATORY USE ONLY)	
1st		HeartLand Consulting		8-23-23 1430	Logged In By:	LABORATORY NUMBER
2nd		DENELE ANALYTICAL, INC.	8-23-23 2:30			T 3235032

Required to be submitted to any agency? (YES / NO)



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Compliance Analysis Report

Customer

Hansen & Sons, Inc.
20279 Road 13
Chowchilla, CA 93610

Grower

Consultant:

Heartland Consulting
P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.6c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
Dairy-DOM	T3361001A	Electrical Conductivity (EC)	EPA 120.1 and	0.693	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	1.99	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	444	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	91.8	95.8 (T3355006J)	94.6 (T3355006J)	1.26
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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Chowchilla, CA 93610

Grower**Consultant:**

Heartland Consulting
P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 8.0c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
DW-1	T3361001B	Electrical Conductivity (EC)	EPA 120.1 and	0.404	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	1.96	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	259	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	91.8	95.8 (T3355006J)	94.6 (T3355006J)	1.26
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.2c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
DW-2	T3361001C	Electrical Conductivity (EC)	EPA 120.1 and	0.486	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	6.16	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	311	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	91.8	95.8 (T3355006J)	94.6 (T3355006J)	1.26
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.2c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
LAWS-DOM	T3361001D	Electrical Conductivity (EC)	EPA 120.1 and	0.620	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	10.8	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	397	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	91.8	95.8 (T3355006J)	94.6 (T3355006J)	1.26
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.6c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
DW-HAYNES	T3361001E	Electrical Conductivity (EC)	EPA 120.1 and	0.631	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	10.4	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	404	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	91.8	95.8 (T3355006J)	94.6 (T3355006J)	1.26
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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Compliance Analysis Report

Customer

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20279 Road 13
Chowchilla, CA 93610

Grower

Consultant:

Heartland Consulting
P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.2c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
BOWEN-DW	T3361001F	Electrical Conductivity (EC)	EPA 120.1 and	0.458	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	6.51	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	293	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	91.8	95.8 (T3355006J)	94.6 (T3355006J)	1.26
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 8.2c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
DW-BOWEN	T3361001G	Electrical Conductivity (EC)	EPA 120.1 and	0.540	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	6.60	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	346	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	99.0	100 (T3361001G)	98.2 (T3361001G)	1.81
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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Compliance Analysis Report

Customer

Hansen & Sons, Inc.
20279 Road 13
Chowchilla, CA 93610

Grower

Consultant:

Heartland Consulting
P.O. Box 3679
Merced, CA 95344

PURCHASE ORDER:

RECEIVED DATE: 12/27/23 8:00 AM
SUBMITTED BY: Dan-Drop Box
ANALYZED DATE: 12/27/23

Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.0c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
R-BLVD-DOM	T3361001H	Electrical Conductivity (EC)	EPA 120.1 and	0.542	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	8.79	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	347	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	99.0	100 (T3361001G)	98.2 (T3361001G)	1.81
Electrical Conductivity (EC)	97.2			1.65
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

The warranty of Denele Analytical is limited to the accuracy of the analyses of the samples as received. Denele Analytical assumes no responsibility for which the customer uses our test results, nor liability for any other warranties, express or implied. These terms and conditions shall supercede any conflicting terms and conditions submitted on customer purchase orders or other forms submitted for work.



Denele Analytical, Inc.

865 South Kilroy Avenue Turlock, CA 95380
Phone (209) 634-9055 - Fax (209) 634-9057
www.denelelabs.com

40 N. East Street, Woodland, CA 95776
Phone (530) 666-9056 - Fax (530) 666-9058

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Irrigation/ Ground Water (H1)
SOURCE: Well Water

NOTES: Temperature was above qualifying at 7.6c

Sample ID	Lab ID	Analyte	Method Ref	Result	Units
DW-R-BLVD	T3361001I	Electrical Conductivity (EC)	EPA 120.1 and	0.669	mmhos/cm
		Nitrate Nitrogen (NO3-N)	EPA 353.2	9.71	mg/L
		Ammonia Nitrogen (NH3-N)	SM 4500-NH3 D,C	< 0.500	mg/L
		Soluble Salts (SALT-SOL)	Calculation	428	mg/L

Laboratory Quality Control	LCS %	MS %	MSD %	RPD %
Ammonia Nitrogen (NH3-N)	99.0	100 (T3361001G)	98.2 (T3361001G)	1.81
Electrical Conductivity (EC)	98.8			0.901
Nitrate Nitrogen (NO3-N)	103	104 (T3361008A)	100 (T3361008A)	3.27

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DENELE ANALYTICAL, INC.
865 S. KILROY
TURLOCK, CA 95380

PH# 209-634-9055 FAX# 209-634-9057

DAIRY COMPLIANCE

Authorized Copy Released To:

hlcdan@yahoo.com

Client: HANSEN DAIRY
Mailing address: 20279 Road 13, Chowchilla CA93610

(not facility address)

Phone#: 559-416-6999

Sampled By: Daniel Roos

Project ID: _____

ANALYSIS TO BE COMPLETED:

IRRIGATION/GROUND WATER

H1 EC*, NO3-N, NH4-N*

H6 EC, TN, TDS

H7 Combination of H1 & H6

H14 EC, NO3-N, NH4-N, Ca, Mg, Na, Bicar

Carb, SO4, Cl, TDS

PROCESS WASTE WATER

H3 EC*, NH4-N, TKN, TP, K, TDS

H4 EC*, NO3-N, NH4-N, TKN, TP, K, TDS

H5 Ca, Mg, Na, Bicar, Carb, SO4, Cl

H8 Combination of H3 & H5

H9 Combination of H4 & H5

TILE DRAIN

H2 EC*, NO3-N, TP, NH4-N*, TDS

* Required Field Measurement

____ (Check here if performed)

DISCHARGE WATER

E1 EC*, Temp*, pH*, NO3-N, NH4-N, TKN, TP, K, TDS, Dissolved Oxygen*,

BOD 5, TSS, Total & Fecal Coliforms

E2 EC*, Temp*, pH*, NO3-N, NH4-N*, Turbidity, TP, Dissolved Oxygen*,

Total & Fecal Coliforms

E3 EC*, Temp*, pH*, NO3-N, NH4-N*, TP, Total & Fecal Coliforms

E4 EC*, Temp*, pH*, NO3-N, NH4-N*, Turbidity, TP, Total & Fecal Coliform

MANURE

M1 % Moisture

M3 TN TP, K, % Moisture

M4 Ca, Mg, Na, Bicar, Carb, SO4, Cl, Ash

M7 Combination of M3 & M4

PLANT TISSUE

F18 % Moisture, Ash, TN, P, K, DM and as received

F18+ % Moisture, Ash, TN, P, K, DM and as received

(Package also includes NIR DCAD)

F19+ % Moisture, TN (Package includes complete plant tissue analysis)

SOIL

K3 Soluble Phosphorus

K4 1ft NO3, Organic Matter

K5 Pre-Plant (2ft NO3), Fall (1-2ft NO3), Fall (2-3ft NO3)

K6 0-1ft EC, NO3, Soluble P, K, Organic Matter

K7 Combination of K3 & K4

K8 Combination of K3 & K5

H1	H3	M3	F18	OTHER

	Date Collected	Time Collected	Sample ID	Description	Temp	Well Purge	Analysis			
1	12-26-23	1210	DAIRY - DOM		7.6°C		X			
2		1220	DN - 1		8.0°C		X			
3		1225	DN - 2		7.2°C		X			
4		1235	LAWS - DOM		7.2°C		X			
5		1243	DN - HAYNES		7.6°C		X			
6		1250	BOWEN - DOM		7.2°C		X			
7		1300	DN - BOWEN		8.2°C		X			
8		1315	R-BWD - DOM		7.0°C		X			
9	12-26-23	1325	DN - R-BWD.		7.6°C		X			
10										

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time	(LABORATORY USE ONLY)	
1st		HeartLand Consulting		12-26-23 1730	Logged In By:	LABORATORY NUMBER
2nd		DENELE ANALYTICAL, INC.	12-27-23 8:00			T3361001

Required to be submitted to any agency? (YES / NO)







2023 AR HANSEN DAIRY

Final Audit Report

2024-06-19

Created:	2024-06-18
By:	Daniel Roos (hlcdan@yahoo.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAp8QZNLZmpez5f2a4kY28VgUmrxdxY4mVp

"2023 AR HANSEN DAIRY" History

-  Document created by Daniel Roos (hlcdan@yahoo.com)
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