



Client: Los Robles Greens Golf Course
Fall 2024 Report

	<u>10/3/22</u>	<u>10/19/23</u>	<u>9/12/24</u>
Humidity/Air Temperature	50%/78°	36%/86°	75%/75°
Greens Temperature	(avg)73.8°	(avg)60.9°	(avg)62.5°
Fairway Temperature	(avg)72.8°	(avg)61.9°	(avg)67°

WATER	Acceptable Range For Water Sample	Hole #14 9/29/21	Hole #14 10/19/23	Hole #14 9/12/24
pH	6.50	8.34	7.72	7.98
EC	<2.25 mmhos/cm	0.64	1.04	1.17
Sodium		75.55	80.78	79.76
Calcium	20 - 60 ppm	36.20	72.33	75.74
Magnesium	10 - 25 ppm	13.40	52.30	63.97
Potassium	5 - 20 ppm	3.32	2.93	3.11
Sulfur	30 - 90 ppm	105.60	272.50	293.59
Bicarbonate	<120 ppm	125.99	220.31	231.84
Boron	<0.67 ppm	0.19	0.20	0.19
Chloride	<177 ppm	81.70	104.68	108.76



SOIL AND WATER CONSULTING

TEE	Acceptable Range For Tissue Sample	4 9/12/24
Nitrogen	3.34%-5.10%	3.05
Phosphorus	0.35% - 0.55%	0.49
Potassium	2.0% - 3.42%	1.95
Calcium	0.25%-0.5%	0.82
Magnesium	0.16%-0.32%	0.39
Sodium	229-1107 ppm	1,001.40

FAIRWAY	Acceptable Range For Tissue Sample	4 9/12/24
Nitrogen	3.34%-5.10%	4.16
Phosphorus	0.35% - 0.55%	0.52
Potassium	2.0% - 3.42%	2.39
Calcium	0.25%-0.5%	0.35
Magnesium	0.16%-0.32%	0.25
Sodium	229-1107 ppm	514.20

GREENS	Acceptable Range For Tissue Sample	4,15(avg) 9/12/24
Nitrogen	3.0%-6.5%	4.54
Phosphorus	0.2%-0.55%	0.53
Potassium	0.86%-2.55%	1.56
Calcium	0.21%-0.50%	0.50
Magnesium	0.09%-0.22%	0.35
Sodium	506- 2264 ppm	614.85

TEES	Acceptable Range For Alkaline Soils Sample	4,15(avg) 10/23/20	4,15(avg) 9/12/24
Organic Matter (Humus)	2 - 3%	n/r	1.99
Sulfur	12 - 16 ppm	n/r	76.00
Olsen - Phosphorus	13 - 20 ppm	n/r	18.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	n/r	1,353.00
Magnesium	>7% base saturation or at least 200 lbs/acre	n/r	32.7%/479
Potassium - TEC of 0 - 35	100 ppm	n/r	40.50
Manganese	>50 ppm	n/r	14.50

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	4,15(avg) 10/23/20	4,15(avg) 9/12/24
Organic Matter (Humus)	2 - 3%	6.89	9.35
Sulfur	12 - 16 ppm	71.50	301.00
Olsen - Phosphorus	13 - 20 ppm	20.00	45.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,786.00	5,501.00
Magnesium	>7% base saturation or at least 200 lbs/acre	30.42%/1,925	29.43%/1,812
Potassium - TEC of 0 - 35	100 ppm	550.00	525.00
Manganese	50-80 ppm	49.00	64.00

GREENS	Acceptable Range For Alkaline Soils Sample	4,15(avg) 10/23/20	4,15(avg) 9/12/24
Organic Matter (Humus)	2 - 3%	0.99	1.07
Sulfur	12 - 16 ppm	11.00	52.50
Olsen - Phosphorus	13 - 20 ppm	5.50	29.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,479.00	1,242.00
Magnesium	>7% base saturation or at least 200 lbs/acre	16.92%/206	28.98%/375
Potassium - TEC of 0 - 35	150 ppm	68.00	95.50
Manganese	50-80 ppm	33.50	91.00

TEE	Acceptable Range For Saturated Paste Sample	4 10/23/20	4 9/12/24
Nitrate - Ryegrass	5 - 10 ppm	n/r	<0.5
Phosphorus	2 - 10 ppm	n/r	1.58
Potassium	40 - 100 ppm	n/r	16.70
Calcium	60 - 200 ppm	n/r	102.35
Magnesium	20 - 70 ppm	n/r	65.92
Sodium	0 - 30 ppm	n/r	120.91
Soluble Salts	<1,920 ppm	n/r	802.00
Bicarbonate	<60 ppm	n/r	126.47
Chloride	<1,000 ppm	n/r	144.00
SAR	<4%	n/r	2.29

FAIRWAY	Acceptable Range For Saturated Paste Sample	4 10/23/20	4 9/12/24
Nitrate-Kikuyugrass	10 -15 ppm	2.10	1.30
Phosphorus	2 - 10 ppm	2.23	2.59
Potassium	40 - 100 ppm	35.54	62.34
Calcium	60 - 200 ppm	80.75	211.36
Magnesium	20 - 70 ppm	43.40	120.17
Sodium	0 - 30 ppm	109.80	62.34
Soluble Salts	<1,920 ppm	851.00	1,476.00
Bicarbonate	<60 ppm	175.97	183.53
Chloride	<1,000 ppm	227.00	409.00
SAR	<4%	2.45	2.58

GREENS	Acceptable Range For Saturated Paste Sample	15 10/23/20	4,15(avg) 9/12/24
Nitrate- Bentgrass/poa	1-3 ppm	<0.5	2.45
Phosphorus	2 - 7 ppm	1.54	4.08
Potassium	25-40 ppm	9.92	30.73
Calcium	50- 75 ppm	19.33	36.23
Magnesium	15-30 ppm	5.92	24.57
Sodium	0 - 30 ppm	26.53	55.75
Soluble Salts	<1,000 ppm	174.00	425.00
Bicarbonate	<60 ppm	73.35	51.13
Chloride	<200 ppm	20.00	52.50
SAR	<4%	1.35	1.76



Nutrient Deficiencies

		K
TEE	4	45
TEE	15	36
FAIRWAY	4	475
FAIRWAY	15	575
GREEN	4	111
GREEN	15	80

Potassium can be added in the form of 0-0-50 at a rate of 2 pounds of product per 1,000 sq ft two times in the next four months.

Comments and Next Level Cultural Practices

- The water data hasn't changed much since 2023 but is different than before the blending of well and city water. Bicarbonate, chloride and sulfur levels are raised significantly. Although the water doesn't seem to be causing any concerns currently, it may take time to see any negative effects
- Like Tierra Rejada GC, the potassium levels are better year over year and since Spring. Especially when you overseed the tees, additional potassium is helpful
- It is impressive how you can keep conditions as high as they are with the number of rounds the course sees!
- With increased sulfur in the water, the increase will show in the soils data. I can see the difference from the last time we sampled these areas in the Fall of 2020

