



Client: Seven Oaks Country Club
Spring 2024 Report

	<u>3/7/22</u>	<u>3/7/23</u>	<u>3/16/24</u>
Humidity/Air Temperature	40%/66°	60%/57°	50%/72°
Greens Temperature	(avg)42.65°	(avg)50°	(avg)49°
Fairway Temperature	(avg)48.06°	(avg)51°	(avg)52°

WATER	Acceptable Range For Water Sample	Lakes Hole #6 <u>3/7/22</u>	Islands Hole #8 <u>3/7/23</u>	Oaks Hole #2 <u>3/16/24</u>
pH	6.3-6.5	6.90	6.87	7.42
EC	<2.25 mmhos/cm	0.19	0.22	0.19
Sodium		20.30	19.11	20.12
Calcium	20 - 60 ppm	21.44	24.00	18.73
Magnesium	10 - 25 ppm	0.77	<0.20	<0.20
Potassium	5 - 20 ppm	1.47	2.41	2.22
Sulfur	30 - 90 ppm	13.51	13.60	15.02
Bicarbonate	<120 ppm	99.35	104.74	74.24
Boron	<0.67 ppm	0.12	0.11	0.10
Chloride	<177 ppm	9.19	6.98	14.13



SOIL AND WATER CONSULTING

WATER	Acceptable Range For Water Sample	Irrigation <u>6/1/2021</u>	Irrigation <u>9/1/2021</u>	Irrigation <u>3/1/2022</u>	Irrigation <u>6/1/2022</u>	Irrigation <u>10/1/2022</u>	Irrigation <u>3/1/2023</u>	Irrigation <u>6/1/2023</u>	Irrigation <u>10/1/2023</u>	Irrigation <u>3/1/2024</u>
pH	6.3-6.5	8.60	7.72	6.90	7.73	7.59	6.87	7.31	7.02	7.42
Bicarbonate	<120 ppm	59.53	102.95	99.35	93.59	86.24	104.74	82.10	84.19	74.24

TEES	Acceptable Range For Alkaline Soils Sample	Oaks 2 3/11/18	Oaks 2 3/16/24	Lakes 2 3/11/18	Lakes 2 3/16/24	Islands 2 3/11/18	Islands 2 3/16/24
Organic Matter (Humus)	2 - 3%	2.85	4.01	2.58	3.46	2.97	3.54
Sulfur	12 - 16 ppm	23.00	11.00	9.00	17.00	22.00	7.00
Olsen - Phosphorus	13 - 20 ppm	n/r	3.00	n/r	28.00	n/r	<2
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,486.00	2,420.00	2,252.00	2,746.00	1,718.00	4,184.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.38%/194	7.08%/124	17.26%/316	10.14%/218	16.72%/248	7.33%/216
Potassium - TEC of 0 - 35	100 ppm	71.00	94.00	73.00	227.00	110.00	101.00
Manganese	>50 ppm	24.00	9.00	21.00	13.00	20.00	28.00
FAIRWAYS	Acceptable Range For Standard Soil Sample	Oaks 2 3/11/18	Oaks 2 3/16/24	Lakes 2 3/11/18	Lakes 2 3/16/24	Islands 2 3/11/18	Islands 2 3/16/24
Organic Matter (Humus)	2 - 3%	2.89	4.13	3.04	3.01	2.12	3.48
Sulfur	50 - 100 ppm	39.00	20.00	26.00	22.00	36.00	21.00
Mehlich III - Phosphorus	350 lbs/acre	600.00	371.00	453.00	128.00	197.00	160.00
Calcium	68%	74.22	75.90	71.56	77.21	66.37	75.82
Magnesium	15%	9.75	8.81	12.35	10.53	15.89	9.98
Potassium	5%	5.64	6.12	7.15	4.45	6.36	5.42
Sodium	<2%	4.43	3.14	4.57	3.57	7.43	4.44
Boron	1 - 1.5 ppm	0.93	0.72	0.75	0.73	0.73	0.69
Iron	120 ppm	324.00	314.00	378.00	289.00	175.00	255.00
Manganese	50 ppm	18.00	15.00	12.00	24.00	22.00	14.00
GREENS	Acceptable Range For Alkaline Soils Sample	Oaks 2 3/11/18	Oaks 2 3/16/24	Lakes 2 3/11/18	Lakes 2 3/16/24	Islands 2 3/11/18	Islands 2 3/16/24
Organic Matter (Humus)	2 - 3%	1.05	1.03	1.47	1.35	0.65	0.71
Sulfur	12 - 16 ppm	46.00	29.00	73.00	32.00	44.00	17.00
Olsen - Phosphorus	13 - 20 ppm	26.00	19.00	24.00	22.00	16.00	6.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,578.00	2,184.00	2,008.00	2,568.00	992.00	1,190.00
Magnesium	>7% base saturation or at least 200 lbs/acre	14.29%/190	7.46%/122	14.41%/248	7.67%/148	18.05%/162	12.42%/118
Potassium - TEC of 0 - 35	150 ppm	161.00	179.00	229.00	220.00	111.00	109.00
Manganese	>50 ppm	72.00	100.00	69.00	95.00	57.00	86.00

TEE	Acceptable Range For Saturated Paste Sample	Lakes 2 3/16/24
Nitrate - Ryegrass	5 - 10 ppm	<0.5
Phosphorus	2 - 10 ppm	0.66
Potassium	40 - 100 ppm	19.18
Calcium	60 - 200 ppm	50.83
Magnesium	20 - 70 ppm	6.00
Sodium	0 - 30 ppm	19.18
Soluble Salts	<1,920 ppm	259.00
Bicarbonate	<60 ppm	149.90
Chloride	<1,000 ppm	20.00
SAR	<4%	1.08
FAIRWAY	Acceptable Range For Saturated Paste Sample	Lakes 2 3/16/24
Nitrate - Ryegrass	10-15 ppm	<0.5
Phosphorus	2 - 10 ppm	1.04
Potassium	40 - 100 ppm	20.11
Calcium	60 - 200 ppm	22.56
Magnesium	20 - 70 ppm	3.48
Sodium	0 - 30 ppm	21.54
Soluble Salts	<1,920 ppm	170.00
Bicarbonate	<60 ppm	71.53
Chloride	<1,000 ppm	14.00
SAR	<4%	1.11
GREEN	Acceptable Range For Saturated Paste Sample	Lakes 2 3/16/24
Nitrate - Dominator Bentgrass	1-3 ppm	<0.5
Phosphorus	2 - 7 ppm	1.05
Potassium	25-40 ppm	27.58
Calcium	50- 75 ppm	26.46
Magnesium	15-30 ppm	3.56
Sodium	0 - 30 ppm	17.98
Soluble Salts	<1,000 ppm	182.00
Bicarbonate	<60 ppm	53.15
Chloride	<200 ppm	4.00
SAR	<4%	0.87

Water to Soil

		Bicarbonate (ppm)
LAKES	TEE	150
LAKES	FAIRWAY	71.53
LAKES	GREEN	53.15

Magnesium can be added in the form of Pro-Mag 36 at a rate of 3 pounds of product per 1,000 sq ft in April and May

Comments

- You asked me to put together some water reports that we have done the previous years. When I think about treating water, it must show a reduced Bicarbonate level and mostly lower the pH or else it isn't effective. pH can ebb and flow in well water and when treating water, there are times I catch a sample when the system isn't in prime condition. I am showing a chart (above) featuring the Saturated Pastes results. The bicarbonate levels in the soil are very acceptable to low. The water treatment is making a difference.
- I expected to see the soils results be very lean of nutrition due to a rainy Winter. You had recently applied products prior to my sampling, and all of that, kept levels sufficient except for Magnesium. It is needed on the greens.
- There is a case to be made for a wall-to-wall application of a magnesium-based product. Although the magnesium levels are acceptable, the soils could be more balanced. We can discuss this when we go over the report.