



Client: Tucson Country Club

Fall 2024 Report

	<u>9/7/22</u>	<u>9/26/23</u>	<u>10/15/24</u>
Humidity/Air Temperature	15%/102°	10%/100°	13%/93°
Greens Temperature	(avg)84.1°	n/r	(avg)75°
Fairway Temperature	(avg)81.5°	(avg)79.5°	(avg)75°

	<u>Acceptable Range For Water Sample</u>	<u>Hole #7 9/7/22</u>	<u>Hole #2 9/26/23</u>	<u>Hole #11 10/15/24</u>
EC	<2.25 mmhos/cm	0.28	0.60	0.87
Sodium		30.49	81.25	107.85
Calcium	20 - 60 ppm	22.76	41.90	66.15
Magnesium	10 - 25 ppm	2.31	6.16	12.90
Potassium	5 - 20 ppm	2.19	4.48	6.44
Sulfur	30 - 90 ppm	22.61	74.05	122.20
Bicarbonate	<120 ppm	109.89	191.54	241.60
Boron	<0.67 ppm	0.06	0.13	0.17
Chloride	<177 ppm	16.85	54.98	89.36



SOIL AND WATER CONSULTING

<i>TEE</i>	<u>Acceptable Range For Tissue Sample</u>	<u>11 10/15/24</u>
Nitrogen	3.34%-5.10%	4.99
Phosphorus	0.35% - 0.55%	0.59
Potassium	2.0% - 3.42%	3.31
Calcium	0.25%-0.5%	1.67
Magnesium	0.16%-0.32%	0.38
Sodium	229-1107 ppm	6,036.10

<i>FAIRWAY</i>	<u>Acceptable Range For Tissue Sample</u>	<u>11 10/15/24</u>
Nitrogen	3.34%-5.10%	5.14
Phosphorus	0.35% - 0.55%	0.84
Potassium	2.0% - 3.42%	3.56
Calcium	0.25%-0.5%	1.56
Magnesium	0.16%-0.32%	0.37
Sodium	229-1107 ppm	5,220.00

<i>GREENS</i>	<u>Acceptable Range For Tissue Sample</u>	<u>2,11(avg) 10/15/24</u>
Nitrogen	3.0%-6.5%	3.70
Phosphorus	0.2%-0.55%	0.62
Potassium	0.86%-2.55%	2.59
Calcium	0.21%-0.50%	0.72
Magnesium	0.09%-0.22%	0.19
Sodium	506- 2264 ppm	2,254.60

TEES	Acceptable Range For Alkaline Soils Sample	2,11(avg) 9/25/21	2 10/15/24
Organic Matter (Humus)	2 - 3%	2.58	3.48
Sulfur	12 - 16 ppm	32.00	19.00
Olsen - Phosphorus	13 - 20 ppm	10.50	11.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,672.00	5,214.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.15%/239	7.22%/278
Potassium - TEC of 0 - 35	100 ppm	206.00	248.00
Manganese	50-80 ppm	67.00	53.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	2,11(avg) 9/25/21	2,11(avg) 10/15/24
Organic Matter (Humus)	2 - 3%	3.29	3.50
Sulfur	12 - 16 ppm	31.50	31.00
Olsen - Phosphorus	13 - 20 ppm	15.50	18.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,152.00	3,852.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.83%/248	9.03%/286
Potassium - TEC of 0 - 35	100 ppm	316.00	373.50
Manganese	50-80 ppm	57.50	53.50

GREENS	Acceptable Range For Alkaline Soils Sample	2,11(avg) 9/25/21	2,11(avg) 10/15/24
Organic Matter (Humus)	2 - 3%	0.98	0.62
Sulfur	12 - 16 ppm	58.50	3.50
Olsen - Phosphorus	13 - 20 ppm	14.00	3.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,810.00	1,391.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.92%/176	13.75%/158
Potassium - TEC of 0 - 35	150 ppm	289.50	101.00
Manganese	50-80 ppm	91.00	15.00

TEE	Acceptable Range For Saturated Paste Sample	2 9/25/21	2 10/15/24
Nitrate - Ryegrass	5-10 ppm	1.20	2.30
Phosphorus	2 - 10 ppm	0.89	5.65
Potassium	40 - 100 ppm	12.46	14.11
Calcium	60 - 200 ppm	40.24	19.12
Magnesium	20 - 70 ppm	6.35	7.45
Sodium	0 - 30 ppm	69.66	19.88
Soluble Salts	<1,920 ppm	324.00	160.00
Bicarbonate	<60 ppm	169.18	68.92
Chloride	<1,000 ppm	30.00	12.00
SAR	<4%	2.69	0.98

FAIRWAY	Acceptable Range For Saturated Paste Sample	2 9/25/21	2 10/15/24
Nitrate - Ryegrass	5-10 ppm	15.60	9.90
Phosphorus	2 - 10 ppm	1.54	7.99
Potassium	40 - 100 ppm	35.65	23.27
Calcium	60 - 200 ppm	58.63	31.40
Magnesium	20 - 70 ppm	8.59	8.51
Sodium	0 - 30 ppm	85.50	25.27
Soluble Salts	<1,920 ppm	443.00	236.00
Bicarbonate	<60 ppm	232.43	57.01
Chloride	<1,000 ppm	26.00	16.00
SAR	<4%	2.76	1.03

GREENS	Acceptable Range For Saturated Paste Sample	2,11(avg) 9/25/21	2,11(avg) 10/15/24
Dominant Plus Bentgrass	1-3 ppm	<1.6	2.65
Phosphorus	2 - 7 ppm	1.61	1.99
Potassium	25-40 ppm	39.71	13.42
Calcium	50- 75 ppm	72.67	17.10
Magnesium	15-30 ppm	12.48	5.33
Sodium	0 - 30 ppm	96.07	21.17
Soluble Salts	<1,000 ppm	563.50	185.50
Bicarbonate	<60 ppm	146.35	96.25
Chloride	<200 ppm	40.00	9.00
SAR	<4%	2.78	1.16

Nutrient Deficiencies

		P	Mg	Mn
TEE	2	11	278	53
TEE	11	4	224	22
FAIRWAY	2	22	276	50
FAIRWAY	11	15	296	57
GREEN	2	3	150	15
GREEN	11	3	166	15

Phosphorus can be added in the form of 11-55-00 at a rate of 3 pounds of product per 1,000 sq ft two times before the end of 2024

Magnesium can be added in the form of 0-0-22 at a rate of 4 pounds of product per 1,000 sq ft one time before the end of 2024

Manganese can be added in the form of Manganese Oxide or Sulfate at a rate of 3 pounds of product per 1,000 sq ft monthly until we check levels in Spring

Comments

- For **TEE 11** sample, I sampled one of the new extensions that was sand-based. I left that data out of the averages but wanted to show you the differences. Phosphorus and Organic Matter are the two main changes from native soil tees.
- I showed the old greens from 2021 compared to the new greens just as a reference point. You lost some Phosphorus, Magnesium and Manganese in the renovation.
- The bermudagrass was in excellent condition after a hot and humid summer. The lack of weeds was the best I have seen there.

