

<u>9/26/23</u>	
Humidity/Air Temperature	22%/100°
Greens Temperature	(avg)63.1°
Fairway Temperature	(avg)66.8°

	<u>Acceptable Range For Water Sample</u>	<u>Coyote Hole #3 9/26/23</u>
pH	6.0-6.5	8.72
EC	<2.25 mmhos/cm	0.58
Nitrate		<0.10
Sodium		115.80
Calcium	20 - 60 ppm	16.22
Magnesium	10 - 25 ppm	<0.20
Potassium	5 - 20 ppm	2.84
Sulfur	30 - 90 ppm	180.32
Bicarbonate	<120 ppm	49.81
Boron	<0.67 ppm	0.27
Chloride	<177 ppm	6.13

<u>COYOTE TEE</u>	<u>Acceptable Range For Tissue Sample</u>	<u>3 9/26/23</u>
Nitrogen	2.49%-4.56%	2.39
Phosphorus	0.26%-0.38%	0.30
Potassium	0.95% - 1.97%	1.00
Calcium	0.50%-0.90%	0.56
Magnesium	0.13%-0.16%	0.10
Sodium	622-1709 ppm	2,239.00

<u>COYOTE FAIRWAY</u>	<u>Acceptable Range For Tissue Sample</u>	<u>3 9/26/23</u>
Nitrogen	2.49%-4.56%	3.93
Phosphorus	0.26%-0.38%	0.37
Potassium	0.95% - 1.97%	1.48
Calcium	0.50%-0.90%	0.49
Magnesium	0.13%-0.16%	0.10
Sodium	622-1709 ppm	2,014.30

<u>COYOTE GREEN</u>	<u>Acceptable Range For Tissue Sample</u>	<u>3 9/26/23</u>
Nitrogen	3.0%-6.5%	4.11
Phosphorus	0.2%-0.55%	0.48
Potassium	0.86%-2.55%	1.39
Calcium	0.21%-0.50%	0.43
Magnesium	0.09%-0.22%	0.10
Sodium	506- 2264 ppm	4,009.70

COYOTE/QUAIL TEES	Acceptable Range For Alkaline Soils Sample	3(avg) 9/26/23
Organic Matter (Humus)	2 - 3%	0.77
Sulfur	12 - 16 ppm	55.50
Olsen - Phosphorus	13 - 20 ppm	<1
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,129.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.77%/187
Potassium - TEC of 0 - 35	100 ppm	139.50
Manganese	>50 ppm	51.50

ALL FAIRWAYS	Acceptable Range For Alkaline Soils Sample	3(avg) 9/26/23
Organic Matter (Humus)	2 - 3%	3.79
Sulfur	12 - 16 ppm	324.67
Olsen - Phosphorus	13 - 20 ppm	10.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,074.00
Magnesium	>7% base saturation or at least 200 lbs/acre	6.38%/268.67
Potassium - TEC of 0 - 35	100 ppm	332.00
Manganese	>50 ppm	73.00

ALL GREENS	Acceptable Range For Alkaline Soils Sample	3(avg) 9/26/23
Organic Matter (Humus)	2 - 3%	0.59
Sulfur	12 - 16 ppm	17.67
Olsen - Phosphorus	13 - 20 ppm	<1.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,880.67
Magnesium	>7% base saturation or at least 200 lbs/acre	7.89%/116
Potassium - TEC of 0 - 35	150 ppm	123.33
Manganese	>50 ppm	17.33

COYOTE TEE	Acceptable Range For Saturated Paste Sample	3 9/26/23
Nitrate - TifTuf bermudagrass	10-15 ppm	<0.5
Phosphorus	2 - 10 ppm	0.38
Potassium	40 - 100 ppm	9.62
Calcium	60 - 200 ppm	27.78
Magnesium	20 - 70 ppm	4.11
Sodium	0 - 30 ppm	120.77
Soluble Salts	<1,920 ppm	427.00
Bicarbonate	<60 ppm	169.63
Chloride	<1,000 ppm	14.00
SAR	<4%	5.65

COYOTE FAIRWAY	Acceptable Range For Saturated Paste Sample	3 9/26/23
Nitrate - TifTuf bermudagrass	10-15 ppm	<0.5
Phosphorus	2 - 10 ppm	0.43
Potassium	40 - 100 ppm	20.88
Calcium	60 - 200 ppm	47.62
Magnesium	20 - 70 ppm	7.29
Sodium	0 - 30 ppm	239.26
Soluble Salts	<1,920 ppm	769.00
Bicarbonate	<60 ppm	234.17
Chloride	<1,000 ppm	41.00
SAR	<4%	8.53

COYOTE GREEN	Acceptable Range For Saturated Paste Sample	3 9/26/23
Nitrate -Mini verde bermudagrass	1-3 ppm	3.10
Phosphorus	2-7 ppm	0.64
Potassium	25-40 ppm	6.18
Calcium	50- 75 ppm	12.98
Magnesium	15-30 ppm	1.68
Sodium	0 - 30 ppm	45.10
Soluble Salts	<1,000 ppm	200.00
Bicarbonate	<60 ppm	78.26
Chloride	<200 ppm	5.00
SAR	<4%	3.13

Nutrient Deficiencies

		P	Mg	Mn
COYOTE	TEE	< 1	162	37
QUAIL	TEE	< 1	212	66
ROADRUNNER	TEE	7	158	28
COYOTE	FAIRWAY	16	270	69
QUAIL	FAIRWAY	11	234	42
ROADRUNNER	FAIRWAY	4	302	108
COYOTE	GREEN	< 1	116	14
QUAIL	GREEN	2	122	14
ROADRUNNER	GREEN	< 1	110	24

Phosphorus can be added in the form of 11-55-00 at a rate of 3 pounds of product per 1,000 sq ft multiple times in the next 12 months.

Magnesium can be added in the form of Pro-Mag 36 at a rate of 3 pounds of product per 1,000 sq ft one time before Winter.

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 in October and November.

Comments and Next Level Cultural Practices

- The irrigation water does seem to build up sulfur and sodium in certain areas that don't drain as well such as fairways
- The no-til conversion on Roadrunner Course makes those greens' Organic Material levels significantly different than Coyote and Quail Courses
- Manganese is much less important for bermudagrass compared to bentgrass, but raising the level on the greens would be beneficial
- Phosphorus is immeasurable in man areas we sampled. It is a great time to build up levels in the soil now through Winter

