

FALL 2017

Data Collection Report
Soil & Water Consulting



Jumping Brook Country Club



SOIL and WATER CONSULTING

Course Name: Jumping Brook Country Club

Date of Visit: October 20, 2017

	<u>9/23/15</u>	<u>10/11/16</u>	<u>10/20/17</u>
Humidity/Air Temperature	60%/75°	55%/65°	45%/72°
Greens Temperature	(avg) 62.3°	(avg) 60°	(avg) 58°

WATER	Acceptable Range For Water Sample	Sprinkler head <u>4/23/16</u>	Pond #11 <u>10/11/16</u>	Green #6 <u>4/25/17</u>	Pond #11 <u>10/20/17</u>
EC	<2.25 mmhos/cm	0.28	0.16	0.16	0.29
Sodium		29.05	19.04	17.21	33.57
Calcium	20 - 60 ppm	15.21	8.93	8.27	16.92
Magnesium	10 - 25 ppm	3.17	2.00	1.87	2.92
Potassium	5 - 20 ppm	3.85	3.54	2.55	3.32
Sulfur	30 - 90 ppm	33.30	17.87	14.22	17.06
Bicarbonate	<120 ppm	21.60	30.24	44.29	32.21
Boron	<0.67 ppm	<0.50	<0.05	<0.05	<0.05
Chloride	<177 ppm	38.30	19.06	18.72	54.81



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GREENS	Acceptable Range For Standard Soil Sample	1,2,8,12,17 (avg) 9/23/15	4,7,9,11,15(avg) 10/11/16	PG,1,8,12,18(avg) 10/20/17
Organic Matter (Humus)	2 - 3%	4.19	3.65	4.59
Sulfur	50 - 100 ppm	41.80	85.20	20.40
Mehlich III - Phosphorus	350 lbs/acre	1,247.60	1,218.60	1,407.00
Calcium	68%	71.36	73.88	76.51
Magnesium	15%	10.98	12.02	10.82
Potassium	5%	4.16	4.18	3.96
Sodium	<2%	1.42	1.69	1.43
Boron	1 - 1.5 ppm	0.70	0.59	0.62
Iron	120 ppm	362.20	361.00	388.00
Manganese	50 ppm	10.40	9.60	9.20

GREENS	Acceptable Range For Saturated Paste Sample	1,2,8,12,17 (avg) 9/23/15	4,7,9,11,15 (avg) 10/11/16	PG,1,8,12,18(avg) 10/20/17
Nitrate - Bentgrass/Poa	1-3 ppm	12.74	1.24	1.70
Phosphorus	2 - 7 ppm	1.76	2.59	1.93
Potassium	25-40 ppm	47.21	21.33	24.06
Calcium	50- 75 ppm	55.98	13.60	20.29
Magnesium	15-30 ppm	11.26	3.32	4.66
Sodium	0 - 30 ppm	17.36	8.37	13.96
Soluble Salts	<1,000 ppm	391.60	123.00	162.00
Bicarbonate	<60 ppm	23.43	43.44	44.91
Chloride	<200 ppm	27.40	14.00	19.40
SAR	<4%	0.56	0.53	0.73

GREENS	Acceptable Range For Tissue Sample	1,2,8,12,17(avg) 9/23/15	4,7,9,11,15 (avg) 10/11/16	PG,1,8,12,18(avg) 10/20/17
Nitrogen	3.0%-6.5%	5.69	5.75	4.10
Phosphorus	0.2%-0.55%	0.74	0.70	0.67
Potassium	0.86%-2.55%	3.07	2.86	3.28
Calcium	0.21%-0.50%	0.48	0.33	0.54
Magnesium	0.09%-0.22%	0.14	0.17	0.21
Sulfur	0.23%-0.39%	0.49	0.49	0.56
Boron	5-24 ppm	7.26	4.12	7.20
Iron	99-500 ppm	219.40	144.20	187.40
Manganese	30-160 ppm	81.00	79.72	102.96
Copper	9-40 ppm	19.74	17.54	27.56
Zinc	5-60 ppm	65.42	64.80	83.84
Aluminum	63- 408 ppm	303.40	54.94	120.56
Sodium	506- 2264 ppm	390.20	436.20	411.60



RECOMMENDATIONS



Thoughts on the course visit

The greens have been very consistent all year in color, speed and overall health. The data that we have collected in 2017 has been very uniform as well. With this Fall sample collection, we have now sampled every green on the property and some have been sampled twice since we began the program in 2015. From here forward, we will be able to fine tune your programs even more so that we will begin to have year over year data on every green.

Manganese is the only area of deficiency. It is at a good level in the tissue but not the soils. That can be an acceptable situation when the weather is friendly like it was this year. However, when there are other stresses on the plants and the weather isn't good for growing grass, low levels of manganese can become a problem. Now is a perfect time to apply manganese sulfate and not have to worry about burning the grass. You may have time for 1-2 applications before the ground freezes.

These greens seem to have a naturally fertile soil. The spray program that you implemented this year has been enhancing that. You have kept the Nitrate-Nitrogen levels consistently lower since the Fall of 2015 and that also helps with disease control. Overall, it was an excellent 2017 for the greens, I thought.



Notes from the visit

- Pond on #11 recently dredged. The water sample is consistent with historical data. The soil needs some dolomitic lime and a pre-plant fertilizer for P if seeding is done.
- Very consistent data on the soils in 2017 and greens had no issues all year.
- Manganese levels are very low- Manganese is an excellent disease control.

Fertilizer and Product Recommendations

Greens (two applications before soil freeze)

Manganese- 2 pounds of product per 1,000 square feet (Manganese Sulfate-"Tech-Magnum")