

FALL 2016

Data Collection Report
Soil & Water Consulting



Jumping Brook Country Club



SOIL and WATER CONSULTING

Course Name: Jumping Brook Country Club

Date of Visit: October 11, 2016

	<u>9/23/15</u>	<u>4/23/16</u>	<u>10/11/16</u>
Humidity/Air Temperature	60%/75°	100%/65°	55%/65°
Greens Temperature	(avg) 62.3°	(avg) 58.9°	(avg) 60°

WATER	Acceptable Range For Water Sample	Pond <u>9/23/15</u>	Sprinkler head <u>4/23/16</u>	Pond #11 <u>10/11/16</u>
EC	<2.25 mmhos/cm	0.23	0.28	0.16
Sodium		10.23	29.05	19.04
Calcium	20 - 60 ppm	29.99	15.21	8.93
Magnesium	10 - 25 ppm	2.45	3.17	2.00
Potassium	5 - 20 ppm	3.17	3.85	3.54
Phosphorus	0.1 - 0.4 ppm	<0.20	n/t	n/t
Nitrate	5 - 50 ppm	0.29	n/t	n/t
Sulfur	30 - 90 ppm	10.55	33.30	17.87
Bicarbonate	<120 ppm	97.45	21.60	30.24
Boron	<0.67 ppm	<0.05	<0.50	<0.05
Chloride	<177 ppm	11.57	38.30	19.06



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GREENS	Acceptable Range For Standard Soil Sample	1,2,8,12,17 (avg) 9/23/15	3,6,10,13,18 (avg) 4/23/16	4,7,9,11,15(avg) 10/11/16
Organic Matter (Humus)	2 - 3%	4.19	4.49	3.65
Sulfur	50 - 100 ppm	41.80	26.80	85.20
Mehlich III - Phosphorus	350 lbs/acre	1,247.60	1,430.80	1,218.60
Calcium	68%	71.36	71.26	73.88
Magnesium	15%	10.98	9.84	12.02
Potassium	5%	4.16	3.69	4.18
Sodium	<2%	1.42	1.86	1.69
Boron	1 - 1.5 ppm	0.70	0.59	0.59
Iron	120 ppm	362.20	374.00	361.00
Manganese	50 ppm	10.40	8.00	9.60

GREENS	Acceptable Range For Saturated Paste Sample	1,2,8,12,17 (avg) 9/23/15	3,6,10,13,18 (avg) 4/23/16	4,7,9,11,15 (avg) 10/11/16
Nitrate - Bentgrass/Poa	1-3 ppm	12.74	<0.5	1.24
Phosphorus	2 - 7 ppm	1.76	2.86	2.59
Potassium	25-40 ppm	47.21	26.34	21.33
Calcium	50- 75 ppm	55.98	24.86	13.60
Magnesium	15-30 ppm	11.26	5.22	3.32
Sodium	0 - 30 ppm	17.36	8.86	8.37
Soluble Salts	<1,000 ppm	391.60	165.60	123.00
Bicarbonate	<60 ppm	23.43	34.17	43.44
Chloride	<200 ppm	27.40	6.20	14.00
SAR	<4%	0.56	0.42	0.53

GREENS	Acceptable Range For Tissue Sample	1,2,8,12,17 9/23/15	3,6,10,13,18 (avg) 4/23/16	4,7,9,11,15 (avg) 10/11/16
Nitrogen	3.0%-6.5%	5.69	4.21	5.75
Phosphorus	0.2%-0.55%	0.74	0.69	0.70
Potassium	0.86%-2.55%	3.07	2.98	2.86
Calcium	0.21%-0.50%	0.48	0.59	0.33
Magnesium	0.09%-0.22%	0.14	0.21	0.17
Sulfur	0.23%-0.39%	0.49	0.52	0.49
Boron	5-24 ppm	7.26	11.10	4.12
Iron	99-500 ppm	219.40	472.80	144.20
Manganese	30-160 ppm	81.00	260.20	79.72
Copper	9-40 ppm	19.74	16.62	17.54
Zinc	5-60 ppm	65.42	64.92	64.80
Aluminum	63- 408 ppm	303.40	220.20	54.94
Sodium	506- 2264 ppm	390.20	203.40	436.20



RECOMMENDATIONS



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Thoughts on the course visit

I had several chances to get out on the course since Spring when I sampled and I thought the greens did well all year. It was a difficult year in comparison to the previous two. There was much more humidity and higher temperatures for more sustained periods. Also, there were very dry periods followed by very wet periods this year which seemed to cause troubles in the area. I am convinced that relying on fungicide applications with no real "health regiment" on greens turf is a difficult way to live. The weather, at times, can override a chemical program and disease break-through is possible. You seem to have a good balance and disease was not an issue this year. Also, your willingness to raise the height of cut to protect the grass when it is under stress does help you get through rough climate conditions.

I noticed an increased pH from the Fall of 2015. The data is very consistent-which I think is most important, but I would like to see a consentient acidification program throughout the growing season. As we have discussed there are many products to use and when it is raining these products aren't necessary. However, I am factoring in that your top-dressing sand is probably at least a 7 pH and as you have done a lot of sand over the past 5 years or so, that will effect the root-zone. Your water is a great source of irrigation and the rain is about 5.5 pH so the main reasons the pH would increase in the top 6" would be things you are adding to the soil. Just something to think about.....



Notes from the visit

- All Amendments had been applied in Spring.
- Renovate Plus , 5-4-5 Earthworks and Contect DG 18-3-18 (0.5# rate of N) applied at September aerification.
- Switching to an all Floratine Spray program in 2017.
- Increased but very consistent pH from the Fall of 2016.
- Recent week long rain and overcast really helped the rough and course overall!

Fertilizer and Product Recommendations

Greens (One application)

Calcium- 10 pounds of product per 1,000 square feet. (Gypsum)

Magnesium- 3 pounds of product per 1,000 square feet. (Pro-Mag)

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