

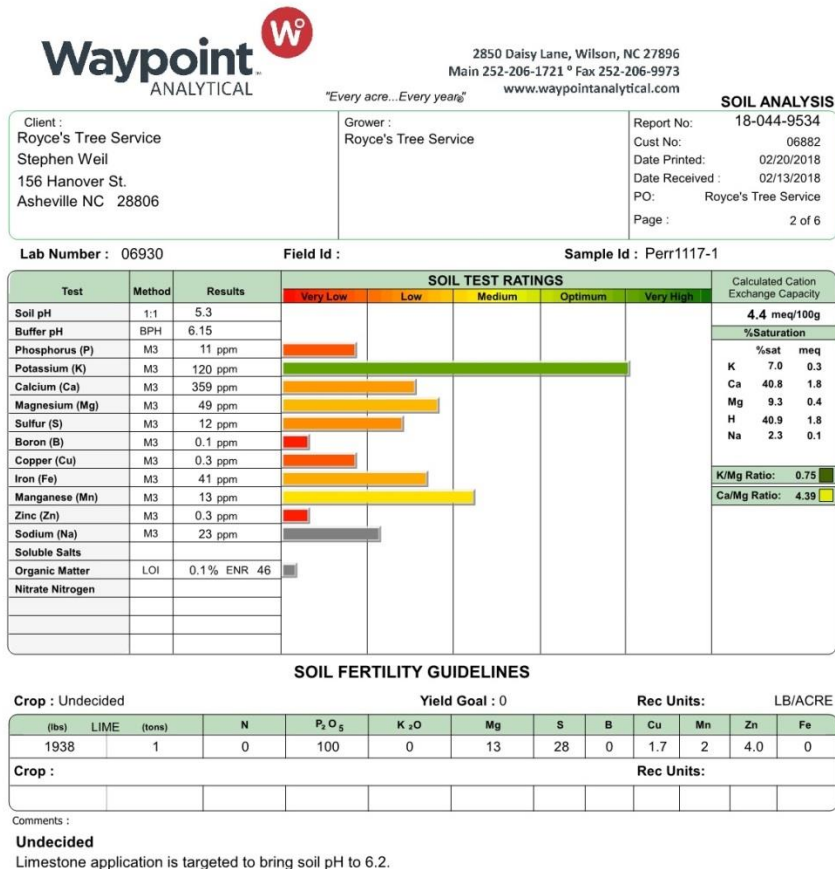
Fertilization

A **prescription** soil treatment based on the results of the [soil analysis](#) and specific [needs](#) of the target specimen(s).

Any time someone, who has not analyzed your soil, tells you that you need a certain fertilizer, you can be certain they are **wrong**. Why? Because they don't know the **unique** nutrient profile of your soil. As the medical saying goes, prescription without diagnosis (a soil analysis in this case) is malpractice.

Trees require sixteen (16) essential elements to grow and thrive. An element is considered essential, if the tree cannot complete its life cycle without it and if the element is directly involved in the tree's metabolism. [Deficiencies](#) are common in the highly altered soils of urban landscapes.

[ISA Certified Arborists](#)® practice **prescription fertilization**, which means they **only** apply nutrients found to be deficient. This is important because adding excess and/or an improper balance of nutrients encourages and/or exacerbates many disease states.



Rx Fertilization Client Worksheet

Client Name	Example
Area to Fertilize (ft2)	1000
Species	Oak

Circle (r')	Square (s')
17.8	31.6

pH Adjustment	Lime	Sulfur
Desired pH	6.00	6.00
Current pH	5.30	5.30
Buffer pH	6.15	6.15
Exchangeable Acidity (Ac)	1.80	1.80
Lime ENV or %S	84	90
Lime or Sulfur Weight Required (lbs/1000 ft2)	32.3	-34.3
Lime %Ca or %S	33	90
Ca or S Increase (ppm)	232	-672
Lime %Mg	4	N/A
Mg Increase (ppm)	28	N/A
Area to Fertilize (ft2)	1000	1000
Lime or Sulfur Weight Required (lbs)	32.3	-34.3

Nutrient Adjustment - Macro	N	P	K	Ca	Mg	S
Current (ppm)	N/A	11	120	359	49	12
Optimal Range (ppm)	N/A	40-60	100-200	800-1200	100-200	20-40
Deficient, Y or N?	N/A	Y	N	Y	Y	Y
Desired (ppm)	N/A	50	150	1000	150	30
Weight Required (lbs/1000 ft2)	3.0	1.8	1.4	29.4	4.6	0.83
Product % Element	38	20	42	21	10	90
Area to Fertilize (ft2)	1000	1000	1000	1000	1000	1000
Product Weight Required (lbs)	7.9	9.0	3.3	140.1	46.4	0.92

Nutrient Adjustment - Micro	TM (optional)	B	Cu	Mn	Zn
Current (ppm)	N/A	0.1	0.3	13	0.3
Optimal Range (ppm)	N/A	1-3	3-5	20-40	6-10
Deficient, Y or N?	N/A	Y	Y	Y	Y
Desired (ppm)	N/A	2	4	30	8
Weight Required (lbs/1000 ft2)	10.0	0.09	0.17	0.78	0.35
Product % Element	100	15	25	32	36
Area to Fertilize (ft2)	1000	1000	1000	1000	1000
Product Weight Required (lbs)	10.0	0.58	0.68	2.44	0.98
Product Weight Required (oz)	N/A	9.3	10.9	39.0	15.7

Max Broadcast Rates (lbs/1000 ft2)	Turf	Bare / Mulch
Calcitic Lime	50	100
Dolomitic Lime	50	100
S (elemental)	5	25
Magnesium Sulfate (Epsom Salt)	25	same
Calcium Sulfate (Gypsum)	100	same
B (elemental)	0.09	same
Cu (elemental)	0.18	same
Mn (elemental)	1.38	same
Zn (elemental)	0.37	same

lbs	oz
0.1	2
0.2	3
0.3	5
0.4	6
0.5	8
0.6	10
0.7	11
0.8	13
0.9	14