



The Importance of Soil Testing

I would like to start this month by recognizing Nan Blue as the author of the great article on lilies last month. Thank you Nan!

Now to our subject for this month: soil testing.

Around this time last year, I sent several soil samples from my garden to the Agricultural Extension at UMass Amherst for soil and nutrient testing. When the results came back a week or so later, it explained why some of my plants were not flourishing. The primary problem was not pH, which can be tested at home, but the levels of macronutrients in the soil.

I discovered that the organic compost I bought and used liberally to mulch flower beds and fill my raised vegetable beds contained excessive amounts of phosphorus, and the levels of potassium, calcium and magnesium were high. You can see this in the attached "VEG" soil report along with advice on what to do to improve the soil. As a result, I planted winter rye, removed it in the spring, and mixed the "compost" in with the underlying soil. I still have a way to go but my vegetables were better this year.

On the other hand, the lawn, which I had not fertilized, was low on calcium and the report provided recommendations on how much lime, phosphorus, nitrogen and potassium to apply. Take a look at the "LAWN" soil report below.

I came to the conclusion, before applying any fertilizer or compost, it is really important to know what the soil is lacking otherwise one is entirely in the dark with unpredictable results. The soil additives you use may be doing more harm than good if the nutrient balance is not right.

Here is the URL to get you started:

<http://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory/ordering-information-forms>

Good luck!

Mary Moorby



Soil and Plant Nutrient Testing Laboratory
 203 Paige Laboratory
 161 Holdsworth Way
 University of Massachusetts
 Amherst, MA 01003
 Phone: (413) 545-2311
 e-mail: soiltest@umass.edu
 website: soiltest.umass.edu

Soil Test Report

Prepared For:



Rockport, MA 01966

maryoliverson@gmail.com
 914-441-5194

Sample Information:

Sample ID: Lawn

Order Number: 33386
 Lab Number: S171004-132
 Area Sampled: 2000 sq ft
 Received: 10/4/2017
 Reported: 10/11/2017

Results

<i>Analysis</i>	<i>Value Found</i>	<i>Optimum Range</i>	<i>Analysis</i>	<i>Value Found</i>	<i>Optimum Range</i>
Soil pH (1:1, H2O)	6.1		Cation Exch. Capacity, meq/100g	8.8	
Modified Morgan extractable, ppm			Exch. Acidity, meq/100g	4.7	
<i>Macronutrients</i>			Base Saturation, %		
Phosphorus (P)	4.5	4-14	Calcium Base Saturation	37	50-80
Potassium (K)	100	100-160	Magnesium Base Saturation	7	10-30
Calcium (Ca)	656	1000-1500	Potassium Base Saturation	3	2.0-7.0
Magnesium (Mg)	76	50-120	Scoop Density, g/cc	1.14	
Sulfur (S)	11.9	>10			
<i>Micronutrients *</i>					
Boron (B)	0.0	0.1-0.5			
Manganese (Mn)	3.9	1.1-6.3			
Zinc (Zn)	1.9	1.0-7.6			
Copper (Cu)	0.2	0.3-0.6			
Iron (Fe)	7.9	2.7-9.4			
Aluminum (Al)	70	<75			
Lead (Pb)	3.8	<22			

* Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				



Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Recommendations for Established Lawn

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
75	2 - 4	0.5	2

Comments:

- For instructions on converting nutrient recommendations to fertilizer applications in home gardens, lawns and landscapes, see Reference "Step-by-Step Fertilizer Guide for Home Grounds and Gardening" (listed below).
- Do not topdress with more than 50 lb limestone per 1000 sq ft at one time. Split the above application between early spring and mid-autumn.
- Many fertilizer sources and rates may be combined to provide acceptable turfgrass fertility.
- For best results, split the N, P2O5, and K2O recommendations above into three to four applications over the course of the growing season at six to eight week intervals, beginning in mid- to late-April.

References:

Home Lawn and Garden Information <http://ag.umass.edu/resources/home-lawn-garden>

Step-by-Step Fertilizer Guide for Home Grounds and Gardening <https://soiltest.umass.edu/fact-sheets/step-step-fertilizer-guide-home-grounds-and-gardening>

General References:

Interpreting Your Soil Test Results <http://soiltest.umass.edu/fact-sheets/interpreting-your-soil-test-results>

For current information and order forms, please visit <http://soiltest.umass.edu/>

UMass Extension Nutrient Management <http://ag.umass.edu/agriculture-resources/nutrient-management>