



Dear Soil Analysis Client,

Thank you for trusting OSU Extension with your soil analysis. Enclosed are your soil test results and an informational sheet with interpretation details. It is recommended that you keep these results for future reference and comparison.

Your soil results sheet summarizes the test results at the top and provides “Recommendations” in the chart at the bottom for improving your soil, based on the information you provided on the land use (e.g., garden, established lawn, trees, etc.). Please note the units of application (i.e., broadcast lbs/1000 sqft) as you prepare to make adjustments.

The most important pieces of information are the pH and nutrient levels. For pH levels, a High or Very High test result (alkaline soil), as indicated on the graph, will correspond to a recommendation in the chart at the bottom to apply sulfur (S), and a Low or Medium test result (acidic) will correspond to a recommendation to apply lime (CaCO<sub>3</sub>). In addition, if your soil has a Low or Medium test result for a nutrient, then there will be a recommendation for application of the nutrient in the chart. The bar for phosphorous (P) on the graph corresponds to the recommendation of P<sub>2</sub>O<sub>5</sub> in the chart below it, and the bar for potassium (K) corresponds to the recommendation of K<sub>2</sub>O in the chart. Although nitrogen is not analyzed in your sample, there will be a recommendation to add nitrogen (N) in the chart, based on your indicated land use. A High or Very High test result for a nutrient on the graph might indicate you should beware of applying excessive amounts of the specified nutrient to your soil.

Below the “Recommendations” chart, please take notice if there are any special comments, such as limitations on application rates and locations to prevent injury to your plants or lawn. Applications of sulfur or lime to adjust pH should be made in late fall or early spring to avoid application during the growing season, and they should be worked into the soil, if possible.

Please let us know if you have any questions as you review your results and recommendations. We can be reached at the phone number above or email below.

Sincerely,

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Enclosures

1. Soil test results
2. Soil test analysis information

# How to Read Your Soil Test Report



## Horticultural soil test results for non-agricultural use

### General Report Information

#### EACH REPORT CONTAINS 3 SECTIONS.

The top section contains identification information related to the sample and the requester.

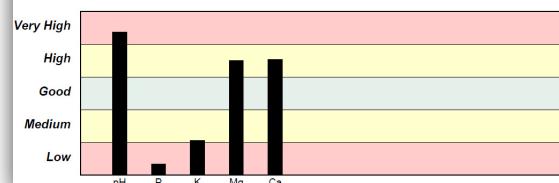
The large central section contains the analytical results, both in chart and graph formats.

The bottom section includes recommendations for fertilizer and other materials, based on the intended plantings.

### CENTRAL SECTION: SAMPLE ANALYSIS

The chart portion provides quantitative analysis of the sample, while the graph portion provides qualitative analysis of how the sample compares to the desired quality of soil.

Analysis	Result	Optimal	Analysis	Result	Optimal
Soil pH	7.9	6.0-6.8			
Buffer pH					
Organic Matter	1.2				
CEC	19.2				
K Saturation	1.2	2.0-4.0			
Mg Saturation	21.1	10-20			
Ca Saturation	77.7	50-70			
K/Mg Ratio	0.2				
Ca/Mg Ratio	7.2				
Phosphorus	m3-ppm 7	40-70			
Potassium	m3-ppm 102	190-300			
Magnesium	m3-ppm 525	260-430			
Calcium	m3-ppm 3776	2400-3400			



Section containing test results; top chart gives analytical results and desired range for each measurement; bottom graph indicates qualitative status.

- pH: indicates acidity or alkalinity of soil with 7.0 being neutral
- Organic matter: holds water, resists compaction, and improves clay and sand
- CEC (Cation Exchange Capacity): indicates soil's ability to hold and supply cations to plants
- Saturation: percentage of the CEC that is occupied by the element
- Phosphorous (P): essential nutrient required by plants
- Potassium (K): essential cation element required by plants
- Magnesium (Mg): essential cation element required by plants
- Calcium (Ca): essential cation element required by plants

### BOTTOM SECTION: RECOMMENDATIONS

The chart portion provides recommendations for fertilizer and nutrient applications to support the indicated plant types, given broadcast applications. The comments under the chart provide special instructions or clarifications to the recommendations, based on the specific plant types for which the sample was submitted.

Recommendations		Nutrients expressed in broadcast lbs/1000 sqft, except Fe (foliar) and Mn (row)										
Yr	Crop	CaCO3	N	P2O5	K2O	Mg	S	B	Cu	Fe	Mn	Zn
25	Established Lawn, Cool Season	0	4.0	4.0	3.5	0.0	16.6					

Line expressed in 100% pure CaCO3. Adjust accordingly. D=Dolomite. C=Calcite. Sulfur: The S recommendation is the total amount needed to reach the desired soil pH. Do not exceed 5 lb S/1000 sq ft application or 10 lb S/1000 sq ft/yr on turf. Do not exceed 7 lb S/1000 sq ft/yr on sandy soils. Sample soils annually to monitor pH change. Established Lawn, Cool Season: Where controlled release N is not used, split N application into whatever number works best for your program/climate area. Monitor and adjust nutrient program with annual tissue analysis.

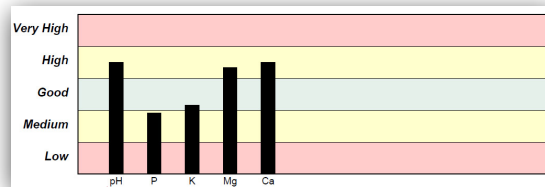
Section containing recommendations for fertilizer and other materials, with special notes underneath the chart.

- CaCO3 (lime): recommendation raises pH
- Nitrogen (N): essential nutrient required by plants
- Potash (P2O5): source of phosphorous (P) in fertilizers
- Potassium oxide (K2O): source of potassium (K) in fertilizers
- Sulfur (S): recommendations lowers pH

# How to Read Your Soil Test Report



## Example Report Evaluation



Higher pH, so sulfur (S) is recommended but no lime (CaCO<sub>3</sub>) recommended to grow vegetables

Lower phosphorous (P), so P<sub>2</sub>O<sub>5</sub> addition recommended to grow vegetables

Lower potassium (K), so K<sub>2</sub>O addition recommended to grow vegetables

Higher magnesium (Mg), so no Mg addition recommended

Recommendations		Nutrients expressed in broadcast lbs/1000 sqft, except Fe (foliar) and Mn (row)										
Yr	Crop	CaCO <sub>3</sub>	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Mg	S	B	Cu	Fe	Mn	Zn
25	Vegetable Garden	0	2.3	2.9	2.7	0.0	4.4					

*Lime expressed in 100% pure CaCO<sub>3</sub>. Adjust accordingly. D=Dolomitic. C=Calcitic.*

**Sulfur:** The S recommendation is the total amount needed to reach the desired soil pH. Do not exceed 5 lb S/1000 sq ft/application or 10 lb S/1000 sq ft/yr on turf. Do not exceed 7 lb S/1000 sq ft/yr on sandy soils. Sample soils annually to monitor pH change.

**Vegetable Garden:** Sidedress with extra 1 to 1.5 lb. N/1000 sq. ft. for high N requirement crops.

## HOW TO USE THE RECOMMENDATIONS SECTION (specific to what is grown)

- Review the numbers given for N, P<sub>2</sub>O<sub>5</sub>, and K to determine NPK ratio to seek on a fertilizer package
 

N	P	K
10	10	10

  - In this example, the numbers are very similar (2.3, 2.9, and 2.7), so the NPK numbers will be very close
    - The numbers given in an NPK ratio are the percentage of the weight that is each element
    - In a product with an NPK of 10-10-10, this indicates that 10% of the weight is nitrogen (N), 10% of the weight is phosphorous (P), and 10% of the weight is potassium (K), thus a 50-lb bag has 5 lbs of each
  - If the ratio cannot be matched at all, it may be necessary to apply 2 products to achieve the proper amounts
- Review the lbs/sqft and calculate the size of your area tested
  - This recommendation is in lbs/1000 sqft (circled at the top of the section), so if you have a 500 sqft vegetable garden, you will need half of the amount given (e.g., 1.15 lbs of N, 1.45 lbs P<sub>2</sub>O<sub>5</sub>, and 1.35 lbs of K<sub>2</sub>O)
  - In this example, an 11.5-lb bag of 10-10-10 fertilizer would satisfy without over-fertilizing
- Note limitations or additional adjustments below the table (circled on the left side of the section)
  - In this example, sulfur (S) is recommended, but should not exceed 5 lbs/1000 sqft per application
    - Typically, elemental sulfur is the recommended form; it should be applied (ideally, worked into the soil) in spring
    - If the recommendation calls for more than 5 lbs of sulfur (S), then apply 5 lbs in spring, and up to 5 lbs in fall, continuing applications until the recommended amount has been applied
  - In this example, extra nitrogen (N) is recommended as side dressing for particular plants with high N requirements