

## Why Test Soil?

- ◆ to aid in the diagnosis of plant culture problems
- ◆ to improve the soil's nutritional balance
- ◆ to save money and conserve energy by applying only the amount of fertilizer needed

The most common soil test performed is a measure of the soil pH level or acidity. Soil pH is a primary factor in plant growth. When pH is maintained at the proper level for a given plant, nutrients are at maximum availability, and toxic elements are often at reduced availability, and beneficial soil organisms are most active. Most plants prefer a soil pH between 5.5 and 7.5 and the majority do loving exceptions are blueberries, potatoes, and rhododendrons.

Soil tests do not identify plant growth problems associated with soil drainage, insects, plant diseases (whether soil-borne or not), weeds, winter injury or the misuse of pesticides.

### When to Sample

Sampling can be done at any time; but if pH adjustments are necessary, test as early as possible prior to planting. Avoid sampling soils that have very recently been fertilized. Soil Sampling Procedure

- ◆ Each sample submitted for testing should be a composite or mixture of 6-12 separate scattered samplings taken over a well-defined area.
- ◆ Soils that are distinctly different based on appearance, crop growth or past treatment should be sampled separately.
- ◆ Define a sample area based on uniformity of texture, slope, drainage, color, and past pest and fertility management.
- ◆ Avoid sampling very wet soils.
- ◆ Using a clean spade, auger, or sampling tube, obtain soil from the surface through the primary rooting zone. For most plants the top 6-8 inches is

appropriate. For established grasses sample the top 3-4 inches.

- ◆ Place each of the 6-12 randomly spaced samplings in a clean container (pail or bag) and mix thoroughly. Spread the mixture out on a clean paper to air-dry (do not place soil in an oven).
- ◆ Mix the soil again. Obtain a one cup measure of the soil mixture and place it in a zip-lock type bag.
- ◆ Label the outside of the bag clearly with your name, address, and a sample ID.

### Available Tests

#### Soil pH

Provides a simple soil pH test and an estimate of how much lime, sulfur, or other additive is needed to correct soil pH. \$5.00

#### Standard Soil Test (this is the best test for most people)

Provides pH, Buffer pH, Extractable Nutrients, Extractable Heavy Metals (eg. Lead), Cation Exchange Capacity, and Percent Base Saturation. Recommendations for nutrient and pH adjustment are included with results. \$9.00

#### Standard Soil Test w/ Organic Matter

Same as Standard Soil Test plus a determination and interpretation of the Percent Organic Matter in the soil sample. \$13.00

#### Soil Texture (only)

Provides a determination of the USDA Textural Classification by combined Hydrometer Analysis of silts and clays and Dry Sieving of sands. Results presented in tabular format. This test does not include the Standard Soil Test. \$60.00

#### Soluble Salts

This test is used to determine if there are excessive levels of nitrogen in the soil or container mix. It provides a measure of electrical conductivity of a 1:2 (soil:water) extract. \$5.00

All soil samples sent to the UMass Soil Testing Lab should be accompanied by the form at the end of this brochure.

Use the following list to designate what you plan to grow in each soil sample submitted. Limit your choices to one or two.

### Crop Codes:

- 1) Vegetable
- 2) Annual flowers
- 3) Perennial Herbs and Flowers
- 4) New Lawn (pre-construction)
- 5) Established Lawn (post-construction)
- 6) Small Fruit (specify type, ex. Strawberries)
- 7) Tree Fruit
- 8) Needleleaf Evergreens
- 9) Deciduous Shrubs, Trees, and Vines
- 10) Ericaceous Shrubs and Groundcovers
- 11) Commercial Crops (give crop, and site details)
- 12) Other reasons for testing

If more than one sample is submitted, please label each sample on the outside of bag.

For additional information, call the UMass Soil Testing Lab visit their web site

[www.umass.edu/soiltest/order.htm](http://www.umass.edu/soiltest/order.htm) or call them at (413) 545-2311 or email [bodine@pssci.umass.edu](mailto:bodine@pssci.umass.edu)

### Order Form

Please print and return this completed order form with your soil sample(s) and a check made payable to University of Massachusetts

Sample ID	Crop Codes	Test Types	Fee
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____

### Order Total

Send To:

Soil Testing Laboratory  
West Experiment Station  
University of Massachusetts  
Amherst, MA 01003-8020

### Sample Form

Name \_\_\_\_\_  
Street / PO Box \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_  
Telephone with area code \_\_\_\_\_