

## Soil Testing

Tina Savage  
Extension Educator, Ag. Resources &  
Environmental Stewardship

### What is a soil test?

Soil testing involves chemical treatment of a soil sample to determine the plant availability of nutrients. This treatment simulates what crop roots can obtain from the soil. Once a soil test is completed fertilizer recommendations can be made.

A soil test also measures soil pH. Soil pH is a measure of soil acidity. A pH of 7.0 is neutral. Most plants prefer a pH range of 6.0-7.0; there are some acid loving plants, such as Azalea and Blueberry which grow best at a lower pH. Most nutrients are readily available when soil pH is in the 6.5 range. As pH rises nutrients, such as phosphorus, iron, manganese copper and zinc become less available. New Hampshire soils are naturally acidic, and will return to an acidic state without regular lime applications.

### Why should I soil test?

Without a soil test, applications of fertilizer and lime are just a guess. The over application of fertilizer and lime is costly to the gardener and to the environment. Unnecessary lime applications may limit the availability of nutrients. Under application of fertilizer and lime will result in decreased yields and increased pest and disease susceptibility.

Soil testing is inexpensive and effective and provides you with the information you need to make appropriate soil amendments.

### When should I soil test?

Soil testing can be done in the spring or the fall for established plantings. For new sites, samples can be taken anytime the soil is workable. While most soil testing is done in the spring, fall testing should be done if a soil fertility problem is suspected and you want to avoid the spring rush. Fall is the best time to apply lime, giving the lime time to affect soil pH before spring planting. Sulfur, which lowers soil pH, and fertilizer, should be applied in the spring.

### How often do I need a soil test?

Soil testing every 2-3 years is usually adequate.

### How do I soil test?

Accurate test results require accurate sampling procedures.

1. Remove top debris or turf thatch from soil surface
2. Sample flower beds, gardens, trees and orchards at a depth of 6-8 inches
3. Lawns; lift sod and sample 3 inches deep

4. Sample row crop fields or gardens between rows to avoid fertilizer bands
5. Sample when soils are suitable for spading or plowing ( not too wet or frozen)
6. Take separate samples where different fertility treatments are needed
7. Take separate samples from different soil types ( i.e. Different colored soils and different drainage types)
8. Tools to use include: CLEAN soil probe, spade, hand or garden trowel. (Do not use brass, bronze or galvanized tools, they will contaminate the sample)

Composite samples of like areas provide reliable results.

A good composite sample for the home gardener contains at least 5 cores or slices taken at the same depth and volume. Sample at random in a zigzag pattern, place cores or slices in a clean plastic bucket, mix well and place about 1 cup of the composite in a clean plastic bag.

Where do I get a soil test done?

Soil tests are submitted to the University of New Hampshire Analytical Services Lab. Soil test forms are available at the Carroll County Cooperative Extension Office, or by visiting the UNH Cooperative Extension web site, [www.extension.unh.edu](http://www.extension.unh.edu), under Agriculture, Problem Diagnosis & Testing Services. Soil test forms provide fee information and directions for submitting samples. Prepaid soil test kits are also available at the Carroll County Extension Office. Call 539-3331 for details.

*The University of New Hampshire Cooperative Extension is an equal opportunity educator and employer. UNH, U.S. Dept. of Agriculture and New Hampshire counties cooperating. "Helping You Put Knowledge and Research to Work."*