

# Soil Testing Information

CAPE COD COOPERATIVE EXTENSION

H O R T I C U L T U R E P R O G R A M

## Why soil test?

Soil Testing is important to determine soil pH and soil fertility.

Soil pH is a measure of hydrogen ion activity in a soil suspension. Soil pH influences many aspects of plant growth, including availability of nutrients and toxic substances, activity and diversity of microbial populations, and soil chemistry.

Soil fertility is determined by nutrient analysis. Nutrient analysis determines the amount of plant nutrients available in the soil. Levels of nutrients below optimum will negatively affect plant growth, levels above optimum may be toxic to plants or hazardous to the environment.

Soil testing is important:

- To aid in diagnosing plant nutritional problems
- To save money by applying only nutrients needed
- To provide optimal fertility for plant growth

## What type of test do I need?

Cape Cod Cooperative Extension measures soil solution pH known as active pH. This type of soil testing is ideal for yearly testing to maintain proper pH in established gardens and lawns. Results include pH adjustment recommendations if necessary. Cost \$2 per sample.

The Soil and Plant Tissue Testing Lab at UMass provides a complete nutrient analysis including P, K, Ca, Mg, Fe, Mn, Zn, Cu, B, Pb, Al, pH, acidity, CEC and base saturation. Organic Matter content is also available. This type of testing should be done when creating new gardens, lawns, plantings, or periodically to adjust nutrient management. This type of testing is ideal for determining nutrient deficiencies and/or excess. Cost for a Routine Soil Analysis is \$15 per sample, Organic Matter Cost is \$6 per sample.

## Soil Sampling Instructions:

The most critical step in soil testing is collecting the sample. It is important that you take the necessary steps to obtain a representative sample; a poor sample could result in erroneous recommendations.

The first step is to determine the area that will be represented by the sample. The area is typically decided by management practice (turf, veg garden, flower garden) or soils that differ drastically. Avoid sampling very wet, recently fertilized, or limed soils. Using a clean bucket and a spade, auger, or sampling tube collect 10 to 15 subsamples to a depth of six to eight inches (four to six inches for turf) from random spots within the defined area.

Next, break up any lumps or clods of soil, remove stones and debris, and thoroughly mix subsamples in the bucket. This step is very important, because only a small portion of your sample will be used for testing. Once the sample is thoroughly mixed, scoop out approximately one cup of soil and air-dry. Submit a dry sample of approximately 1 cup to either Cape Cod Cooperative Extension or UMass, pending the type of test desired.

### **Where?**

Samples for soil pH testing can be brought to Cape Cod Cooperative Extension Office,

Cape Cod Cooperative Extension  
Deeds and Probate Building  
3195 Main Street/ PO Box 367  
Barnstable, MA 02630

Samples for Complete Nutrient Analysis should be mailed to UMass Soil and Plant Tissue Testing Laboratory. Forms are available at Cape Cod Cooperative Extension office or <http://soiltest.umass.edu/>

Soil and Plant Tissue Testing Laboratory  
203 Paige Laboratory  
161 Holdsworth Way  
University of Massachusetts  
Amherst, MA 01003

03/19/15



Cape Cod Cooperative Extension, UMass Extension & USDA Cooperating.  
Cooperative Extension offers equal opportunity in programs and employment.

[www.capecodextension.org](http://www.capecodextension.org)

**UMass  
Extension**  
CENTER FOR AGRICULTURE