

Soil Testing Information

CAPE COD COOPERATIVE EXTENSION

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 fertility testing is important:

- To aid in diagnosing plant nutritional problems
- To provide optimal fertility for plant growth
- To reduce excessive use of nutrients that contribute to poor water quality
- To save money by applying only nutrients needed

What type of test do I need?

The Soil and Plant Tissue Testing Lab at UMass measures soil pH and soil fertility with the Routine Soil Analysis, including P, K, Ca, Mg, Fe, Mn, Zn, Cu, B, Pb, Al, pH, acidity, CEC and base saturation. Organic Matter content is optional and recommended. The Routine Soil Analysis for Home Grounds and Gardening is the suggested soil test for home landscapes. The test provides recommendations for nutrients and pH adjustment and should be completed at least once every three years.

Cape Cod Cooperative Extension Horticulture Clinic offers a soil solution pH test also known as active pH. This type of testing is useful for monitoring soil pH only and does not provide nutrient information. Results include pH adjustment recommendations if necessary.

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 soils fertilized or limed in the past six to eight weeks or are very wet.

Using a clean bucket and a spade, auger, or sampling tube collect 10 to 15 subsamples to a depth of six to eight inches from random spots within the defined area. When using a spade or shovel try to take a slice of the side of the hole to collect a sample representing the entire depth instead of collecting soil from the bottom of the hole.

Break up any lumps or clods of soil, remove stones and plant 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.

More Details

UMass Soil and Plant Nutrient Testing Laboratory;

<https://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory>

UMass Soil and Plant Nutrient Testing Laboratory
Paige Laboratory, Room 203
161 Holdsworth Way
Amherst, MA 01003

Cape Cod Cooperative Extension Horticulture Clinic;

www.capecod.gov/hortclinic

Samples and forms for soil pH testing can be mailed to:

Cape Cod Cooperative Extension
Horticulture Clinic
PO Box 367
Barnstable, MA 02664

Or dropped off at:

1358 Route 28
South Yarmouth, MA 02673
Place sample and form in big black mailbox.

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

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