

S as in Soil...

Today's Topic: Which test do I need?

For someone new to soil testing, the long list of services being offered by the UMass Soil & Plant Nutrient Testing lab can be confusing. Here's a brief summary of what we offer.

- **Routine Soil Analysis** – Easily the most popular analysis offered here at the lab. This analysis measures soil pH, nutrient levels, and other chemical properties. Most often it's used to determine the limestone and fertilizer needs for a soil. It can also be used to diagnose problems, or to find out whether the lead level is elevated in the soil.
- **Total Sorbed Metals Test** – This analysis measures heavy metals in soil and other planting media. We use the US EPA 3050B method to break down soils using strong acids and heat. Measured levels of lead, nickel, copper, cadmium, chromium, and zinc represent “total” heavy metals or metals that could potentially become available over time. Arsenic, molybdenum and selenium may be added to the analysis for an additional fee. This analysis is not appropriate for food or woody material such as bark mulch.
- **Soil Texture** – Also called the Particle Size Analysis (PSA) or Sieve Test, this analysis measures the relative sizes of soil particles (i.e. sand, silt, and clay). The Comprehensive PSA is used primarily to determine a soil's suitability for a particular construction project. The Basic PSA may be used in conjunction with the Massachusetts Title 5 Septic regulations to determine the alternate percolation rate, while the Sand for Title 5 Construction Test determines the suitability of sand for new septic construction. The Comprehensive and Basic PSA may also be used to learn the USDA Classification of the soil. The Comprehensive test includes more detail than the Basic test, which lists percentages of sand, silt and clay only.
- **Pre-sidedress Soil Nitrate Test (PSNT)** – This analysis is used primarily by commercial growers. While this analysis was developed specifically for corn, the data may be adapted for other crops. Turnaround time for the PSNT is 1-2 business days, and informs the grower about immediate nitrogen needs. Soils are usually submitted for analysis around mid-June.
- **Soiless Greenhouse Media** – This analysis is used primarily by commercial greenhouse growers, and measures pH, nutrient levels, soluble salts, nitrates and ammonium of soiless media. There are no limestone or fertilizer recommendations given with the test results, however, there are links to pertinent information, and access to UMass Extension Educators when needed (commercial growers only).
- **Plant Tissue Nutrient Analysis** – This analysis is used primarily by commercial growers. Nutrient values of leaf tissue are reported alongside “sufficiency ranges” to determine the health of the plant. Sufficiency ranges are data collected through research, and represent the nutrient levels of healthy plants. Data from the analysis may be used to correct or improve a fertility plan, or to diagnose problems.

Up-to-date order forms may be found here: <http://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory/ordering-information-forms>. Be sure to read the sampling instructions for each of these analyses before submitting. For specific questions, you may contact the lab at 413-545-2311.