

Brix Bounty Farm

Building Agricultural Skills for the Southcoast



Soil Testing to Improve Soil Health and Crop Quality

Why Test Soils?

Soil Testing can provide an accurate measurement of nutrients in the soil; and provide a starting point for determining which fertilizers and/or amendments would be necessary to improve soil health. In soils which may be contaminated by heavy metals; soil testing can provide the assurance that the soil is safe to work in and suitable for food production.

Different Soil Testing Methodology

There are many different soil testing methods used throughout the country. Different labs use different procedures, often depending on their belief of what is the most important information needed for obtaining optimum crop growth and fertility recommendations. At Brix Bounty we use an annual soil test from Logan Labs to give us an idea of the nutrients stored in the soil (though not necessarily available) as well as using a weak-acid soil test to provide a better idea of what nutrients are actually available to the plants roots during the growing season. UMass Amherst is the most commonly used lab for gardeners in Massachusetts.

When and How to Sample

A&L Labs and Kinsey Ag (links below) both have good information on how to sample the soils. Soil tests will only be as accurate as the soil sample. It's important to get a representative sample, don't just sample one corner of a field or garden; recommended depth is 6'' for gardens and/or tilled land and 4'' for hayfields, pastures, and lawns.

Interpreting Results

Because different labs use different testing methods; you cannot directly compare results across labs. Many labs will provide fertilizer/amendment recommendations, be sure to note that you are an organic grower if you only want to use organically allowable materials. For many an annual soil test provides an indication of how their soils are changing, declining or improving over time.

For a lengthier introduction to soil testing methods, laboratories, interpretation of results, and selecting organic fertilizers and amendments we invite you to join us at one of our community wide events...including our free monthly **Roots Down** organic gardening workshops. For information about these and other events please contact the farm or visit our website at <http://www.brixbounty.com>

Soil Testing Labs: With the exception of A&L Labs, most private lab soil tests cost ~\$50, UMass costs \$15.

*ATTRA Publication – Alternative Soil Testing Laboratories - <http://www.attra.org/attra-pub/soil-lab.html>
This publication provides a nice overview of the reasons to use alternative labs and what services each provide.

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Soil Testing to Improve Soil Health and Crop Quality Tip Sheet

A&L Eastern Labs (Md) - <http://al-labs-eastern.com/agricultural.html> Explanation of soil testing techniques.

Cornell Soil Health (NY) – <http://www.hort.cornell.edu/soilhealth/> Link includes the valuable Cornell Soil Health Manual. Their test monitors the physical and biological aspects of the soil in addition to chemistry.

*International Ag. Labs, MN - <http://www.aglabs.com/> ph: 507-235-6909 - (\$50 per sample). They use a weak-acid test that reports what nutrients are available to the plant roots at the time of testing. Building on ideas developed by Carey Reams, they have a website with great information and maintain a separate website (<http://www.highbrixgardens.com/>) with additional resources.

Kinsey Ag (MO) – <http://www.kinseyag.com/> Neil Kinsey's lab follows the Albrecht System of soil analysis (focusing on balancing the base saturation of cations) and has good information about how to pull soil samples.

*Logan Labs (OH) – <http://www.loganlabs.com/> Logan Labs offer a variety of soil testing services; including strong acid, weak acid, and saturated paste tests. One advantage of their tests is their base+ test includes less commonly tested trace minerals (cobalt, molybdenum, and selenium).

*University of Massachusetts-Amherst – Soil and Plant Tissue Testing Laboratory
<http://www.umass.edu/soiltest/> ph: 413-545-2311: \$15 for basic soil test. This test will also indicate if Lead or Cadmium levels are high. If gardening in possibly contaminated soils; I would suggest sending a test to UMass as the minimum action to ensure soils are safe to work in and suitable for food production.

Woods End Laboratory (Maine)- <http://solvita.com/soil.html> - Solvita Soil CO2 Respiration Test Kit. Test to provide information about the activity of soil microbial life; a valuable do it yourself kit. They also offer detailed compost analysis for the interested farmer.

Soil Testing Resources:

Pike Agri-Labs Supplies, Inc, ME- <http://www.pikeagri.com/> ph: 866-745-3247 – Retailer of soil and plant testing equipment (including refractometers and conductivity meters), they also offer a nice selection of books.

Maine Organic Farmers and Gardeners Association (MOFGA) - Fact Sheet

<http://www.mofga.org/LinkClick.aspx?fileticket=o4uLdFbF1m4%3d&tabid=133>

A useful fact sheet for organic folks helping them to understand what info a state lab soil test (in this case, Maine) provides and how to interpret that information.

Soil FoodWeb Oregon - <http://oregonfoodweb.com/> Dr. Elaine Ingham's organization provides great insight into the biological life of the soil. A good primer for parts of the soil food web is under their soil biology link.

Soil Quality Test Kit Guide - http://soils.usda.gov/sqi/assessment/test_kit.html For those interested in acquiring detailed analysis of their soils in a hands-on way; this guide provides the instructions for the tests and equipment needed for in depth field and garden analysis.

NESoil.com - <http://nesoil.com/> - Soil Survey information available on-line – A little tricky to navigate, but this page has links to soil survey information, including your soil type. Most useful for farmers as the soil maps for urban areas are not so detailed.