



How-To: TESTING GARDEN SOIL

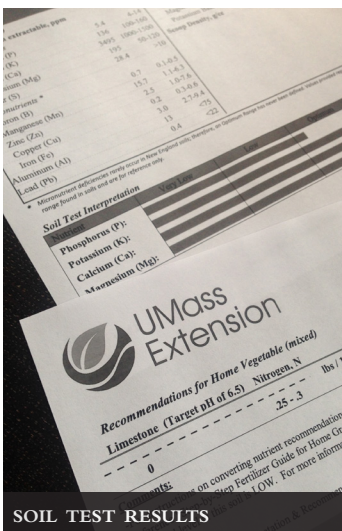
Testing your garden soil alerts you to excessive lead or other heavy metals that may pose a health hazard. Soil tests also provide an analysis of the levels of important nutrients available for plants. With this information, you can amend the soil to provide the nutrition your crops need.



USING A SOIL CORE SAMPLER TOOL TO TAKE SAMPLES



A SOIL SAMPLE DRYING



SOIL TEST RESULTS

WHEN TO TEST

We recommend testing at the end of the growing season, to give an opportunity to add soil amendments before the winter. Over the winter, the soil amendments become incorporated in the garden soil and break down into a more usable form by the time the growing season begins in the spring. However, you can test the soil and add amendments at any point during the season, as long as the ground is not frozen.

Test the soil before beginning to garden on any new area. After the initial test, a test every few years should be enough to gauge nutrient levels in the soil. With repeat testing, take soil samples at the same time of year as the initial tests, for the most accurate results.

HOW TO TEST SOIL

1. Look over the garden site to determine how many samples to take. Areas that had different past uses or are significantly different in terms of soil texture, slope, drainage, or color should be divided into separate sample areas. Divide any area larger than 2500 square feet (50'x50') into more than one sample area. Be sure to mark the growing area and note how you are dividing your site, so you can interpret your results later.
2. Each sample should be a mixture of 10-12 separate scattered samplings taken over the garden site (avoid taking samples near the edge of the land plot or areas where you will not garden). Try to be random in your sampling and avoid sampling very wet areas or soils that were fertilized more recently than 6-8 weeks.
3. Use clean, non-galvanized tools, including buckets. (Galvanized tools contain zinc, which may affect your soil sample.) Trowels or shovels work well for most soil sample gathering. Use fence post diggers in compacted soil. If heavy metals are a concern, wear gloves while sampling.
4. For each sample, pull back the top layer of turf to expose bare soil. Take the samples from 4-8" below the soil's surface – where the root zone of your garden plants will be.
5. Place each of the 12 individual samples in a clean container (pail, bucket, or bag). Thoroughly mix the samples together, then divide the combined amount in half. Store one half of the sample in case you need to re-test later. With the other half, break up any clods, and remove debris (rocks, glass, plant matter). Spread the mixture out on clean paper to air-dry (do not use heat to dry the soil). A fan on low can help speed the process. With occasional stirring, drying will take approximately from one to several days.



How-To: TESTING GARDEN SOIL

6. Once the soil is dry, mix it again. Pick out any rocks, trash or plant matter or use a sieve. Place one cup of the soil in a zip-lock bag. Save another one-cup sample in case you need to re-test.
7. Label the outside of the bag clearly with your name, address, and a sample ID that is less than 10 letters long. Make notes regarding how you labeled the samples, so you can accurately interpret the results.

WHERE TO SEND YOUR SAMPLE

We recommend sending soil samples to [UMass Amherst's Soil and Plant Testing Lab](#). Their \$15 Standard Soil Test includes results for pH, basic nutrients, heavy metals and aluminum. Test results include suggestions for how to adjust nutrient and pH levels using organic amendments.

[Penn State Extension](#) also offers a Standard Soil Test for \$9 through the Soil Fertility Testing Program. Each sample is analyzed for pH and basic nutrients. This test does not include heavy metals. The final report includes recommendations to adjust soil nutrition for specific crops. Penn State Extension offers a separate lead test for \$27.

INTERPRETING YOUR RESULTS

Soil tests results generally include some interpretation. However, you may have questions that are not addressed in your soil test results. For assistance interpreting your results, call the lab where you sent your samples, or check out these resources.

- [UMassAmherst Fact Sheets](#)
- [Cornell Healthy Soils, Healthy Communities](#)
- [“Heavy Metals and Gardens” multilingual website](#)