A2166

# Sampling lawn and garden soils for soil testing

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## Why test soil?

Determining the fertility level of a soil by a soil test is the first step in planning a good fertilizer and lime application program. Magazine articles and handbooks on lawn care and gardening frequently make general recommendations for applying lime and fertilizer to gardens and turf areas—such as lawns, athletic areas, parks, cemeteries, school grounds, and airports. Such general recommendations encourage the all-too-common practice of applying fertilizer indiscriminately and often unnecessarily. A far more effective way to determine the types and quantities of lime and fertilizer to apply is to have your soil tested.

Testing soil can give information on the soil's ability to supply nutrients for best plant growth, thereby providing a scientific basis for deciding if and how much lime and nutrients are needed. Plants respond better to applications that are specific to their needs than they do to general applications. Also, soil tests indicate when the applications are no longer needed. This means a cost savings to you, and, of equal importance, it avoids needless nutrient applications that can contribute to environmental pollution. The saying "If one pound is good, two are better and three must be best" does not apply to fertilizer!

## When to sample

Testing soil about once every three years is usually adequate. You can sample soil anytime it is not frozen, although some times are better than others. Sampling in early spring or late fall assures that you will have recommendations before buying lime and fertilizer. You need to allow at least two weeks for the laboratory to complete your analysis.

You can sample existing turf anytime during the growing season. Avoid sampling soon after fertilizer application, however. Remember, it's best to sample before applying fertilizer! Contamination of the soil sample with fertilizer particles will result in erroneous soil test results.

## Sample properly

One of the most important steps in soil testing is taking the sample, because only a small portion of the soil you bring to the laboratory is actually tested. Remember that you are taking samples to obtain information and recommendations on which to base fertilizer and lime applications. Best decisions can only be made if soil samples are representative of the areas to be treated.

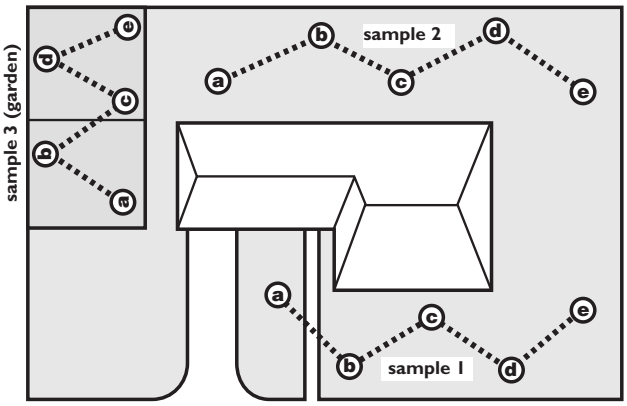
Soil around homes is often highly variable. Soil is moved around during construction, and some soil is hauled in either as fill dirt or as topsoil. Soil samples must represent uniform soil areas with similar past management. Otherwise, lime and fertilizer recommendations based on soil tests may not be correct for the area you intend to treat.

## Where to sample

To ensure that the soil sample is representative of the area to be treated, you need to make a composite sample. Collect small samples from at least five locations in the area and combine them into one sample—a composite sample.

The number of composite samples you take depends on soil uniformity and past management. In uncropped areas, the visual appearance of the soil is a good indicator of uniformity. In turf areas, appearance of the turf is important. If, for example, the quality of the turf in front of the house is very different from that in back or on side areas, sample each area separately (see illustration). Always sample turf areas and gardens separately.

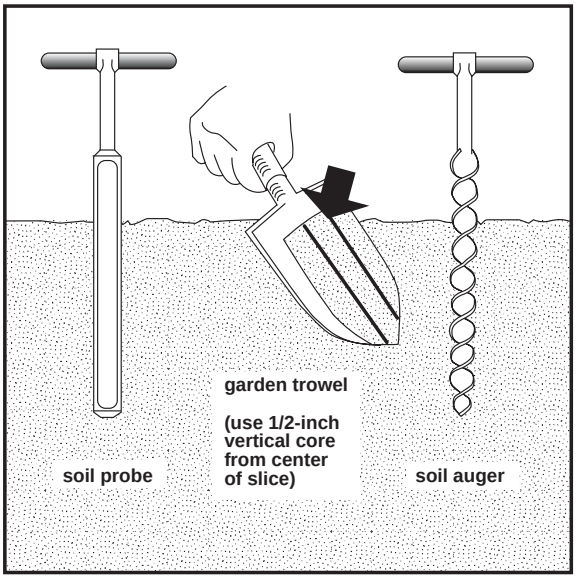
For sampling large areas such as truck gardens or sod farms, see Extension publication *Sampling Soils for Testing* (A2100).




Make a composite sample by collecting small cores from at least five locations.

## How to take soil samples

A soil probe is the best tool for taking a soil sample. Your county Extension agent can tell you where to purchase sampling probes. Alternatively, you can use a shovel, trowel, or soil auger (see illustration). Sample gardens and unestablished lawns to the depth of tillage, normally about 5 to 7 inches. Sample established turf to a depth of 4 inches. For golf course putting greens and tees, appropriate sampling depth is 2 inches. You need a total of 1 to 2 cups of soil for each composite sample.




Appropriate sampling tools. A shovel or spade would also work, using the center core as witih the trowel.

## What to do with soil samples

Place the composite sample in a clean plastic bag or get a wax-lined soil sample bag from your Extension office or soil testing laboratory. Label the bag with your name and the sample identity. If you take several composite samples, label each one differently and keep a record of the areas where you took each sample.

Next, fill out a Soil Information Sheet, available from county Extension offices or a soil testing laboratory. You only need to fill out one information sheet for each group of samples. The more complete the information you provide, the better the recommendation you will receive. Deliver the soil sample(s) and accompanying Soil Information Sheet to your Extension office for forwarding to a soil testing laboratory. If this is not convenient, send the soil samples directly to the laboratory or deliver them in person. The University of Wisconsin operates soil testing laboratories in Madison and Marshfield. Extension offices have names and addresses of other soil testing labs.

If you wish to have the university test your soil, send samples to one of the following addresses:

UW Soil and Forage Analysis Laboratory
2611 East 29th Street
Marshfield, WI 54449
(715) 387-2523

UW Soil and Plant Analysis Laboratory
8452 Mineral Point Road
Madison, WI 53593
(608) 262-4364

Contact the laboratory or your county Extension office for current soil testing fees. If you leave samples at an Extension office, pay the fee there. Otherwise, enclose payment with the Soil Information Sheet. If you send samples directly to a university laboratory, make your check payable to Soil Testing Lab.

UW Extension

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