Steps in Soil Sampling

Recommendations about when and how to apply nutrients are only as good as the soil sample submitted for analysis.

To obtain a representative soil sample, the following steps are useful: identify sampling locations (zones), determine the sampling depths, use the right sampling tools, sample at the right time, and handle the samples accordingly.

1. Sampling Locations

Map out the area where the plants are to be grown or are presently growing. This will help in record keeping and ensure that the soil is taken from throughout the entire area.

Divide the area such that each soil sample represents one plant type or condition. An area that has been divided according to obvious differences in plant types, plant performance, soil types, and drainage is shown in Figure 1.

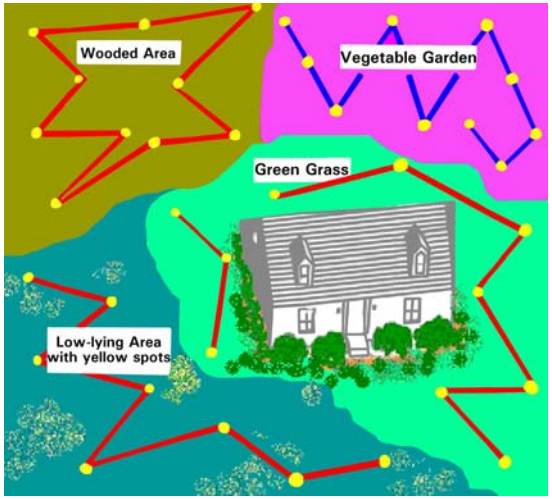

Figure 1. Area divided according to vegetation and soil characteristics. Yellow dots indicate sampling points.

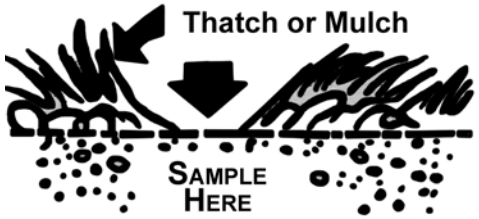

Figure 2. Remove grass thatch or mulch before sampling.

- Use a zigzag approach when taking samples. Collect 8-10 soil samples from each location (zone) as shown in Figure 1.
- For trees and shrubs, take soil samples from six to eight spots around the drip-line of the plants.

2. Sampling Depth

The depth of sampling depends on the type of plants being grown.

- For lawns, sample to a depth of 4 inches.
- For gardens, ornamentals, mixed fruit trees and wildlife plots, sample to a depth of 6 inches.

3. Sampling Time

Soil sampling should be done well in advance of planting or spring green-up. This allows adequate time for sample analysis, data interpretation, and fertilizer and lime application.

4. Sampling Tools

Use clean sampling tools and containers to avoid contaminating the soil sample. Never use tools or containers that have been used for fertilizer or lime. Collect samples with tools like trowels, shovels, spades, hand probes or hand augers.

Figure 3. Soil sampling with a trowel.

5. Sampling Procedures

Clear the ground surface of grass thatch or mulch (Figure 2). Using a trowel, push the tool to the desired depth into the soil. Push the handle forward, with the spade still in the soil to make a wide opening. Then, as shown in Figure 3, cut a thin slice from the side of the opening that is of uniform thickness, approximately 1/4-inch thick and 2 inches in width, extending from the top of the ground to the depth of the cut. Collect from several locations. Combine and mix them in a plastic bucket to avoid metal contamination. Take about a pint of the mixed soil and place it the UGA soil sample bag. Be sure to identify the sample clearly on the bag and the submission form before mailing.

Sample Handling

Samples should be air dried overnight. Dry samples on a flat surface lined with clean white paper. Take care to avoid contamination. After drying, transfer the sample to the soil sample bag and bring it to your local extension office. Your extension office will send samples to:

The Soil, Plant and Water Lab
University of Georgia
2400 College Station Road
Athens, GA 30602-9105