



Tips on Soil Sampling

Soil Sampling is a best management practice (BMP) for fertilizer management that will help improve nutrient use efficiency and protect the environment. To serve as a reliable guide to fertilizer applications rates, soil samples must be collected properly so they accurately represent the soil in the area from which they were taken.

When to Sample

- Take a soil sample a few months before initiating any new vegetable garden, putting in a flower bed, or planting perennials.
- An ideal time to take samples is when the garden season has ended in the late summer to early fall.
- If an established area exhibits abnormal growth or plant discoloration, take a soil sample right away.
- For areas recently limed or fertilized, delay sampling at least 6 to 8 weeks.
- Sample when the soil is dry enough that it can easily break apart.

Soil Sampling Tools

You will need:

- A stainless steel soil-sampling probe (moisture probe). A shovel may also be used, but it takes more time.
- A plastic or stainless steel container for subsample collection.

Caution: Do not use galvanized or brass equipment of any kind. It will contaminate the samples with important micronutrients.

Soil Sample Procedure

Recommended Sampling Depths	
Established lawns	2-4 inches
Vegetable and flower gardens	6-8 inches or tillage depth
Trees and shrubs	6 inches

- Take 10 or more subsamples from different locations within each uniform sampling area to make a composite sample.
- Take the subsamples in a random manner, such as with a zigzag pattern to minimize the variability that may be present in your sampling areas. This allows you to obtain a reasonably representative soil sample of the entire area.
- The larger the area, the more subsamples will be needed. The more subsamples you take, the more representative your sample will be of your area.
- When you have taken sufficient subsamples from a uniform area, thoroughly mix the subsample slices or cores, breaking up clumps and removing all foreign matter such as roots, stalks, and rocks.

Sample Handling

- Samples can be frozen or refrigerated for extended periods of time without adverse effects.
- If the samples cannot be refrigerated or frozen soon after collection, air dry them or take them directly to the soil testing laboratory.

- Air-dry within 12 hours. Dry at room temperature. If a circulating fan is available, position it to move the air over the sample for rapid drying. Spread the sample in a thin layer on a plastic sheet about ¼ inch deep.
- Keep moist soil sample cool at all times during and after sampling.
- When the soil samples are dry, mix the soil thoroughly, crushing any coarse lumps.

Caution:

- Do not dry the soil where agricultural chemical or fertilizer fumes or dust will come into contact with the samples.
- Do not use artificial heat in drying.

Submitting the Sample to the Lab

- Obtain free soil sample boxes and soil sample information sheets from your local Cooperative Extension office, agribusiness, or garden centers.
- Use permanent ink or pencil to fill out the sample information sheets and labels the boxes.
- Fill the sample box completely with well-mixed loose soil and label it with your name and sample identifier. Choose a sample identifier of letters or numbers that will help you remember the area it corresponds to.
- Be sure to keep a record of the areas sampled with their corresponding identifier. This is particularly helpful if you are taking multiple samples.
- Mail the soil sample to the soil testing laboratory. Check with your Extension Agent, agribusiness center, or garden store for the complete address and applicable fee.

Soil Samples Results

- The soil testing laboratory will provide you with information on the availability of nutrients in your soil.
- The test results include recommendations for adjusting the nutrient levels in your soil. In addition, the routine test determines the soil pH and makes recommendations on how to raise or lower the soil pH.
- A soil test is not usually performed for the presence of nitrogen (N). Nitrogen can quickly move out of the root zone of the soil by downward movement of water or by plant uptake. Because nitrogen availability can change rapidly in the soil a soil test could show nitrogen levels that no longer exist. Soil testing laboratories, however, still provide nitrogen fertilizer recommendations. The recommendations are based on years of research that has determined plant nitrogen needs.
- Supplemental notes are also sent with the report. The notes explain the technical terms used in the report and provide extra details on fertilizer application schedules and rates for specific kinds of plants.
- Feel free to contact your Extension Educator/Agent for more help on sampling, interpreting soil test results, and understanding how to implement the recommendations.

For more information, please contact Franklin Chukwuma, coordinator of Off-Campus Centers, at 601-877-2312 or franklinc@alcorn.edu

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