



## Soil Sample Testing Hints

### When Taking a Soil Sample Test on Your Fields, Home Garden, or Lawn, Here Are a Few Things to Remember:

- ✍ **Use the proper sampling tools.** There are two important requirements of a sampling tool: first, uniform slices of soil must be taken from the surface to the total depth of sampling (usually the plow layer), and second, the same depth and volume of soil should be taken from each soil core. Additionally, it is desirable to have a tool adaptable to various soil conditions from dry, sandy soils to moist, clayey soils. For a manageable quantity of soil for mixing, it is helpful if only a small volume of soil is removed from each spot. Tubes, augers, and spades are common tools used for sampling soil. Soil core tubes usually have a hardened steel cutting edge. To assist with the removal of the soil core, the tubes often have an open side. These tubes work well except in very dry or gravelly ground. The soil auger is the best tool for gravelly or hard soil conditions, but may be more time consuming than a core tube. The soil auger is difficult to use in dry, sandy soils. Trowels and spades are widely used for topsoil sampling, but with them it is difficult to obtain a small constant soil volume from spot to spot. The technique for using a spade is to imitate the action of a core tube. Dig a small hole to the sampling depth, cutting a ½ inch thick slice of soil from the face of the hole, then trimming both sides of the slice, leaving a 1 inch wide strip of soil in the middle of the spade to be mixed with about 10 to 15 other slices for the sample.
- ✍ **Will someone be doing the soil sample collection for my farm/home?** Our offices (**Cornell Cooperative Extension - Allegany/Cattaraugus and Chautauqua Counties**) **Do not** collect soil samples for any farm/home owner....we only help farmers/home owners complete the paperwork (correctly) that needs to accompany the soil sample. Any soil sample mailed to our office will still need to have the information filled out on the form, we cannot send the soil sample without the form, and our office does not have any information about your farm/garden to complete the form for you.
- ✍ **How much does it cost to have a soil analysis?** The cost per sample is \$15.00 to have your soil sample analysis from Cornell.
- ✍ **I only need a pH test right now, where can I get this done?** We can do pH for your gardens or fields right in the office, but remember you still need a good sampling of the soil so we can do a basic pH test. AND it's not 100%....the soil lab can give you a better test.
- ✍ **How much soil do I need for each soil sample I take?** *Each soil sample should consist of a well-mixed sample of 10 to 15 soil cores taken randomly across the field.* We need about a **pint (2 cups)** of this sample to send to Cornell's lab.

- ✍ **Sample uniform areas.** Each sample should be from a relatively uniform area to minimize any large-scale geographic variation. It is unrealistic to assume that because a large field is enclosed by a fence, it is uniform. Areas that differ in soil type, appearance, slope, crop growth, soil color, or past management (liming, manuring, fertilizing, or cropping) should be sampled separately.
- ✍ **Keep out of unusual areas or sample separately.** Take the soil cores from between any visible crop rows to avoid sampling residual fertilizer bands. Sampling immediately after broadcast application of fertilizer is not recommended, unless the soil has since been tilled or mixed. Areas to avoid include dead furrows, back furrows, windbreaks, snow fences, old fence lines, site of old manure and lime pits, wet spots, and areas near lime rock roads, trees, or the boundary between slopes and bottom-lands.
- ✍ **Sample to the proper depth.** Tillage tends to mix previous applications of lime and fertilizer through the entire tilled layer, so, the lime and fertilizer recommendations must consider the tillage depth. Sample to the depth of tillage. This depth is usually 6 to 9 inches, but may be deeper. This is why we ask for tillage depth on the form.
- ✍ **Dry...wet soil samples.** Dry soil samples can be sent to the lab right away, but wet soil samples must sit in our office for up to a week, sometimes more, to dry before they can go to the lab. Try to air dry out soil samples before bringing them to our office, we have limited space. **Do not** dry soil in an oven! To speed drying, samples may be placed on a paper or plastic plate or a paper towel (do not use newspapers or metal containers) under a fan set on low speed.
- ✍ **Establish a regular sampling time.** For most crops, the soil should be sampled every 3 years. Give our office a call for a list of suggested sampling timetables.
- ✍ **Have complete and accurate information to fill out information forms.** The more complete and accurate the information provided, the better the fertilizer recommendation interpreted from the soil analysis. It may be a good idea to keep a list of what was done to each field/garden and when. This will help the person answering the questions on the information form ... i.e. a friend or neighbor dropping off the soil sample at our office.
- ✍ **Be patient...expected time for analyses.** It can take approximately two to three weeks to get soil analyses results back from the laboratory including the additional time allowed for delivery of the samples to the laboratory and return mailing of results and recommendations. (BUT this is only if the soil sample can leave our office right away and doesn't have to dry or wait on missing information to complete form). For quickest turnaround time, avoid the lab's peak period, i.e. a week before Farm Service Agency program deadlines...
- ✍ **I can't find my copy of test results.** Our office does keep copies of all test results we receive from Cornell's lab. In most cases, we will have a copy of your misplaced results. So, don't panic...come visit and/or call our office. The Horticulturist will have any garden, lawn, flower bed, etc. soil sample results. Any field crop soil sample is handled by the Field Crop Extension Resource Educator.
- ✍ **I changed my mind, I want Alfalfa not Corn Silage on this field.** If you changed your mind about what you are putting on a field after you have sent in the soil sample, give our office a call and we can readjust the recommendation to fit the new crop.

If you have any questions on completing an accurate soil sample form, just give your local Cornell Cooperative Extension Office a call, and we will help you in anyway we can.

*Source: Gregory A. Ferguson and W. Shaw Reid, Department of Agronomy, Cornell University, Sampling Soils for Soil-Test Nutrient Analyzes and Recommendations. You can receive the complete article Sampling Soils for Soil-Test Nutrient Analyzes from your local cooperative extension office.*

