Importance of A Good Soil Sample

The results of a soil test can be no better than the sample that is collected to represent the field. The chemical analysis of a sample measures the nutrient status of the soil and serves as a guide to profitable use of lime and fertilizer. But if the sample is not representative of the field, then the nutrient status measured is not representative, either.

Collect Soil Samples Early

Soil samples can be collected at any time; however, it is generally best to obtain the soil sample prior to spring planting for the following reasons:

- **Results returned sooner**—Fall soil sampling avoids the heavy spring rush.
- **Allows more time to plan ahead**—Results and recommendations returned sooner allow more time to plan your cropping and fertilizer program.
- **Early application of lime and fertilizer**—If sample is taken in late summer or early fall, then there is sufficient time to apply any needed lime and fertilizer recommended.
- **Avoids wet springs**—Many times soils are wet in the spring up to near planting time.
- **Knowledge of crop yields**—Sampling soils soon after the harvest enables you to be more aware of low producing areas that may need application of lime and/or fertilizer.

How Often to Test Your Soil

Generally it is sufficient to test your soil every three years. Soils that are more intensively used such as greenhouse soils or soils used for high value crops should be tested every year.

Obtain A Sample Kit

The first step in taking a soil sample is to obtain a sample kit from your local County Extension Office. The kit consists of a sample bag and an information sheet.
Tools Needed for Sampling

A soil probe, auger, spade or garden trowel can be used to collect a sample of soil. Some soil sampling services use power probes and augers to obtain the sample. Whatever tool is used should be very clean so that the sample is not contaminated.

Use a clean bucket (preferably plastic) to collect cores of soil from one field. Break up the cores and mix them thoroughly before taking a composite sample to send to the testing laboratory. Avoid using galvanized buckets if a zinc test is requested.

Areas (Fields) Sampled

It is important to sample areas that are uniform in the following criteria (see figure 1):

- Past lime, fertilizers and manure applications.
- Slope, drainage and erosion.

One composite sample should not represent more than 15 to 20 acres of uniform area and no more than 5 acres of rolling land.

The following areas should be sampled separately or not sampled at all:

- Severely eroded hillsides
- Low spots
- Old fence rows - old roads
- Terraces
- Old manure piles or old hay stacks
- Lime and fertilizer spills
- Fertilizer bands
- Dead and back furrows
- Animal droppings and urine spots
- Stay at least 300 feet from crushed limestone roads

Generally, any area that is large enough to fertilize separately should be sampled separately.

Figure 1: Area 1 is bottom land, area 2 is slope and area 3 is level upland. Sample each area separately.
How to Take the Sample

First of all, read instructions on the back of information sheet. Remove any surface litter from the soil and take a core sample to plow depth (about 8 inches). For row crops, sample between the rows. For established grass pasture crops, sample to the depth of the rooting zone (generally 3 to 4 inches). Collect one core at each subsampling site. Repeat the sampling procedure at about 15 different sites within the field. Figure 2 illustrates this kind of subsampling. Be sure to collect the samples in a clean bucket. After the subsampling cores have been taken, let them air dry and then mix all of them together thoroughly. Put about 1½ cups of this mixed soil into the soil container for shipment to the laboratory. Be sure to transfer the number on the soil bag to the information sheet. Design your own identification number if you have more than one sample. Also, a sketch of the area sampled may aid you in keeping a more accurate history of the fertility of the field.
Soil Sampling for No-Till Crops

Fields with no-till row crops seldom receive any tillage. Consequently, these fields should be sampled in a special way. The correct way to take a soil sample for no-till crops is to take two samples at each sampling location. Take the first sample to a depth of 1 inch (push aside crop residue) and the second sample to a depth of 8 inches. The pH and lime test index tests are done on the shallow sample. The deep sample is tested for pH, lime test index, available phosphorus, exchangeable potassium, exchangeable calcium and exchangeable magnesium. If lime is needed, a lime recommendation will be made, based on the shallow sample. Lime and fertilizer recommendations will be made based on the deep sample. Follow all the other criteria that were previously given for sampling fields. Refer to Agronomic Tips SFT-23 for a more detailed discussion of soil sampling for no-till crops.

Fill Out Information Sheet

In order to have the soil sample analyzed, a completed information sheet must accompany the sample. The information provided is used along with the test results to give an accurate recommendation. The following information is required:

1. Your name, address and county
2. Your sample identification
3. Acres represented
4. Amount of lime applied during last two years
5. Depth of sampling
6. Type of fertilizer recommendation desired
7. Crop rotation
8. Yield goals
9. Tests requested

Where to Send
Soil Samples for Analysis

Soil samples are analyzed through the Research-Extension Analytical Laboratory (R.E.A.L.) at the O.A.R.D.C., Wooster, Ohio 44691. Drying, grinding, preparation, analyzing and interpretation normally take 3 to 5 working days.