

Soil Sampling

Take a good sample! The directions for soil sampling come with the kits for most labs. Make sure you follow the instructions for the lab you plan to send it to. The lab assumes that you took the samples the way they asked when they send you an interpretation. If you decide to take your sample a different “better” way, the results might not make any sense. For example, I took a set of samples one year that were very shallow, only three to four inches deep. The results showed P & K through the roof. This was a false reading since P & K tend to concentrate in the surface and the lab assumed I had sampled to at least six inches of depth.

The table below provides guidelines for taking a soil sample from the Penn State Soil Testing program:

1. Carefully select a uniform area to sample. This may be a field or part of a field depending on things like management, soil or topographical differences across the area.
2. Take cores from at least 15 to 20 spots randomly over the field to obtain a representative sample. One sample should not represent more than 10 acres.
3. Sample between rows. Avoid old fence rows, dead furrows and other spots that may not be representative of the whole field.
4. Take separate samples from problem areas if they can be treated separately.
5. In cultivated fields sample to plow depth.
6. Take two samples from no-till fields: one to a 6 inch depth for lime and fertilizer recommendations and one to a 2 inch depth to monitor surface acidity.
7. Sample permanent pasture to a 3- 4- inch depth.
8. Collect samples in a clean container.
9. Mix the core samplings, allow to air-dry and remove roots and stones.
10. Fill the soil test mailer.
11. Complete the information sheet, giving all the information requested. The recommendations can be only as good as the information supplied.

Here are answers to a couple of common questions I hear:

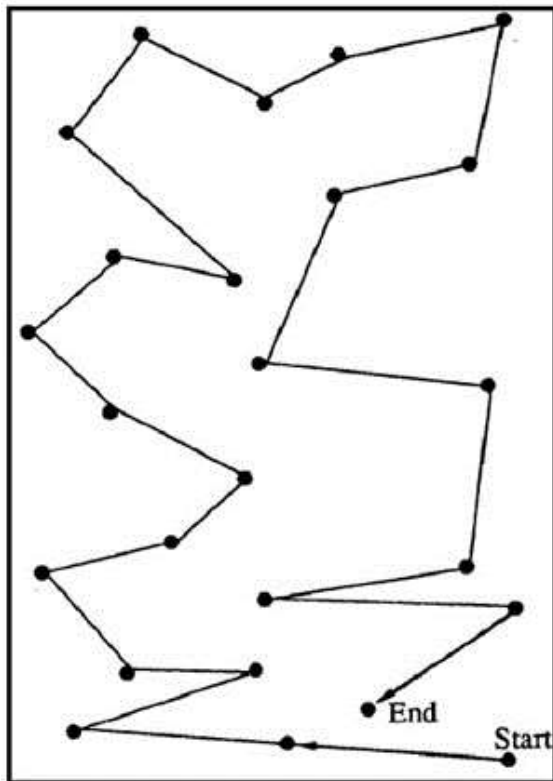
How can I sample if I don't have a sampling probe? A sampling probe is a good way to get many small slices of soil that take even amounts from the top couple inches and the lower couple inches. Some people use a hand trowel, but you have to be careful because the triangle shaped blade often takes more soil from the surface than down deeper. Since there are often more nutrients concentrated on the surface your results will come back with a lower recommendation than what you really need. An alternative is to use a square tipped shovel. Dig out one shovel full of soil. Then take a slice of soil an inch to two inches wide. Use a butter knife to cut an even ‘core’ of soil to place in your bucket. Repeat 15 times and mix before you subsample.

What time of year should I sample? It is okay to sample at any time of year. Fall and spring are most common. Fall is often times recommended because then you have time over the winter to plan your fertility recommendations.

Does it matter which lab I send the sample to? Dr Beegle reminds us that it is important to send your sample to a lab that uses test methods appropriate to your soils and conditions. A lab in

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another part of the country may be excellent and with an outstanding reputation, but if they use methods that are not appropriate to local conditions even the highest quality labs may provide incorrect results, interpretations and recommendations. The soil tests recommended for Pennsylvania conditions include: Soil pH – water; Acidity – Mehlich buffer; Phosphorus, Potassium, Magnesium and Calcium – Mehlich 3. Check your lab reports to make sure they use tests suitable for PA. In general, once you pick a lab it is best to stick to it. That way you can look at trends over time based on your results. One advantage to using the Penn State Agricultural Analytical Services lab is that your local Penn State Extension Educator can pull up the results from the system to help you with interpretation.



Sampling in a zig zag pattern gives a good perception of the whole sampling area.

Information in the document was retrieved from the Penn State Extension website. The article titled "Taking A Good Soil Sample this Spring" took information from a presentation given by Dr Doug Beegle from Penn State.