

# 10 Minute Supervisor Trainings



August 2023

## Taking Proper Soil Samples

Most good farm operators will know the EPD's of the bull that was used to breed their cows, or the bushels of corn or beans produced per acre last year, but many do not know the pH or NPK levels of their farm crop fields and pastures. With the current prices of fertilizer and other farm inputs, farmers are cheating themselves if they do not take advantage of proper soil testing. In order to production on their farms, farmers need to know what nutrients are needed and at what levels per acre.

This training provides information that each district can use in their educational publications or events to assist farmers and landowners with their soil samples.

### Taking Soil Test Samples

The most important part of making fertilizer recommendations is collecting a good, representative soil sample. Soil test results and fertilizer recommendations are based solely on the few ounces of soil submitted to the laboratory for analysis. These few ounces can represent several million pounds of soil in the field. If this sample does not reflect actual soil conditions, the results can be misleading and lead to costly over- or under-fertilization. It is necessary to make sure that the soil sample sent to the laboratory accurately represents the area sampled.

### Sample Timing

Soil samples can be collected through much of the year, although fall (September to December) or spring (February to April) are the best times. Fall sampling will often result in a faster return of results and recommendations. Fall sampling will also allow the grower time to have the fertilizer applied well before planting the next crop. Fall applications of lime will also begin to improve pH levels prior to spring crop growth.



Most fields should be sampled every three to four years. High-value crops, such as tobacco, commercial horticultural crops, alfalfa, red clover, corn, soybeans and cereal grains, should be sampled annually so that plant nutrient levels can be monitored more closely. Application of manure can change soil test phosphorus, potassium, and zinc levels dramatically, so sampling manured fields each year is also recommended.



## Collecting Field Crop Samples

An individual sample should represent no more than 20 acres except when soils, past management, and cropping history are quite uniform. If a field is growing different crops, or has slopes and bottom more level areas, it may be divided and treated as multiple fields for sampling purposes. Sample depths of 6-8 inches in tilled areas and 3-4 inches in non or reduced tilled areas. DO NOT SAMPLE: old fencerows, areas used for manure or hay storage and livestock feeding, areas where lime or fertilize has been piled or spilled, unusually wet areas, and any other area that is reasonably not consistent with the rest of the field.

## Sampling Frequency VS Sampling Results

Soil sampling on a random basis will only give a snapshot of fertility levels at a given point in time. Follow up sampling (at the same time from year to year) will provide a more accurate determination of how inputs of lime, fertilize, and manure are affecting the soil fertility and soil health over time. It will also be a reliable tool when accurately managing soil fertility.

## Collecting and Handling All Samples

As always, results will only be as good as the samples collected. With soil sampling, use clean probes/spades and plastic buckets for collecting. Use clean zip type bags for different field samples. Use a permanent ink marker, label the bag with owner's name, sample or field ID, and county. Make sure to record what crops/forages are being produced, past lime/fertilize applications, etc. Take the collected samples to your local extension office for testing (shipping to UK or KY Department of Ag). For additional information & possible soil sampling probes, please contact your local extension office or district soil conservation office.

## For more information

UK Cooperative Extension Publication "Taking Soil Test

Samples" <http://www2.ca.uky.edu/agcomm/pubs/agr/agr16/agr16.pdf>

Gardening in Kentucky Video Podcast: Soil Testing: <https://youtu.be/Hkn5PwKMBvE>

Soil Sample Submittal Form for Agriculture: <https://www.rs.uky.edu/soil/forms/a.pdf>

Soil Sample Submittal Form for Home, Lawn and

Garden: <https://www.rs.uky.edu/soil/forms/h.pdf>

