

University of Idaho Analytical Sciences Laboratory Procedure for Collecting and Submitting a Soil Sample

Sampling Procedure

One of the most important steps in a soil testing program is to collect a soil sample that represents the area to be fertilized. If the soil sample is not representative, the test results and recommendations can be misleading.

Use proper soil sampling tools. A soil auger or probe is most convenient, but you can use a shovel or spade for shallow samples. You will need a plastic bucket or other container to help you collect and mix a composite sample. Be sure that all equipment is clean, and especially be sure it is free of fertilizer. Even a small amount of fertilizer dust can result in a highly erroneous analysis. Do not use a galvanized bucket when analyzing for zinc (Zn) or a rusty shovel or bucket when analyzing for iron (Fe). When sampling, avoid unusual areas such as eroded sections, dead furrows, fence lines, and equipment clean-up areas. If the field to be sampled covers a large area with varied topography, subdivide it into relatively uniform sampling units.

Within each sampling unit take soil samples from several different locations and mix these subsamples into one composite sample. Subsamples should be collected randomly from the sampling unit; this is usually accomplished by meandering or zig-zaging throughout sampling unit. Be sure to distribute subsample sites throughout the sampling unit.

The number of subsamples needed to obtain a representative composite sample depends on the uniformity and size of the sampling unit. A general rule is to collect a minimum of 10 subsamples per 5 acres. Depth of sampling depends on the mobility of nutrients being monitored but, in general, collecting from the surface 12 inches is recommended. Each subsample should be about 1 cup (roughly ¼ to ½ pound). Place each subsample into the same bucket and mix completely to form a composite sample.

Sample Handling

Ensure that the composite sample is thoroughly mixed and transfer a portion of this to a soil sample bag or other container. Two pints (roughly 1 pound) of soil is needed for most fertility and nutrient management testing. Soil sample bags and soil test report forms are available from the Cooperative Extension System office in your county or from the University of Idaho Analytical Sciences Laboratory. Label the bag carefully with your name, the sample number, sample depth, and field number. The field number should correspond with a field or farm map showing the areas sampled. This will help you keep an accurate record of soil test reports.

Soil samples need special handling to ensure accurate results and minimize changes in nutrient levels because of biological activity. Keep moist soil samples cool at all times during and after sampling. 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.

Additional information may be found at the Analytical Sciences Laboratory Website:
www.uidaho.edu/asl.

If you have additional questions about soil sampling and handling, please contact the Laboratory at 208-885-7081.