IS FALL A GOOD TIME FOR SOIL SAMPLING?

Haiying Tao Ph.D., UConn Home & Garden Education Center

Soil testing provides a foundation of knowledge for you to understand the nutrient supplying power of your soil and helps you make decisions on whether fertilizer applications are necessary. With proper soil sampling and interpretation, it is possible to estimate what nutrients are deficient in your soil, how much nutrients you should apply, where, how and when you should apply nutrients. Depending on the purpose of soil testing, in rain-fed lawns and gardens, soil samples can be taken either in the spring and fall.

While spring is a good time for taking soil samples for soil fertility evaluation, fall can also be a great time for sampling. There are several reasons why taking soil samples in the fall is a good idea. First, you may have more time as the growing season winds down; second, labs are less busy so you will get your results faster; third, from soil sampling to planting in the next spring, you will have plenty of time to make a plan for fertilizer, manure, or limestone applications for the coming year. Fall sampling is especially convenient for routine soil testing and testing for lime requirements.

If your soil test result calls for lime application, fall can be a good time to spread lime because it gives you enough time for the lime to react in the soil and raise soil pH before planting the next crop. Under normal field condition, it takes at least six months and up to 18 months to change soil pH. If you grow acid loving plants, and your soil tests calls for sulfur or aluminum sulfate, it is also a good idea to apply your acidifying compound in fall, especially if you use elemental sulfur. It takes time for the elemental sulfur to react and reduce soil pH. You would want your soil pH change before the spring planting for annual crops or spring green up for perennials. If your soil test results show deficiency for phosphorus and potassium, although it is best to apply fertilizers at planting or just before rapid uptake stage, testing your soils in fall allows you plan to get the best fertilizer forms and determine on how much you should purchase.

However, if your soil test results indicate a recommendation for nitrogen, it is best that you hold off your fertilizer applications until spring planting time or just before crop rapid uptake for nutrients. For most crops, the rapid nutrient uptake period coincides with rapid vegetative growth which occurs early in the spring as the weather warms. We do not recommend fertilizer

applications in fall and winter because nitrogen is water soluble and can be lost from your soil through leaching or it can runoff easily when there are no active growing crops. In Connecticut, high precipitation either as snow or as rain from late fall to early spring, can cause leaching loss of most nitrogen if applied in fall or winter. We also do not recommend fall or winter applications for manure or compost when there are no living crops actively taking up nutrients unless tilled into the soil. This is because the nutrients in surface applications can be lost through runoff and leaching and cause environmental pollution.

Although annual soil testing is the best for commercial growers, routine soil tests on lawns and gardens are usually good for making fertilizer recommendations for the following three years. For farmers with large fields with known spatial variabilities, such as different soil types within a field, steep slopes, poor performing locations, etc., each field should be subdivided into sampling units. To minimize sampling errors, at least 15 soil cores from the top to about 6 inches deep, should be collected randomly in each sampling area. Put these soil cores in a clean bucket and mix them and then take a subsample (about a cup) from the bucket for analysis. For small garden beds, at least five soil cores should be randomly collected in a "Z" patten. Send the samples to a soil testing lab for analysis. Refer to Soil Nutrient Analysis Laboratory https://soiltesting.cahnr.uconn.edu/ for amount of soil samples needed for the testing package that you are interested.

If you have questions on soil testing or on other gardening topics, feel free to contact us, toll-free, at the UConn Home & Garden Education Center at (877) 486-6271, visit our website at www.homegarden.cahnr.uconn.edu or contact your local Cooperative Extension center.