Fall Soil Sampling for Lawns and Gardens

By Frank Clarke – CCE Cayuga

The fall brings the end to most home gardens. It's also the time of the year when the grass in lawns begins to go dormant. This, however, does not mean the work in these outdoor spaces is done. An important step towards prolonged healthy lawns and gardens is to soil test. Soil sampling can be conducted any time of the year, but fall is the most common time it is done. The most important thing is that the sampling is done at the same time of the year, every sampling year. Sampling is recommended to be done every three years.

Soil analysis done through a certified laboratory is significantly more accurate than that of a store-bought home kit and the costs are similar. Analysis done through a lab will also include more than just N-P-K (Nitrogen - Phosphorus - Potassium). The lab analysis includes organic matter content, secondary macro-nutrients, and micro-nutrients, all of which are important for plant health. The analysis will also come with fertilizer recommendations, if necessary. Typically soil analyses do not come with nitrogen levels, as climate, chemical, and biological factors can influence the amount of soil nitrogen present at any time. The lab may provide nitrogen recommendations based on the plants you plan to grow. Results can also be sent to your local extension office if further information and recommendations are desired. Contact your extension office for a list of certified labs in your area.

For healthy growth, plants require 18 essential macronutrients and micronutrients. With an up-to-date soil analysis, accurate fertilizer applications that target the needed nutrient can be made. You may also find that your garden has sufficient nutrient levels, and no additional fertilizers are needed. Without a test, you're just guessing what your plants need. By guessing you may overapply nutrients, wasting money and possibly contributing to nutrient runoff into waterways. You could have lackluster plant growth if your soil is in a nutrient deficit, and you under-apply fertilizers.

Collecting a soil sample is simple. However, there are some steps you need to follow to get accurate results. It is important to collect a representative sample of your garden. To do so, you'll collect ten or more soil samples to a depth of 4 to 6 inches throughout your garden. Lawns only need to be sampled to a depth of 4 inches. Ideally a soil probe (**figure 1)** is used but if you don't have access to one, a clean trowel can substitute. If using a trowel, dig a hole to the desired depth, then take a slice of soil from the side of the hole and put the soil slice into a container (**figure 2**).

Figure 1. Using a soil probe to take a soil sample to a depth of 6"

Figure 2. Using the trowel method to take a slice of soil.

To get an accurate representation of the soil around a home, sampling areas should be delineated. Samples will need to be collected for each area. Some examples of different sampling areas are front yard lawns, backyard lawns, flower beds, and vegetable gardens. In each area, samples should be collected to represent the whole area. A common sampling pattern to follow is in the shape of a "M" or "W" as seen in **figure 3**.

Once you've collected your samples, shake the container to homogenize, then transfer a subsample to a sample bag, about a cup. The sample bag is what will be sent to the lab. If the soil is too wet, let it air dry first. Check with the lab to see if they have specifications that need to be followed.

Call your local Cornell Cooperative Extension office to learn more about soil sampling and soil analysis.

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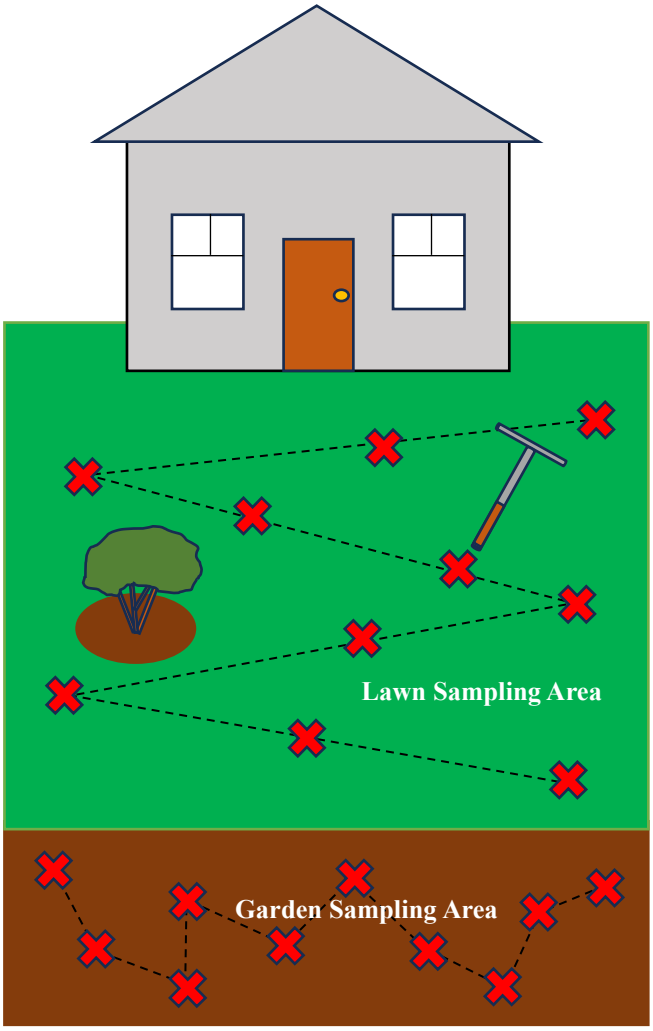

Figure 3. Examples of sampling patterns to get a good representation of the soil in a specific area.

Addition Resources:

Cornell School of Integrated Plant Science, *Soil Sampling Protocol – Fact Sheet 16-01,* https://soilhealthlab.cals.cornell.edu/files/2021/11/01_CASH_SH_Series_Sampling_Protocols.pdf

Dairy One Soil Laboratory, *Taking a Soil Sample* https://dairyone.com/download/agronomy-taking-a-soil-sample/?wpdmdl=13822&masterkey=5d0a580b1ba61