

Finding Value in Soil Testing

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With the recent news that the Ohio EPA designated the Western Lake Erie Basin (WLEB) as impaired due to high nutrient levels found in the area, the time seems right to talk about one very important best management practice (BMP), soil testing. While many producers and landowners already employ such practice, do we know how to get the most value from a soil test that will help manage soil nutrients? Soil testing is an excellent practice to employ as it helps to gauge the nutrient levels of the field and fine tune practices with nutrient management.

The Agricultural Revolution in the 18th century sparked some of the first awareness of the importance of a quality soil to have a productive crop. According to Soil Cares, it was not entirely known at the time just how precious of a resource soil is that can easily be fatigued. Prior to the Agricultural Revolution, nobody truly understood how negligence with the soil due to a low knowledge base about it could allow the soil to become less productive as nutrients are lost, erode, and lead to an overall decrease in the agricultural production needed for a society to thrive. At this time, those involved in agriculture began to realize that to have crops that are high yielding with enough productivity to feed their families, villages, and entire society.

As time has passed on, those who are caretakers of the land have come to understand just how important of a resource our soil is to a productive crop and the importance of nutrient management. Soil sampling is one BMP that is a critical component of nutrient management and how productive our soils currently are along with any adjustments that may need implemented to provide crops with adequate nutrient levels they need. Dan Kaiser, University of Minnesota Extension provides tips on how farmers can get the most out of their soil test.

First, it is important to obtain a sample that is representative of your field. Kaiser suggests planning of the number of sample cores to take to get an accurate picture of your nutrient levels and that even for grid sampling it never hurts to get more than one core to double check the soil test value is representative of the area being sampled. It is important to pay special attention to the moisture of your soil when you are obtaining a soil sample. Kaiser writes that a wet or dry soil will make obtaining a sample difficult and provide with an uneven sampling depth. For a soil sample to be effective, you want to make sure that all sample cores are obtained from an even soil depth as nutrient levels can vary with depth.

Next, be sure to actively select the test that provides the nutrient information that you are looking for. When submitting your soil samples for testing, there is a host of options that can be selected that can provide a lot of information on your soil, maybe more information than needed. For our area, it is quite common to select a soil test that provides information on organic matter, phosphorus, potassium, magnesium, calcium, soil pH, buffer pH,

and CEC (cation exchange capacity). Contact the Paulding Soil & Water Conservation District for information on where soil samples can be sent.

Kaiser says to try to make sure you avoid fields which have recently had an application of fertilizer or manure nutrients. Taking a soil sample in fields such as this will not produce results which you can rely upon for your nutrient management program. Kaiser writes that partially dissolved fertilizer granules could possibly provide an overestimate of soil nutrients while the nutrient forms in manure may show up in your soil test but may not be in a form that the plant can readily use.

The last recommendation by Dan Kaiser is to use the soil test results in a way that proves applicable to your operation and your goals for nutrient management. The soil test provides the farmer with a visual on the areas in their field which may have not received enough fertilizer in the past while also showing areas which soil nutrients are in plentiful supply for productive crops. This helps to ensure that your field has enough nutrients to supply your crops but not too many nutrients that can provide potential for nutrient runoff.

Together, we can all work towards a future with productive soils and healthy lakes! Should you have any questions regarding ways you can ensure the health of your soil for the long term, call the Paulding Soil & Water Conservation District and we will be happy to assist you!