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New Soil Health Toolbox Evaluates Plant Available Nutrients

Comprehensive test helps save growers money on unneeded fertilization while evaluating soil health.

Now, labs can test soil health more accurately with a new Soil Health Nutrient Toolbox from [Woods End Laboratories](#) in Mt. Vernon, Maine.

“Years of research have led to this new way of testing soil,” Woods End Founder William Brinton, Ph.D., said. “Now, three labs are offering the U.S. Department of Agriculture (USDA) Soil Health Nutrient Toolbox, and we hope to expand this worldwide, with the number of labs offering the test covering every region throughout the country.”

According to Luke Baker, Ph.D., an agronomist and laboratory specialist at [Brookside Laboratories, Inc.](#), “We are very excited to offer this Soil Health Nutrient Toolbox since soil testing methods have been missing the biological component. With this tool, we can include soil biology when estimating plant available nutrients. After analyzing hundreds of samples, we feel that this could be the missing link in soil plant nutrient analysis.”

The Culmination of Years of Research

During 2013 and early 2014, the new soil test was rolled out in meetings with growers and consultants, with a very positive response. But the idea of a “[Soil Health Nutrient Toolbox](#)” has really been under development by several scientists since early 2000, paralleling the huge increase of farmers using cover crops to build soils.

In fact, Dr. Brinton and Richard L. Haney, Ph.D., a soil scientist with USDA Agricultural Research Services (ARS) in Texas, collaborated extensively to standardize a cost-effective soil biology test adaptable to commercial labs. The basis for this was the Woods End [Solvita® test](#), which measures microbial CO₂-respiration in a simple, pre-calibrated procedure. Then, the USDA-ARS expanded it to include “green chemistry” as a new way of measuring soil nutrients in order to address farmer fertilizer issues. The resulting package is considered the next step for soil labs performing routine testing.

“Now, three labs in three different regions are collecting new soil health data,” [Ward Labs](#)’ Lance Gunderson, a soil health specialist, said, “and this will help us re-calibrate and better understand regional potentials.”

The kit is currently available at three American labs: Woods End, Brookside (New Bremen, Ohio) and Ward Labs (Kearney, Neb.). Woods End is looking to expand the availability of the Toolbox. Therefore, growers are encouraged to ask their labs to incorporate this test into their overall continuum. Many labs in the U.S. have already adopted the Solvita test for soil biology, including those at Rutgers University and University of Maine.

About the Soil Health Nutrient Toolbox

The Soil Health Nutrient Toolbox is an open-source system, with the main goal being to “save growers money on unneeded fertilization while taking stock of their soil’s health,” Dr. Brinton said. “Growers getting a soil health report will see new terms such as ‘CO2-Burst,’ ‘microbial active carbon’ and ‘water soluble carbon.’ These traits are indicators of biological factors linked to soil nutrient supplying powers.”

Dr. Haney explained it further: “The methods use green chemistry in that the soil analysis uses a soil microbial activity indicator, a soil water extract (nature’s solvent) and H3A, a soil extract that mimics organic acids produced by living plant roots to temporarily change the soil pH, thereby increasing nutrient availability. The end result of the test is a rank called the *Soil Health Score*, which represents the overall health of the soil system. It combines five independent measurements of the soil’s biological properties.”

How to Submit Soil Samples to Woods End

For instructions on sending soil samples to Woods End Laboratories, email lab@woodsend.org, check “[The Soil Health Test](#)” link, or use the [Soil Solvita map](#) to find the nearest lab.

*For more information or to set up an interview,
email [Katie Woodman](#) at Woods End Laboratories or call (800) 451-0337.
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