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Woods End Recommends New Approach to Farming

Scientist Says Proper CO_2 Levels in Crops is Critical

(Mt. Vernon, ME) Will Brinton, Ph.D., an environmental scientist and founder of Woods End Soil Lab, indicated a new approach to farming is urgently needed. Brinton recently addressed the importance of measuring CO_2 activity in soil as part of a new approach to soil fertility. He added that the Solvita® Respiration Kit, which is manufactured by Woods End, can play a distinctive role in restoring the needed soil/plant/CO_2 balance.

Traditional Farming

"The normal practice is to provide crops with nitrogen, phosphorus and potassium," Brinton explained. "We take it for granted that our crops will get the CO_2 they need from the surrounding air. But things have changed over the years. Soils have fallen so low in organic carbon that they no longer produce enough CO_2 to feed vigorously growing plants."

It's important to realize that natural CO_2 levels in the air are actually controlled by soil because it originates there, Brinton explained. Microbes hold and release organic matter from the soil as CO_2. In fact, carbon scientists agree that topsoil is the greatest storehouse of available global carbon.

"In pre-industrial times, soils were naturally rich in humus, the decomposed plant and animal matter essential to our soil's health," Brinton said. "Thus, the amount of CO_2 coming out of the ground – right under our crops – was more than sufficient to meet all our plants' photosynthesis needs. Now that agricultural soils have become so carbon-depleted, however, plants need to access more of their CO_2 from the air rather than the soil. We don't know the full extent of this soil biology yet, but some crops may now be limited from lack of CO_2, which ensures full growth."

Crops Are Hungry for CO_2

According to Brinton, CO_2 needs can be as high as 400 pounds per day per acre. "In a race against time and population growth, we imagine that more fertilizer will produce more crops and feed more people," he said. "But this equation is far too simple – and may even be dangerous."

A recent scientific paper shows that in spite of increased fertilizer usage, soils are steadily declining in organic nitrogen reserves, which is held by humus. Long-term plot studies confirm that humus has also declined in agricultural soils by more than 50 percent in the last century. Brinton uses an analogy to explain what's happening: "We've depleted our savings account, and the interest we've benefited from is no longer there."

A Better Way of Farming

"We need to alter the way we measure yield response by paying attention to the background CO_2 and organic nitrogen fertility. These have been factored out of earlier studies. Correcting this omission is critical to assuring soil health and high-yielding crops. The 2015 International Year of the Soil seems to be the perfect time to address this issue."

Brinton, the inventor of Solvita®, said the test is a rapid and accurate means of measuring soil biological CO_2 activity. “If we don’t start accurately measuring soil carbon biology, I fear we will continue to ignore it in soil management. We just can’t keep starving soil microbes of their food.”

How to Submit Soil Samples to Woods End

Growers seeking a complete, professionally integrated view of soil biology as it influences nutrients may obtain Soil Health Test results by sending soil samples to Woods End Laboratories. For instructions on sending these samples to Woods End, email lab@woodsend.org, check “The Soil Health Test” link, or use the Soil Solvita map to find the nearest lab offering such tests.

For more information or to set up an interview,
email Lucas Rumler at Woods End Laboratories or call (800) 451-0337.
Download graphics and additional information at: http://solvita.com/press.