

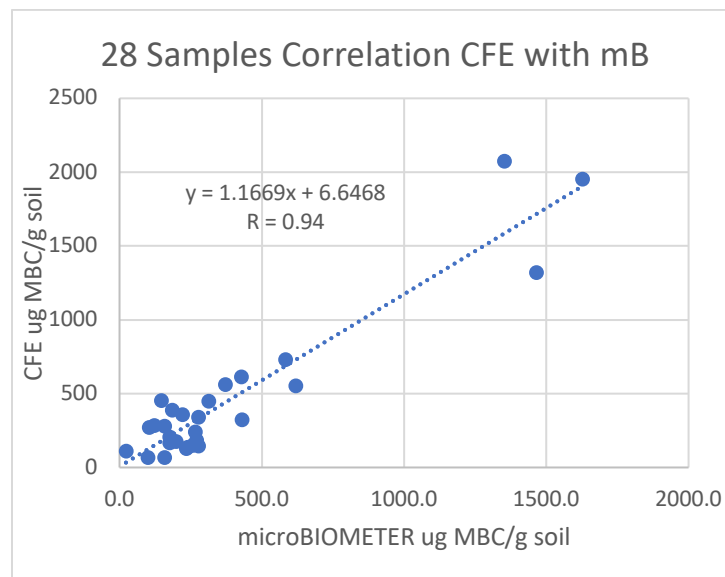


Prolific Earth Sciences, Inc.
microBIOMETER® Correlates with \$500 Lab Test for Microbial Biomass

microBIOMETER® is an inexpensive, smart phone based on-site test for microbial biomass that was developed to facilitate the implementation of regenerative agricultural practices. It's price, simplicity, and immediate results compare favorably against the extreme costs and time delay of lab tests, but can it replace such tests?

Prolific Earth Sciences, Inc. (PES) and the University of Tennessee, Knoxville (UT) collaborated on a study to compare the gold standard of laboratory soil microbial biomass testing, Chloroform Fumigation Extraction (CFE), with microBIOMETER®. The multiple steps, time, and labor involved with CFE require pricing at up to \$500 per sample. CFE works by comparing the difference of chemically extractable carbon between two portions of a soil sample: One that has been treated to break open microbial cell membranes and expose the carbon-containing biological molecules to extraction, and one that has not. The difference in carbon for the two portions is reported as microbial biomass carbon (MBC), in units of $\mu\text{g C / g soil}$. microBIOMETER® is calibrated to the same units.

Twenty-eight soil samples from diverse geographic areas across the U.S. were shipped overnight or within 2 days to PES. Half of each sample was then shipped overnight to UT. Both institutions stored samples at 4 C until testing. PES ran the microBIOMETER® tests on the same day that UT ran the CFE tests.



The results showed correlation of 94%. Since increasing stored soil carbon requires increasing microbial biomass, microBIOMETER® can provide solid evidence that you are doing what is required to increase soil organic carbon and all that brings to the health of your soil and plants.