

## QUANTIFYING REGENERATIVE FARMING: MEASURING SOIL HEALTH SO FARMERS CAN MANAGE IT.

The future of regenerative agriculture involves quantifying and optimizing soil health. Enhancing and encouraging the health and vitality of the soil microbial community enables the opportunity to lower carbon emissions across the entire agriculture sector.

Agrology delivers high quality, real-time, ground-truthed data on soil health, carbon, GHG emissions, and climate threats. Using ground-truth devices and machine learning sensor fusion, the Agrology Platform makes it easy for growers to be more regenerative, quantify soil carbon, and stay ahead of threats like drought, pest and disease outbreaks, smoke taint, extreme temperatures, and more.

### THE AGROLOGY PLATFORM

- Includes rugged ground-truth sensors that sit in the ground and in the canopy to quantify every nano climate of a property.
- Pulls multiple data inputs from local weather stations and publicly available agricultural information, then combines with Agrology grower data to generate insights specific to a farm, block, or acre.
- Integrates data into the platform then applies machine learning and artificial intelligence to turn gathered data into customized insights and guidance for growers.
- Provides access to insights anywhere, anytime, even offline on-farm.

### THE ARBITER SYSTEM

- Is the only real-time, continuous Carbon Monitoring System designed for on-farm use.
- Accurately measures carbon flux in/out of soil using ground-truth data (not modeling or estimates).
- Monitors and measures soil carbon respiration, a key indicator of soil microbial activity and soil health.
- Measures nitrous oxide flux as well, a GHG with 300X the potency of CO<sub>2</sub>.

The Arbiter System continuously monitors the carbon cycle via soil carbon respiration. Increasing the health of the microbiome has numerous ecological and production benefits including improved water infiltration and retention (drought resistance), more active nutrient cycling and improved nutrient availability (decreased need for fertilizers and inputs), and increased pest, disease and stress resistance of crops (healthier, higher quality crops).



Using the Arbiter, growers have a clear understanding of the increased carbon sequestration that occurs thanks to a transition to regenerative agriculture - not with models, practice-based estimates, or remote sensing, but with ground-truth data directly pulled from in and around the soil.

## THE IMPORTANCE OF CONTINUOUS GROUND- TRUTH MEASUREMENT

Ground-truth data on carbon flux provides an accurate way for growers to quantify and see the impact of their transition to regenerative agriculture. With data in hand, growers can be confident that their regenerative practices are the right business move and are generating climate-smart results.

“Agrology has been amazing. It’s super easy to use, it’s intuitive, and pulls in more data than we even thought was possible. From soil moisture to temperature, to carbon flux and everything in between, all of the data is all right there. Agrology is quantifying everything that’s happening with our soil over time.”



- CAINE THOMPSON,  
O'NEILL VINTNERS

