

PES TECHNOLOGIES

Testing transformed

Who is PES Technologies?

PES Technologies has developed a revolutionary hand-held tool that allows for the in-field measurement of soil health indicators within minutes, enabling agronomic practitioners to make immediate, data-driven decisions. PES provides access to near real-time data with which users can take control, improve soil conditions, and adopt more sustainable practices.



How does it work?



A teaspoon of soil is placed in the soil drawer. Volatile Organic Compounds (VOC's) released by the soil are detected by our sensor.



This VOC data creates a unique electronic fingerprint which is then analysed through the machine learning algorithm. The GPS location of the samples is tagged. The results are then sent back to the ScentsCheck app.

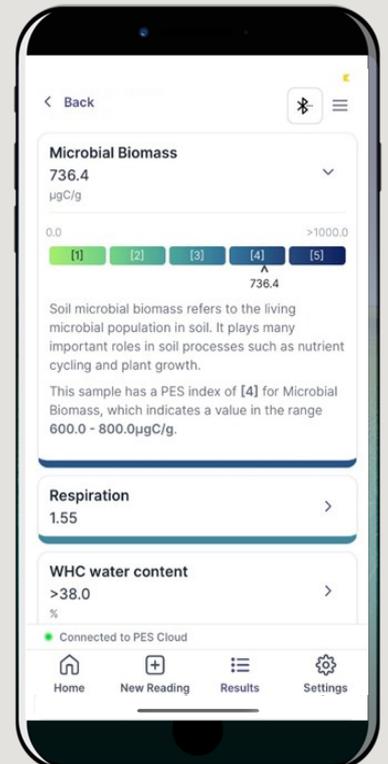
Electronic Reader Unit (ERU)



PES Cassette



Results on the PES ScentsCheck App



Current Indicators:

- Microbial biomass
- Microbial respiration
- Extractable Nitrate
- Extractable ammonium
- Phosphorous
- Potassium
- pH
- Organic matter
- Available Magnesium
- Water holding capacity
- Field water content
- Texture (Sand, silt, clay %)

Features:

- Each sample taken has the GPS coordinates recorded to enable accurate re-sampling
- Compatible with farm management software
- Compatible with SFI reporting
- New indicators updated remotely
- Export in CSV and PDF formats



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Use Cases

Diagnostics for Soil Health

Inconsistent or poor soil health can significantly impact crop growth, yield quality, and the ecological balance of a field. The PES Technologies ERU provides near real-time diagnostic data on critical soil health indicators—including: **microbial biomass, organic matter, pH, and nutrient levels**—allowing farmers to monitor these variables across different fields in minutes. **This enables faster, productivity impacting, decision making.** Each sample is GPS-tagged, allowing users to then implement targeted interventions precisely where they're needed, addressing deficiencies on the spot to improve crop yields, reduce input costs, and increase field sustainability.



Monitor, Reporting, Verification

The PES ERU tool allows agronomic practitioners and land managers to rigorously evaluate **how different interventions impact soil health over time**, developing best practices based on measurable changes in organic matter, microbial biomass, nutrient levels, and other essential indicators. These insights could also guide and verify the efficacy of policy currently in place as well as encouraging tenants to maintain and improve soil health during their tenancy. Each test is **GPS-tagged** allowing users to monitor progress at specific sites. The ERU is capable

of integrating smoothly with existing data management systems, as well as being **compatible with SFI requirements, and results exportable to CSV and PDF files.**

What else can be done with our ERU?

Our technology can be trained to be used with most materials that give off VOC's. This platform technology allows us to provide clear cut decisions on topics from animal health, pest management , or even quality control.



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