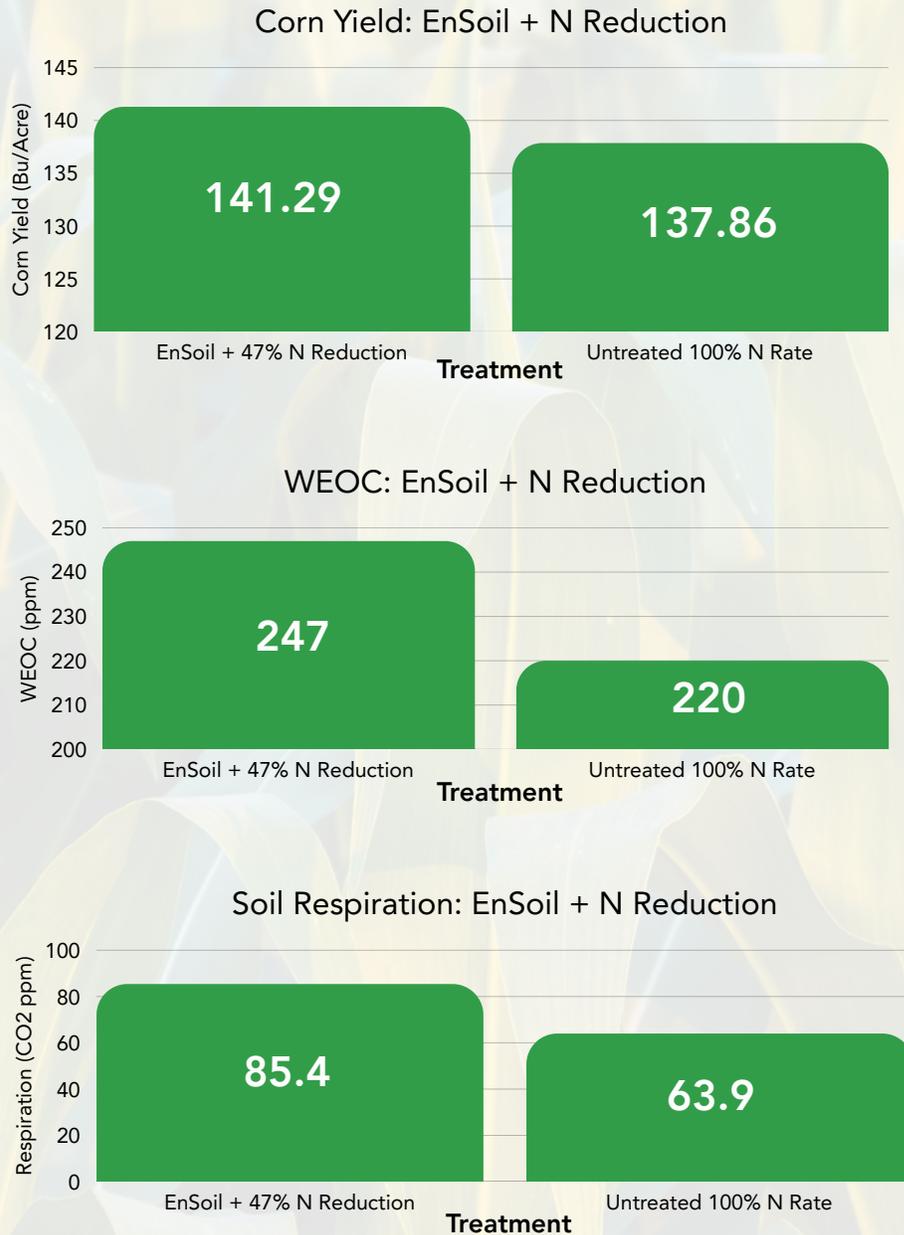


EnSoil Haney Test Data Highlights

2024 Total Acre Corn Trial in Paulding, OH

Results

- **Corn yield increased by 3.43 bushels per acre in the EnSoil treatment (141.29 bu/acre) compared to the untreated control (137.86 bu/acre), despite a 47% reduction in nitrogen fertilizer rate.**
- **Water extractable organic carbon (WEOC) was higher with EnSoil (247 ppm) than in the untreated control (220 ppm), indicating more available food for soil microbes.**
- **Soil respiration, a key indicator of microbial activity, was elevated in the EnSoil block (85.4 ppm CO₂) compared to the untreated control (63.9 ppm CO₂).**
- **All additional grower practices remained constant** between both trial blocks; only EnSoil use and nitrogen rate differed.
- **All nitrogen in the EnSoil treatment was applied at planting, with no in-season or pre-plant nitrogen applications.**



Trial Description: This corn trial was conducted by Total Acre in 2024 to evaluate EnSoil's ability to reduce conventional fertility rates while supporting soil health and productivity. The trial site was located in Paulding, Ohio. Haney Tests were taken to better understand the impacts of EnSoil on soil health and fertility. Aside from EnSoil applications and adjustment to the grower standard nitrogen application rate, all grower standard practices were maintained as consistent between the EnSoil block and untreated control block.

Application Description: EnSoil was applied in-furrow, as a sprayer broadcast at V3-6, via Y-drop at V8-10, and as a sprayer broadcast at VT-R1 for a total of four applications. Nitrogen applications in this EnSoil treatment were reduced by 47%, with all nitrogen applied at planting.



Trial Design

Grower: Evan Schlatter

Trial Manager: Total Acre

Location: Paulding, OH

Planting Date: 6/11/2024

Harvest Date: 11/22/2024



Treatments:

- **EnSoil Treatment Plot:**
 - Received four applications of EnSoil:
 - In-furrow at planting
 - Sprayer broadcast at V3–V6
 - Y-drop at V8–V10
 - Sprayer broadcast at VT–R1
 - Nitrogen fertilizer was reduced by 47% compared to standard practice, with all nitrogen applied at planting.
 - All other grower standard practices were maintained.
- **Untreated Control Plot:**
 - Did not receive EnSoil.
 - Received the full, standard nitrogen fertilizer rate (not reduced).
 - All other grower standard practices were maintained.

Notable Soil Metrics:

- Corn yield (measured in bushels per acre)
- Water extractable organic carbon (WEOC) (measured in parts per million, ppm)
- Soil respiration (measured as ppm CO₂, indicating microbial activity)

Goal:

- Assess EnSoil's ability to maintain or increase corn yield when nitrogen fertilizer rates are reduced by nearly half (47% reduction), compared to standard grower practices.
- Measure impacts on soil health, using Haney Tests to track indicators like water extractable organic carbon (WEOC) and soil respiration.
- Determine if EnSoil supports soil microbial activity and nutrient cycling, especially under lower fertilizer input scenarios.

Trial Results

The results of this trial demonstrate the ability of EnSoil to support soil productivity while reducing nitrogen inputs. Even with a 47% reduction in nitrogen fertilizer, the EnSoil treatment outperformed the untreated control, delivering a yield increase of 3.43 bushels per acre.

The EnSoil treatment showed a notable boost in water extractable organic carbon, a key resource for beneficial soil microbes that drive nutrient cycling. Soil respiration, an indicator of microbial activity, was also noticeably higher in the EnSoil treatment.

These improvements suggest that EnSoil enhances crop productivity alongside reduced nitrogen inputs by actively supporting healthier, more biologically active soils. For growers looking to cut back on fertilizer without sacrificing performance, these results are an encouraging sign.

EnSoil enabled a grower in Paulding, Ohio to achieve higher corn yields and healthier soils while using 47% less nitrogen fertilizer.