

Total Acre Trials

Mike Jenks - Aurora, IA

In summary, EnSoil Algae™ demonstrated a positive effect on function and efficiency of both soil microbes and plants. Short term nutrient cycling improved as shown by increases in nitrification and phosphorus acquisition (figure 1, 2). The fertility values from the total nutrient digest and the increase in biomass indicate an improvement in long term fertility storage and an opportunity for future savings on fertility costs (figure 3). Overall, treatment 2 (50% N reduction + EnSoil Algae™) demonstrated a better functioning soil with improved cycling and microbial activity.

229 Acres Corn:

- planted 5/17/24
- harvested 10/17/24

Three Treatments:

- Control - standard fertility - 50lbs planting, 50 lbs mid season
- Treatment 1- standard fertility + EnSoil Algae™ x 4 applications
- Treatment 2 - planting N only (50% N reduction) + EnSoil Algae™ x 4 applications

EnSoil Algae™ applications applied In furrow, Y-drop (V3-6), 2x Sprayer Broadcast (V8-10 & VT-R1)

Short Term Nutrient Cycling

Improved Nitrification: Between the control and treatment 2 (50% N reduction + algae), there was relatively the same amount of nitrogen available to the microbial population, and an increase in bioavailable organic nitrogen, which plants prefer over inorganic nitrogen. This improvement is likely due to the algae cells changing the microbial structure and improving plant efficiency.

| 8/5/24 | H2O Total N (ppm) | H2O Organic N (ppm) | Available N (lbs/A) |
|-------------|-------------------|---------------------|---------------------|
| Control | 35.7 | 18.7 | 65 |
| Treatment 1 | 28.4 | 18.5 | 51.4 |
| Treatment 2 | 34.8 | 20.4 | 62.4 |

Figure 1. Haney test results from 8/5/24.

"The algae are making the plants more efficient at feeding the microbes, harvesting them, and sucking the nutrients out. You're getting more function from the microbes. We would expect that to happen if you're not over supplying nitrogen." -Dr. Liz Haney

Improved Phosphorus Acquisition:

- Arbuscular mycorrhizae increase likely led to improved phosphorus acquisition. Arbuscular mycorrhizae attach to roots, expand the root systems, and move phosphorus.
- Plants are known to release acids to solubilize phosphorus when needed. Figure 2 indicates improved plant function and soil function in the reduced nitrogen treatment, as well as the right recruitment of soil microbes, and an overall increase in nutrient uptake efficiency. In treatment 1 (100% N applied + EnSoil Algae™), the naturally occurring nitrogen cycle was interrupted, leading to less efficient cycling of other nutrients (phosphorus, etc.) Whereas, in treatment 2 (50% N reduction + EnSoil Algae™) there was significantly more nitrogen and phosphorus available.

| 8/5/24 | H3A Total Phosphorus (ppm) | Available P (lbs/A) | Arbuscular Mycorrhizae (ng/g) |
|-------------|----------------------------|---------------------|-------------------------------|
| Control | 32.6 | 75 | 30.51 |
| Treatment 1 | 36.6 | 84.2 | 323.02 |
| Treatment 2 | 47.2 | 108.5 | 253.89 |

Figure 2. Haney and PLFA test results from 8/5/24.

Long Term Fertility Storage & Yield

Yield (bu/A): Control: 220 | Treatment 1: 223.22 | Treatment 2: 216.92

| 8/5/24 | N (lbs/A) | P (lbs/A) | K (lbs/A) | Ca (lbs/A) | Mg (lbs/A) | S (lbs/A) | Zn (lbs/A) | Fe (lbs/A) |
|-------------|-----------|-----------|-----------|------------|------------|-----------|------------|------------|
| control | 6462 | 1404 | 2412 | 11592 | 4986 | 684 | 85.1 | 27226 |
| treatment 1 | 8712 | 1836 | 2484 | 15804 | 5634 | 864 | 91.3 | 29020 |
| treatment 2 | 9180 | 1872 | 2484 | 12724 | 5346 | 918 | 91 | 28058 |

Figure 3. Total Nutrient Digest test results from 8/5/24. Yields are maintained & soil nutrients are replenished.

Soil Health and Biomass

EnSoil Algae™ increased biomass and soil microbial activity in both treatment 1 and treatment 2.

- Protozoa, the major recyclers of the soil microbes, increased from 0 (control) to 15.8 (treatment 1) to 3.08 (treatment 2) indicating improved microbial recruitment, especially in treatment 1.
- Increased biomass also indicates an opportunity to improve residue breakdown and delayed nutrient release.
- The soil health calculation (SHC) is a general indicator of healthy soil, taking into account respiration, organic carbon, and organic nitrogen. SHC increased treatment 2 (50% N reduction + algae).

| 8/5/24 | SHC | Soil OM (%LOI) | Soil Resp. (ppm CO ₂ -C) | H ₂ O extract Org. C (ppm) | Biomass (ng/g) | Protozoa (ng/g) |
|-------------|-------|----------------|-------------------------------------|---------------------------------------|----------------|-----------------|
| Control | 24.92 | 7.2 | 260.8 | 221 | 876.2 | 0 |
| Treatment 1 | 23.65 | 8.9 | 243.7 | 220 | 7383.69 | 15.8 |
| Treatment 2 | 26.03 | 9.2 | 272 | 228 | 6981.66 | 3.08 |

Figure 4. Haney and PLFA test results from 8/5/24.

Total Acre Trials

Evan Schattler - Paulding, OH

"Unfortunately, this plot incurred a projected yield loss of around 40% due to drought. In summary, the standard N rate with EnSoil Algae™ applications yielded less than the grower's standard N rate without EnSoil Algae™ applications (-5.15 bu/ac). On the other hand, the reduced N rate with EnSoil Algae™ applications showed a positive response of around +3.43 bu/ac. Alongside the yield gain, the reduction in nitrogen saved the grower an additional \$51.43/ac (with an overall reduction of 27.5 gal/ac of UAN28% applied at the V10 growth stage). This makes for a very nice ROI during a tough year."

77 Acres Corn

Planted 6/11/24; Harvested 11/22/24

Three Treatments:

- Control - standard fertility - 232 units N
- Treatment 1- standard fertility + EnSoil Algae™ x 4 applications
- Treatment 2 - planting N only (47% N reduction) + EnSoil Algae™ x 4 applications

EnSoil Algae™ applications applied In furrow, Sprayer Broadcast (V3-6), Y-Drop (V8-10), Sprayer Broadcast (VT-R1)

Soil Health and Biomass

- Increased biomass indicates an opportunity to improve residue breakdown and delayed nutrient release.
- The soil health calculation (SHC) is a general indicator of healthy soil, taking into account respiration, organic carbon, and organic nitrogen.

| 9/5/24 | Soil Resp. (ppm CO ₂ -C) | H ₂ O Org. C (ppm) | %MAC | SHC | Biomass (ng/g) | Protozoa (ng/g) |
|-------------|--|----------------------------------|------|-------|-------------------|--------------------|
| Control | 63.9 | 220 | 29 | 12.39 | 941.29 | 0 |
| Treatment 2 | 85.4 | 247 | 34.6 | 15.01 | 1340.46 | 7.28 |

Figure 2. Haney Soil Test and PLFA Results from 9/5/24.

Long Term Fertility Storage

| 9/5/24 | N (lbs/A) | P (lbs/A) | K (lbs/A) | Ca (lbs/A) | Mg (lbs/A) | S (lbs/A) | Zn (lbs/A) | Fe (lbs/A) | Mn (lbs/A) | Cu (lbs/A) | Al (lbs/A) |
|-------------|--------------|--------------|--------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|
| control | 3798 | 1260 | 4680 | 12600 | 7560 | 360 | 117 | 38637 | 512 | 34.9 | 23842 |
| treatment 2 | 4050 | 1440 | 5940 | 14400 | 9720 | 360 | 143.1 | 52131 | 630 | 45.7 | 31631 |

Figure 3. TND Results from 9/5/24. Soil nutrients are replenished, not extracted.

Return on Investment

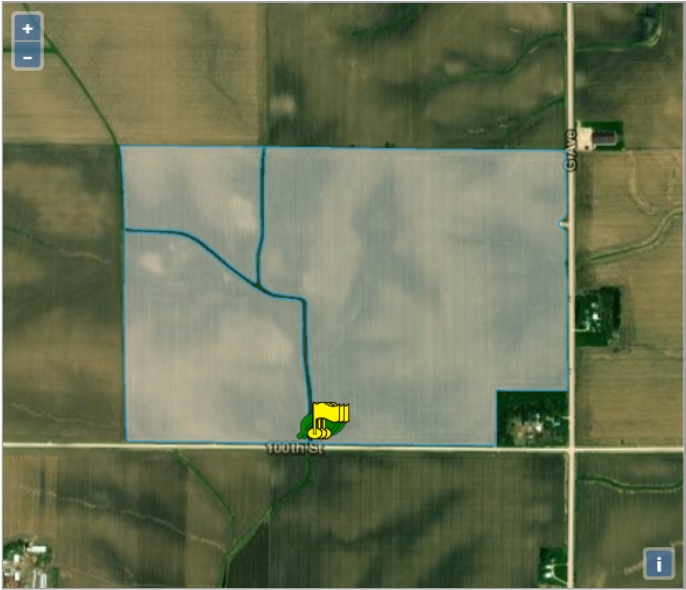
| | yield (bu/A) | Applied Nitrogen (lbs/A) | \$ savings for applied N @ 100 acres | Commodity Pricing \$4.75/ bu @ 100 acres difference from Grower Standard | Total ROI on 100 acres | Total ROI on 100 acres w/ Cost of EnSoil @ \$9/acre |
|-------------|-----------------|--------------------------------|--|--|------------------------------|---|
| Control | 137.86 | 232 | 0 | 0 | 0 | 0 |
| treatment 1 | 132.71 | 232 | 0 | -\$2446 | -\$2446 | -\$5146 |
| treatment 2 | 141.29 | 125 | \$5143 | \$1629 | \$6772 | \$4072 |

Product Trial Report



| GROWER DETAILS | FIELD DETAILS | PLANTING/HARVEST DETAILS | Total Acre Final Report |
|-----------------------------|-------------------------------------|---------------------------|--|
| Grower: Jenks Partners Inc. | Total Acres: 229.29 | Crop: Corn | Report Date: 12/30/2024 |
| City & State: Aurora, IA | Soil Type: Please see Soil Type Map | Plant Date: 05/17/2024 | Harvest Year: 2024 |
| Zip Code: 50607 | Tile: Systematically Tiled | Row Spacing: 30" | Crop: Corn |
| | Irrigation: None | Planting Depth: 2.50 | Trial Name: EnSoil Algae |
| | Fall Tillage: Strip Till | Harvest Date: 10/17/2024 | Trial Type: In-Furrow, V3-V6, V8-V10 & VT-R1 |
| | | Hybrid: 66C2Q & 65D3Q | |
| | | Seed Company: NuTech Seed | |
| | | Population: 34000 | |

Field Map

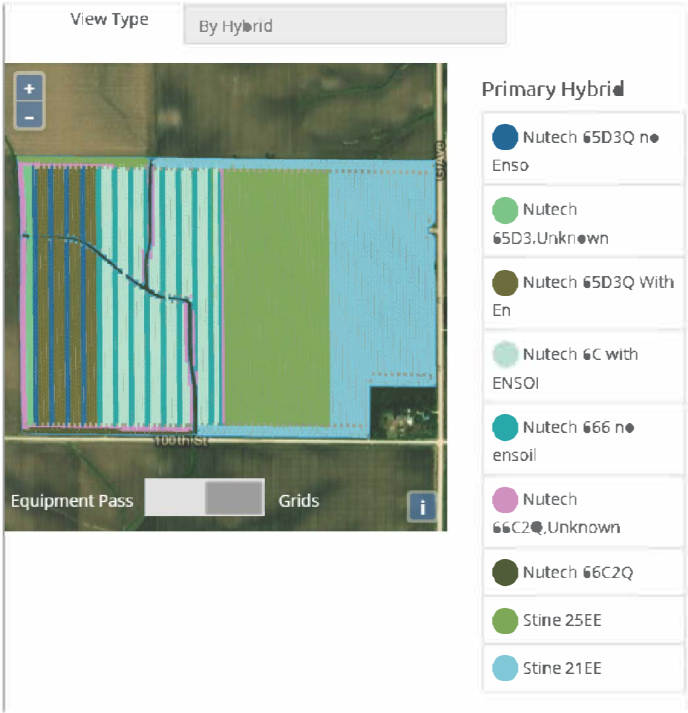


Soil Type

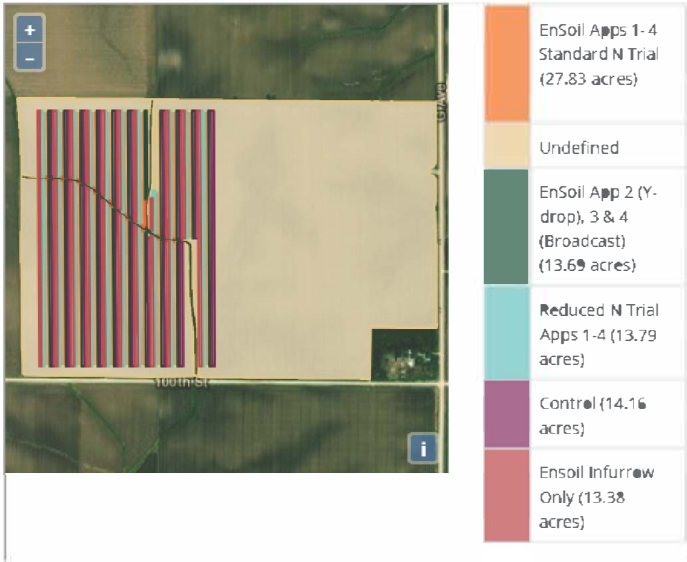


| Property | Percent |
|------------|---------|
| Loam | 74.8% |
| Clay loam | 23.4% |
| Sandy loam | 1.8% |

Planting Map



Trial Zones



Flag Test Data

Test 1 Row 1

| | Date | Time | Color | Count | Soil Temp. | GDUs | GDU delta |
|---|------------|----------|----------|-------|------------|------|-----------|
| 1 | 5/27/2024 | 06:17 AM | pink | 0 | 60 °F | 146 | |
| 2 | 5/28/2024 | 05:32 AM | yellow | 6 | 60 °F | 154 | 8 |
| 3 | 5/28/2024 | 5:34 PM | purple | 7 | 60 °F | 159 | 13 |
| 4 | 5/29/2024 | 05:35 AM | dk green | 2 | 64 °F | 163 | 17 |
| 5 | 5/29/2024 | 5:36 PM | lt green | 6 | 64 °F | 168 | 22 |
| 6 | 06/03/2024 | 4:46 PM | white | 4 | 0 °F | 241 | |

Test 2 Row 1

| | Date | Time | Color | Count | Soil Temp. | GDUs | GDU delta |
|---|------------|----------|----------|-------|------------|------|-----------|
| 1 | 5/27/2024 | 06:17 AM | pink | 0 | 60 °F | 146 | |
| 2 | 5/27/2024 | 5:22 PM | grey | 3 | 60 °F | 150 | 4 |
| 3 | 5/28/2024 | 05:32 AM | yellow | 3 | 60 °F | 154 | 8 |
| 4 | 5/28/2024 | 5:34 PM | purple | 9 | 60 °F | 159 | 13 |
| 5 | 5/29/2024 | 5:36 PM | lt green | 7 | 64 °F | 168 | 22 |
| 6 | 06/03/2024 | 4:46 PM | white | 9 | 0 °F | 241 | |

Control Row 1

| | Date | Time | Color | Count | Soil Temp. | GDUs | GDU delta |
|---|------------|------------|----------|-------|------------|------|-----------|
| 1 | 5/27/2024 | 06:55 AM | pink | 1 | 60 °F | 146 | |
| 2 | 5/27/2024 | 5:00:06 PM | grey | 1 | 60 °F | 150 | 4 |
| 3 | 5/28/2024 | 05:03 AM | yellow | 4 | 60 °F | 154 | 8 |
| 4 | 5/28/2024 | 5:04:49 PM | purple | 4 | 60 °F | 159 | 13 |
| 5 | 5/29/2024 | 05:12 AM | dk green | 3 | 64 °F | 163 | 17 |
| 6 | 5/29/2024 | 5:12:11 PM | lt green | 6 | 64 °F | 168 | 22 |
| 7 | 06/03/2024 | 4:46 PM | white | 13 | 0 °F | 241 | |

| Date | GDUs | Water | Tissue Site | Nitrogen | Phosphorus | Potassium | Magnesium | Calcium | Sulfur | Zinc | Manganese | Copper | Iron | Boron | Aluminum | Molybdenum | Sodium |
|------------|------|--------|-------------------------|----------|------------|-----------|-----------|---------|--------|-----------|-----------|-----------|------------|-----------|----------|------------|----------|
| 06/16/2024 | 485 | - | Ensoil Algae (Center) | 4.3 % | 0.39 % | 4.03 % | 0.32 % | 0.47 % | 0.3 % | 31.23 ppm | 33.05 ppm | 8.6 ppm | 290.49 ppm | 7.44 ppm | | 0.67 ppm | 0.35 ppm |
| | | | Ensoil Reduced N (West) | 4.43 % | 0.43 % | 3.81 % | 0.35 % | 0.49 % | 0.39 % | 31.62 ppm | 43.23 ppm | 9.43 ppm | 292.02 ppm | 9.44 ppm | | 0.7 ppm | 0.25 ppm |
| | | | Ensoil Control (EAST) | 4.24 % | 0.41 % | 4.13 % | 0.29 % | 0.37 % | 0.27 % | 26.38 ppm | 32.02 ppm | 8.06 ppm | 188.37 ppm | 7.42 ppm | | 0.56 ppm | 0.29 ppm |
| 06/25/2024 | 708 | 2.8 in | Ensoil Algae (Center) | 4.46 % | 0.42 % | 2.66 % | 0.41 % | 0.59 % | 0.31 % | 21.85 ppm | 41.11 ppm | 14.15 ppm | 274.51 ppm | 11.09 ppm | | 0.82 ppm | 0.3 ppm |
| | | | Ensoil Reduced N (West) | 4.36 % | 0.54 % | 3.07 % | 0.51 % | 0.68 % | 0.38 % | 27.9 ppm | 51.1 ppm | 16.66 ppm | 273.88 ppm | 13.65 ppm | | 0.86 ppm | 0.27 ppm |
| | | | Ensoil Control (EAST) | 4.75 % | 0.47 % | 2.56 % | 0.44 % | 0.67 % | 0.39 % | 23.95 ppm | 51.43 ppm | 17.67 ppm | 278.45 ppm | 15.8 ppm | | 0.63 ppm | 0.3 ppm |
| 07/01/2024 | 806 | 1.4 in | Ensoil Algae (Center) | 4.36 % | 0.32 % | 2.14 % | 0.24 % | 0.42 % | 0.24 % | 16.41 ppm | 24.81 ppm | 11.22 ppm | 216.19 ppm | 10.33 ppm | | 0.87 ppm | 0.14 ppm |
| | | | Ensoil Reduced N (West) | 4.41 % | 0.35 % | 2.34 % | 0.28 % | 0.52 % | 0.27 % | 21.5 ppm | 28.74 ppm | 11.81 ppm | 199.96 ppm | 11.92 ppm | | 0.97 ppm | 0.15 ppm |
| | | | Ensoil Control (EAST) | 4.37 % | 0.42 % | 2.32 % | 0.3 % | 0.53 % | 0.33 % | 24.37 ppm | 35.33 ppm | 14.57 ppm | 283.8 ppm | 12.82 ppm | | 0.94 ppm | 0.29 ppm |
| 07/08/2024 | 942 | 3.5 in | Ensoil Algae (Center) | 4.11 % | 0.39 % | 2.34 % | 0.27 % | 0.39 % | 0.27 % | 20.73 ppm | 30.22 ppm | 10.48 ppm | 201.63 ppm | 10.51 ppm | | 1.05 ppm | 0.52 ppm |
| | | | Ensoil Reduced N (West) | 4.19 % | 0.43 % | 2.46 % | 0.24 % | 0.35 % | 0.27 % | 20.54 ppm | 31.18 ppm | 10.82 ppm | 216.5 ppm | 10.22 ppm | | 1.09 ppm | 0.37 ppm |
| | | | Ensoil Control (EAST) | 4.2 % | 0.42 % | 2.34 % | 0.27 % | 0.39 % | 0.28 % | 21.19 ppm | 27.64 ppm | 11.78 ppm | 215.16 ppm | 9.28 ppm | | 0.25 ppm | 0.34 ppm |
| 07/14/2024 | 1082 | 0.7 in | Ensoil Algae (Center) | 3.8 % | 0.41 % | 2.3 % | 0.24 % | 0.44 % | 0.25 % | 27.28 ppm | 28.59 ppm | 11.17 ppm | 192.45 ppm | 11.94 ppm | | 0.77 ppm | 0.31 ppm |
| | | | Ensoil Reduced N (West) | 3.93 % | 0.42 % | 2.4 % | 0.26 % | 0.46 % | 0.27 % | 23.27 ppm | 30.75 ppm | 9.92 ppm | 233.12 ppm | 13.5 ppm | | 0.99 ppm | 0.35 ppm |
| | | | Ensoil Control (EAST) | 3.8 % | 0.44 % | 2.43 % | 0.29 % | 0.49 % | 0.27 % | 28.44 ppm | 30.55 ppm | 18.19 ppm | 243.61 ppm | 12.75 ppm | | 1.04 ppm | 0.36 ppm |
| 07/22/2024 | 1234 | 1.6 in | Ensoil Algae (Center) | 3.6 % | 0.27 % | 1.92 % | 0.22 % | 0.36 % | 0.2 % | 24.26 ppm | 21.99 ppm | 8.68 ppm | 245.46 ppm | 6.59 ppm | | 1.16 ppm | 0.13 ppm |
| | | | Ensoil Reduced N (West) | 3.46 % | 0.28 % | 1.83 % | 0.21 % | 0.27 % | 0.2 % | 22.46 ppm | 20.44 ppm | 5.99 ppm | 222.36 ppm | 7.73 ppm | | 0.89 ppm | 0.17 ppm |
| | | | Ensoil Control (EAST) | 3.58 % | 0.29 % | 1.82 % | 0.23 % | 0.32 % | 0.19 % | 20 ppm | 20.39 ppm | 7.2 ppm | 205.46 ppm | 7.75 ppm | | 0.6 ppm | 0.13 ppm |
| 08/01/2024 | 1463 | 1.2 in | Ensoil Algae (Center) | 3.29 % | 0.43 % | 2.43 % | 0.3 % | 0.54 % | 0.22 % | 19.82 ppm | 25.9 ppm | 10.43 ppm | 183.28 ppm | 7.38 ppm | | 1.4 ppm | 0.2 ppm |
| | | | Ensoil Reduced N (West) | 3.23 % | 0.37 % | 2.29 % | 0.25 % | 0.42 % | 0.19 % | 15.68 ppm | 26.88 ppm | 9.03 ppm | 246.42 ppm | 6.89 ppm | | 1.03 ppm | 0.24 ppm |
| | | | Ensoil Control (EAST) | 3.24 % | 0.3 % | 1.83 % | 0.24 % | 0.4 % | 0.16 % | 14.83 ppm | 19.35 ppm | 7.3 ppm | 178.92 ppm | 6.16 ppm | | 0.66 ppm | 0.43 ppm |
| 08/11/2024 | 1650 | 0.1 in | Ensoil Algae (Center) | 2.99 % | 0.44 % | 2.39 % | 0.29 % | 0.44 % | 0.19 % | 19.27 ppm | 23.58 ppm | 10.49 ppm | 166.57 ppm | 8.43 ppm | | 1.07 ppm | 0.34 ppm |
| | | | Ensoil Reduced N (West) | 3.05 % | 0.44 % | 2.49 % | 0.3 % | 0.45 % | 0.19 % | 18.64 ppm | 24.6 ppm | 9.69 ppm | 177.09 ppm | 7.78 ppm | | 0.92 ppm | 0.36 ppm |
| | | | Ensoil Control (EAST) | 2.93 % | 0.41 % | 2.3 % | 0.37 % | 0.55 % | 0.21 % | 19.21 ppm | 25.78 ppm | 11.19 ppm | 145.25 ppm | 9.09 ppm | | 0.92 ppm | 0.26 ppm |

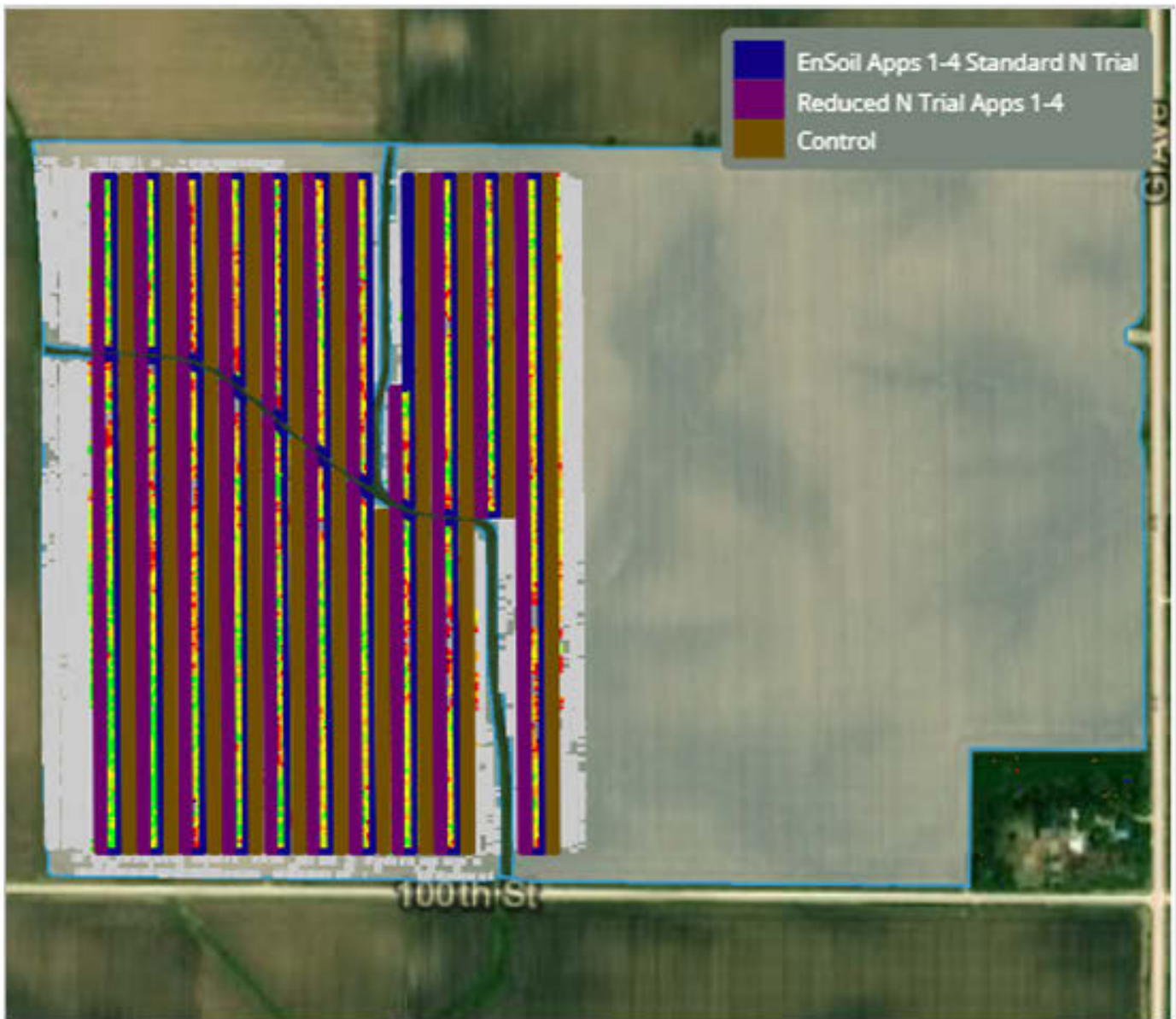
Tissue Sample Report



| Date | GDU | Water | Tissue Site | Nitrogen | Phosphorus | Potassium | Magnesium | Calcium | Sulfur | Zinc | Manganese | Copper | Iron | Boron | Aluminum | Molybdenum | Sodium |
|------------|------|-------|-------------------------|----------|------------|-----------|-----------|---------|--------|-----------|-----------|-----------|------------|-----------|----------|------------|----------|
| 08/25/2024 | 1911 | 1 in | Ensoil Algae (Center) | 2.75 % | 0.43 % | 2.31 % | 0.48 % | 0.79 % | 0.23 % | 19.67 ppm | 26.54 ppm | 12.32 ppm | 153.48 ppm | 10.3 ppm | | 1.19 ppm | 0.14 ppm |
| | | | Ensoil Reduced N (West) | 2.87 % | 0.49 % | 2.47 % | 0.38 % | 0.55 % | 0.2 % | 17.44 ppm | 23.6 ppm | 10.34 ppm | 134.33 ppm | 9.76 ppm | | 0.96 ppm | 0.12 ppm |
| | | | Ensoil Control (EAST) | 2.86 % | 0.47 % | 2.51 % | 0.53 % | 0.76 % | 0.23 % | 22.32 ppm | 29.98 ppm | 14 ppm | 168.99 ppm | 11.01 ppm | | 0.89 ppm | 0.12 ppm |

Yield Results Data

High Level Yield Heat Map



This data was filtered based on -1 / +2.5 St Dev

| Yield Summary BPA | |
|----------------------------------|-------------|
| Location | Yield |
| EnSoil Apps 1-4 Standard N Trial | 223.22 |
| Control | 220 |
| Yield Response | 3.22 |

| Yield Summary BPA | |
|--------------------------|--------------|
| Location | Yield |
| Reduced N Trial Apps 1-4 | 216.92 |
| Control | 220 |
| Yield Response | -3.08 |

| Yield Values | |
|--------------|---------------|
| | 195.8 - 207.8 |
| | 207.8 - 220 |
| | 220 - 229.5 |
| | 229.5 - 242.8 |
| | 242.8 - 282.7 |

Product Trial Comments:

This trial was originally intended to investigate the performance of four sequential applications of Ensoil (Timings include: 1.) In furrow 2.) V3-V6 3.) V8-V10 4.) VT-R1) across two environments- the grower's standard rate of nitrogen and a reduced rate of nitrogen. Both of those treatments were going to be compared to the grower's standard rate of nitrogen without any Ensoil applications. However, the trial was slightly modified early in the season and became more complex. Four treatments were included in the study (excluding the control as a "treatment").

The four treatments included:

- 1.) Ensoil App 1 (In furrow) Only
- 2.) Standard N Trial- App 1 (In furrow) + App 2 (Y-drop) + App 3 (Sprayer Broadcast) + App 4 (Sprayer Broadcast)
- 3.) Ensoil App 2 (Y-drop) + App 3 (Sprayer Broadcast) + App 4 (Sprayer Broadcast)
- 4.) Reduced N Trial- App 1 (In furrow) + App 2 (Y-drop) + App 3 (Sprayer Broadcast) + App 4 (Sprayer Broadcast)

*The Control (UTC) was the grower's standard nitrogen rate without any Ensoil applications

The grower did a great job adjusting the trial setup early in the season to account for the different treatments. Application swaths and combine swaths successfully matched up and allowed for fair evaluation of each treatment versus the control. Two hybrids were placed within the study, NuTech 65D3Q and NuTech 66C2Q. A summary table can be found at the end of the report that helps determine hybrid performance for the trial. When assessing yield outcomes, it should be noted that the yield monitor was calibrated and yield measurements were standardized upon processing by utilizing a $-1/+2.5$ Standard Deviation measurement to eliminate outlying or erroneous data points. This also helped eliminate significantly low yielding areas of the field that could have been affected by things such as moisture, sunlight, wildlife feeding, etc. (you can see areas that were eliminated on the harvest pass map under Yield Results). Also, plot yield overall was lower than usual (~20-30%) which the grower noted as being due to drought.

For this report, the EnSoil Apps 1-4 Standard N treatment and the Reduced N Trial (All four applications of Ensoil) treatment is displayed. The results summary can be seen here below (with the control at the end):

- 1.) Ensoil App 1 (In furrow) Only: 222.67 bu/ac (+2.67 bu/ac vs. Control)
- 2.) Standard N Trial- App 1 (In furrow) + App 2 (Y-drop) + App 3 (Sprayer Broadcast) + App 4 (Sprayer Broadcast): 223.22 bu/ac (+3.22 bu/ac vs. Control)
- 3.) Ensoil App 2 (Y-drop) + App 3 (Sprayer Broadcast) + App 4 (Sprayer Broadcast): 222.24 bu/ac (+2.24 bu/ac vs. Control)
- 4.) Reduced N Trial- App 1 (In furrow) + App 2 (Y-drop) + App 3 (Sprayer Broadcast) + App 4 (Sprayer Broadcast): 216.92 bu/ac (3.08 bu/ac vs. Control)

*Control (UTC): 220.00 bu/ac

Trial Nitrogen Management

The grower did note that the entire trial area received 3500 gallons of hog manure that was incorporated in the fall of 2023 and the entire trial area also received 50 units of N applied with an early post emerge application of herbicide. The nitrogen reduction for the Reduced N Trial occurred during the grower's Y-drop application of UAN 32% around V6 in which 50 units of N were excluded from that treatment area. The grower conventionally applies 100 units of nitrogen in season outside of the hog manure in the fall in order to adequately supply N to the crop. He noted that this season after his own investigation that he didn't take a huge hit in yield by reducing the 50 units at side dress. The grower also noted that the 50 unit reduction saved him around \$24.15 (UAN 32% was \$315/ton).

Application Date and Details:

In Furrow Application

Application Date: 4/27/24

Application Method: In furrow

Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 5 gallons

V3-V6 Application Application

Date: 6/16/24

Application Method: Y-drop

Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 15.5 gallons

V8-V10 Application

Application Date: 7/01/24

Application Method: Sprayer Broadcast

Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 14 gallons

VT-R1 Application

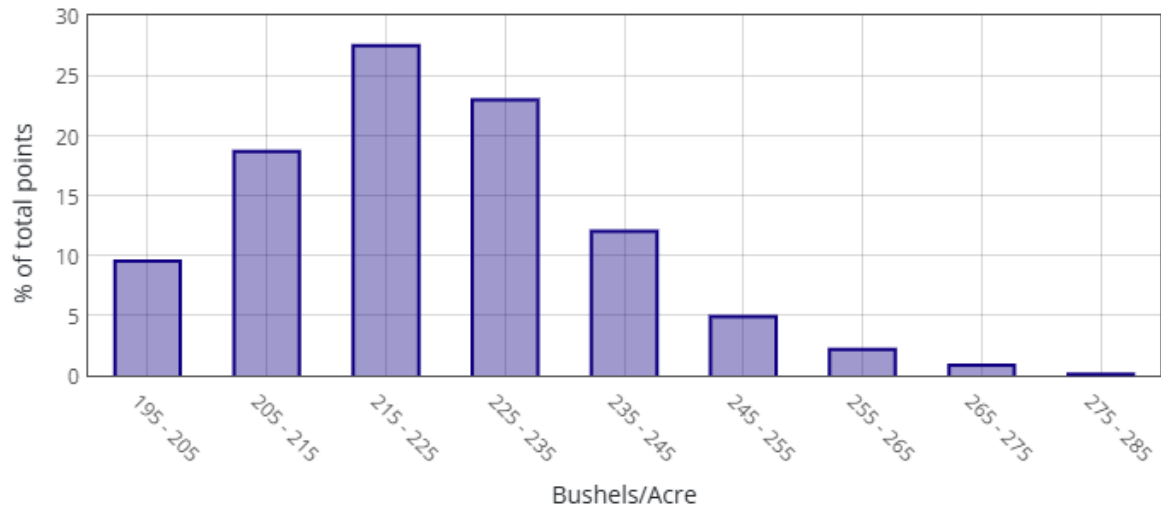
Application Date: 7/29/24

Application Method: Sprayer Broadcast

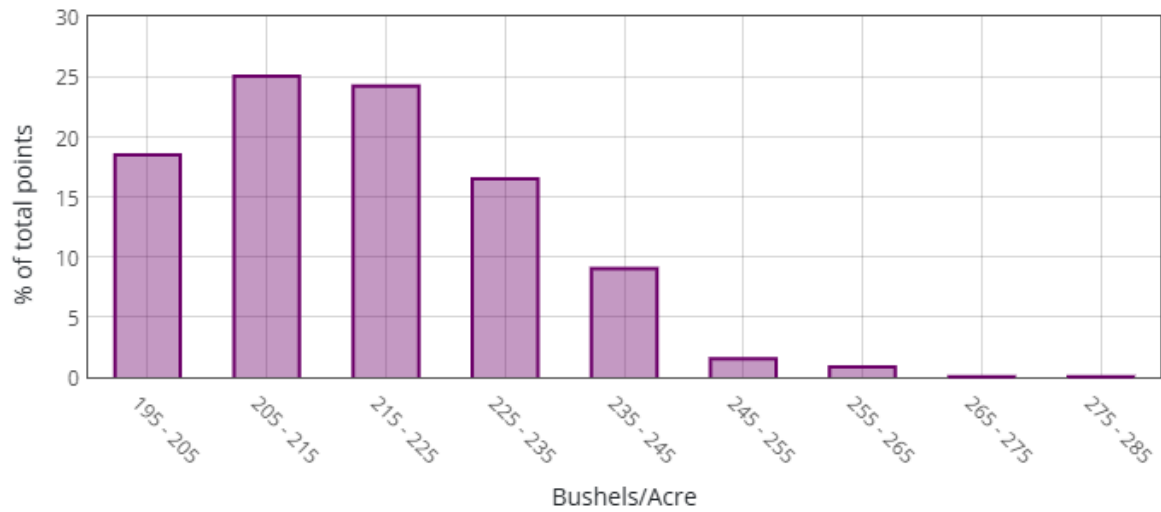
Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 18 gallons

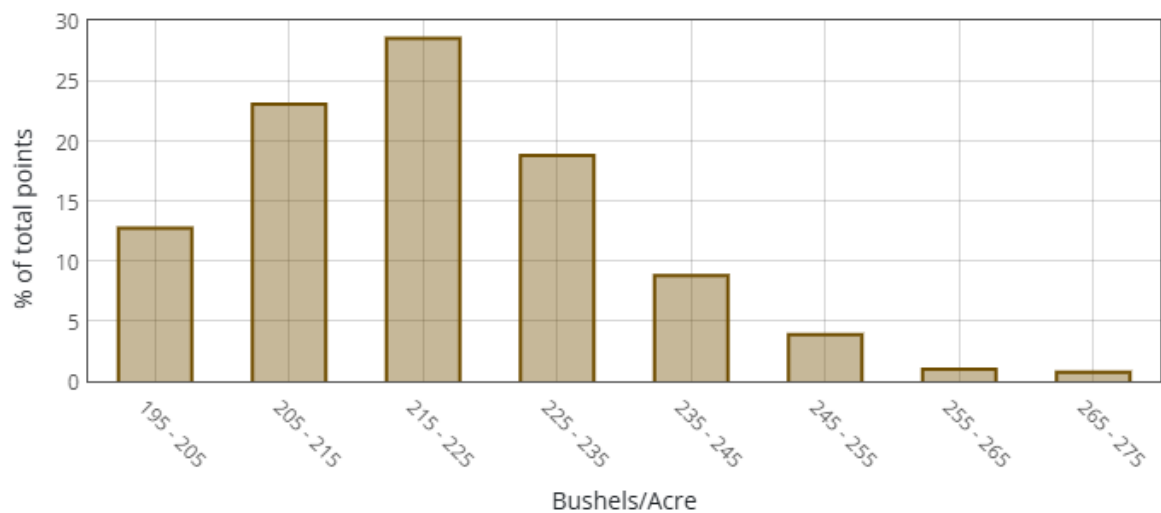
EnSoil Apps 1-4 Standard N Trial



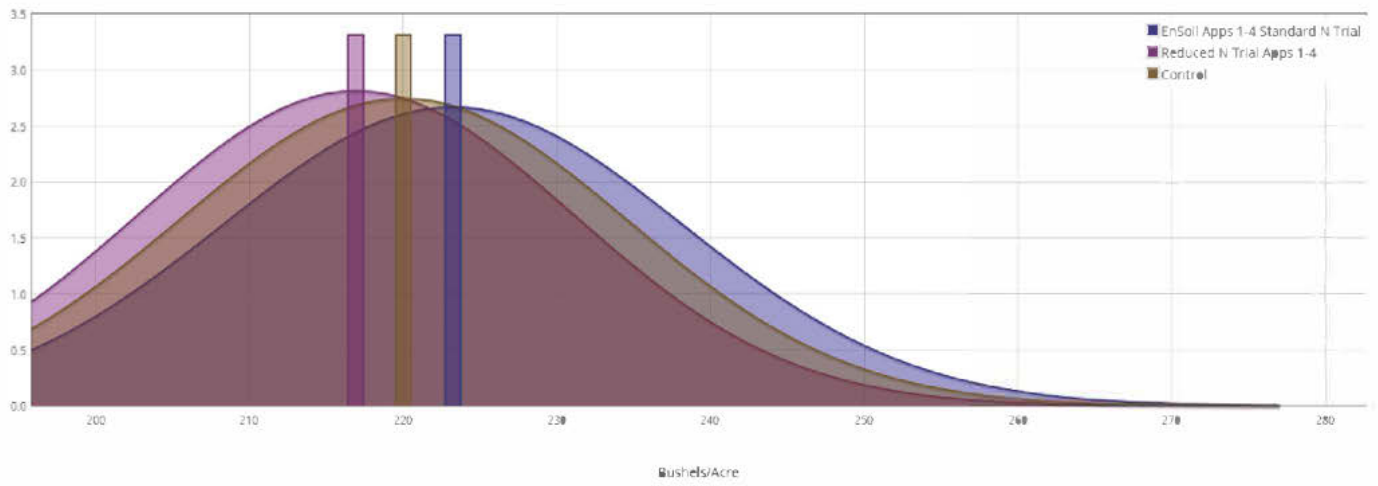
Reduced N Trial Apps 1-4



Control



Normal Curve Distribution

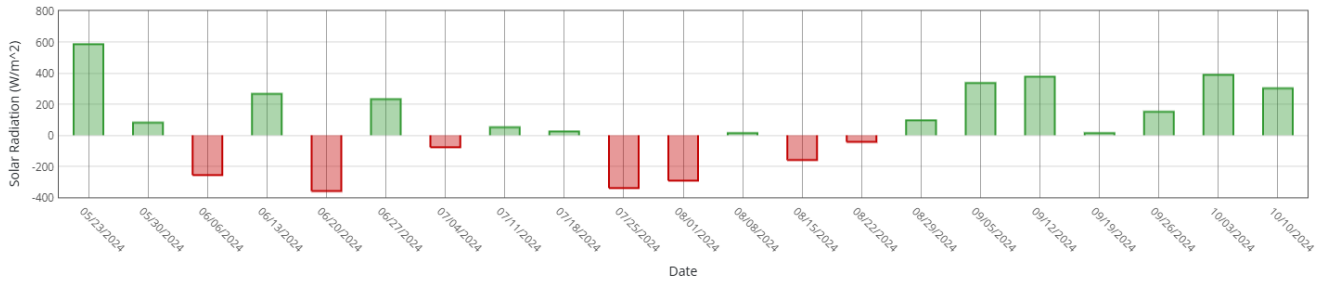


Trial Location Weather Data vs 5 Yr Avg

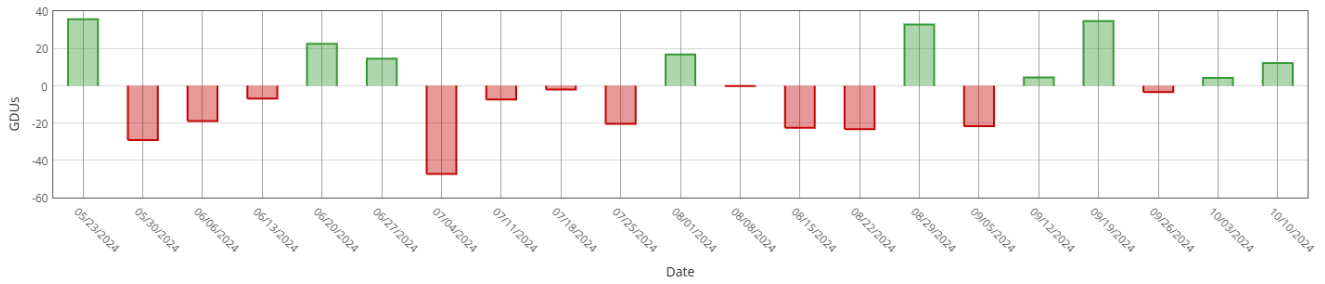
Historical Averages based on past 5 years

Cumulative Week over Week

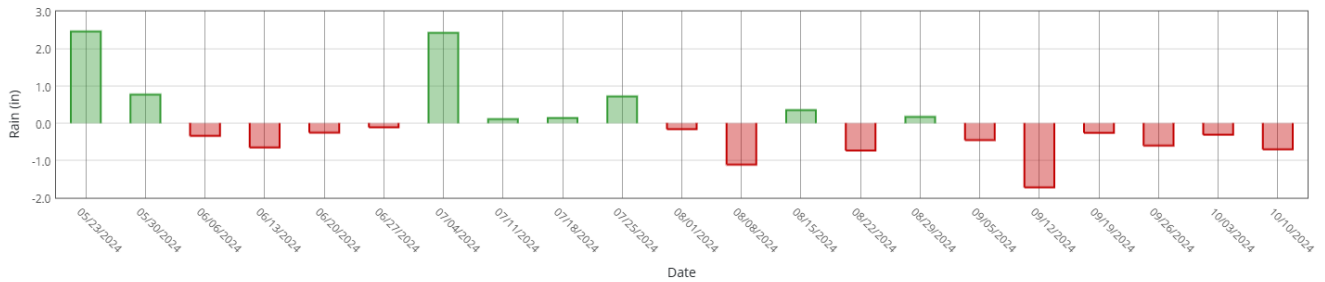
Sunlight



Heat (GDUs)



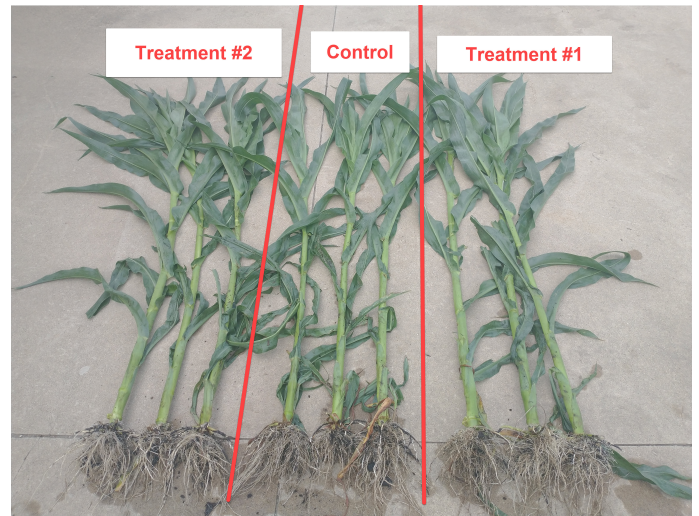
Rain



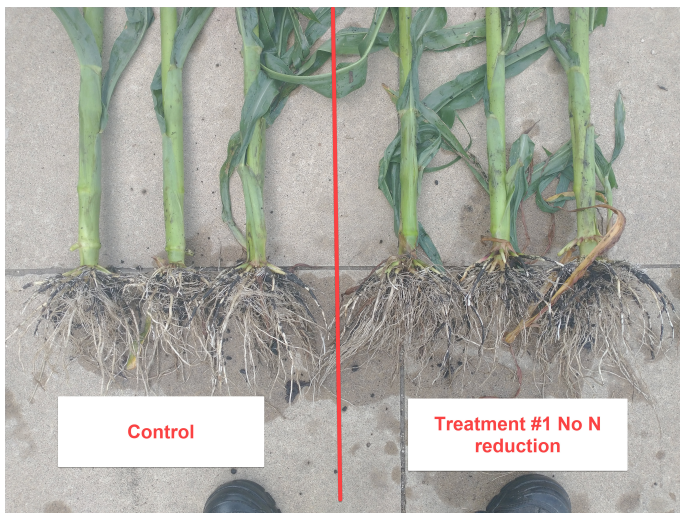
Additional References



Root Digs on the Enlightened Soil Trials at 458 GDU



Full Plant pics of the Ensoil Trials at 1055 GDU



Trial 1 vs Control Root Mass at 1055 GDU



Control vs Trial #2 Root Mass at 1055 GDU



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/24/2024 |
| Date Repd: | 5/29/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|---------------------|
| Grower: | JENKS PALMENS TRIAL |
| Field ID: | PALMENS |
| Sample ID 1: | NO EN SOIL |
| Sample ID 2: | - |
| Sample Depth: | 0-8 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 26621 | 33.9 | 6.4 | 40.3 | 70.5 | 32.7 | 0.87 | 32.7 | 0.0 | 175.2 | 53.8 | 46.2 | 7.6 | 7.6 | 0.0 | 123.8 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 26621 | 6.8 | - | 0.32 | NONE | 9.7 | 133 | 927 | 304 | 45 | 1.28 | 2.6 | 42 | 0.51 | 113 | 19.03 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments |
|-------|-------------------------|-----------------|-------------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|
| | | | H2O Extract | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | |
| | 26621 | 378.2 | 364 | 104.0 | 11.12 | 34.18 | 10% Legume 90% Grass | 81.4 | 175.2 | 93.9 | |
| Rank | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 26621 | CORN BU/A | 216 | 0 | | 175.2 | 60 | - | - | - | - | - | - | - | - | - |
| 26621 | CORN BU/A | 225 | 0 | | 175.2 | 70 | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 5/29/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/24/2024 |
| Date Repd: | 5/29/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|---------------------|
| Grower: | JENKS PALMENS TRIAL |
| Field ID: | PALMENS |
| Sample ID 1: | ENSOIL #1 |
| Sample ID 2: | - |
| Sample Depth: | 0-8 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 26622 | 31.8 | 5.5 | 37.3 | 66.4 | 31.2 | 0.89 | 31.2 | 0.0 | 164.5 | 61.7 | 54.4 | 7.3 | 7.3 | 0.0 | 142.0 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 26622 | 6.7 | - | 0.31 | NONE | 9.7 | 106 | 927 | 328 | 65 | 1.05 | 1.7 | 42 | 0.09 | 91 | 27.46 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments |
|-------|-------------------------|-----------------|-------------|------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|
| | | | H2O Extract | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | |
| | 26622 | 319.2 | 358 | 89.2 | 11.47 | 30.23 | 10% Legume 90% Grass | 76.3 | 164.5 | 88.1 | |
| Rank | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 26622 | CORN BU/A | 216 | 0 | | 164.5 | 70 | - | - | - | - | - | - | 3 | - | - |
| 26622 | CORN BU/A | 225 | 0 | | 164.5 | 80 | - | - | - | - | - | - | 3 | - | - |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 5/29/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC

31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065

regenaglab.com



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|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/24/2024 |
| Date Repd: | 5/29/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|---------------------|
| Grower: | JENKS PALMENS TRIAL |
| Field ID: | PALMENS |
| Sample ID 1: | ENSOIL #2 |
| Sample ID 2: | - |
| Sample Depth: | 0-8 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 26623 | 12.9 | 4.1 | 17.0 | 47.6 | 32.2 | 2.10 | 32.2 | 0.0 | 117.9 | 67.8 | 59.7 | 8.1 | 8.1 | 0.0 | 155.8 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---|---|------|------|-----|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | Soil pH 1:1 Buffer pH Mod. WDRF Soluble Salt mmho/cm Excess Lime Soil OM % LOI | | | | | H3A Extract | | | | | | | | | |
| | | | | | | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 26623 | 7.0 | - | 0.24 | NONE | 9.9 | 130 | 940 | 330 | 14 | 0.94 | 1.6 | 44 | 0.09 | 90 | 7.79 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | |
| | | | | | | | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | |
| 26623 | 299.0 | 383 | 78.0 | 11.91 | 32.25 | 20% Legume 80% Grass | 31.0 | 117.9 | 87.0 | 90.45 | |
| Rank | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 26623 | CORN BU/A | 216 | 0 | | 117.9 | 115 | - | - | 6 | - | - | - | 3 | - | - |
| 26623 | CORN BU/A | 225 | 0 | | 117.9 | 125 | - | - | 8 | - | - | - | 3 | - | - |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 5/29/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



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|----------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Received: | 5/27/2024 |
| Date Reported: | 5/29/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO , TX 76571 |

| | |
|---------------|------------------------|
| Grower: | ALMENS TRIAL/ENLIGHTEN |
| Field ID: | PALMENS |
| Sample ID 1: | NO EN SOIL |
| Sample ID 2: | - |
| Sample Depth: | 0-8 |

PLFA ANALYSIS REPORT

Lab # 26621

| | Value | Rank |
|----------------------------------|---------|-----------|
| Total Biomass, PLFA ng/g soil | 5031.29 | EXCELLENT |
| Functional Group Diversity Index | 1.482 | GOOD |

| Overall Rank |
|----------------------|
| ABOVE AVERAGE - GOOD |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|---------|-----------|--------------------|
| Total Bacteria | 2803.69 | PLFA ng/g | 55.73 |
| Gram + | 1081.64 | PLFA ng/g | 21.50 |
| Actinomycetes | 572.78 | PLFA ng/g | 11.38 |
| Gram - | 1149.28 | PLFA ng/g | 22.84 |
| Total Fungi | 613.77 | PLFA ng/g | 12.20 |
| Arbuscular Mycorrhizal | 248.79 | PLFA ng/g | 4.94 |
| Saprophytic | 364.98 | PLFA ng/g | 7.25 |
| Protozoa | 15.36 | PLFA ng/g | 0.31 |
| Undifferentiated | 1598.47 | PLFA ng/g | 31.77 |

Ratios

| Community | Value | Rank |
|-------------------|--------|---------------|
| Fungi:Bacteria | 0.2189 | ABOVE AVERAGE |
| Protozoa:Bacteria | 0.0055 | BELOW AVERAGE |
| Gram+:Gram- | 1.4395 | IDEAL |

Stress Indicators

| | | |
|-----------------|---------|-----------------|
| Sat:Unsat | 1.3179 | LOW |
| Mono:Poly | 19.0157 | GOOD |
| Pre 16:Cyclo 17 | 4.2818 | STATIC |
| Pre 18:Cyclo 19 | 6.1297 | SLIGHTLY ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 7/2/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

308-627-0065
regenaglab.com



| | |
|----------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Received: | 5/27/2024 |
| Date Reported: | 5/29/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO , TX 76571 |

| | |
|---------------|------------------------|
| Grower: | ALMENS TRIAL/ENLIGHTEN |
| Field ID: | PALMENS |
| Sample ID 1: | ENSOIL #1 |
| Sample ID 2: | - |
| Sample Depth: | 0-8 |

PLFA ANALYSIS REPORT

Lab # 26622

| | Value | Rank |
|----------------------------------|---------|---------------|
| Total Biomass, PLFA ng/g soil | 2989.73 | ABOVE AVERAGE |
| Functional Group Diversity Index | 1.383 | ABOVE AVERAGE |

| Overall Rank |
|--------------|
| AVERAGE |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|---------|-----------|--------------------|
| Total Bacteria | 1647.62 | PLFA ng/g | 55.11 |
| Gram + | 731.97 | PLFA ng/g | 24.48 |
| Actinomycetes | 336.21 | PLFA ng/g | 11.25 |
| Gram - | 579.45 | PLFA ng/g | 19.38 |
| Total Fungi | 234.02 | PLFA ng/g | 7.83 |
| Arbuscular Mycorrhizal | 115.63 | PLFA ng/g | 3.87 |
| Saprophytic | 118.39 | PLFA ng/g | 3.96 |
| Protozoa | 0.00 | PLFA ng/g | 0.00 |
| Undifferentiated | 1108.09 | PLFA ng/g | 37.06 |

Ratios

| Community | Value | Rank |
|--------------------------|-------------|---------------|
| Fungi:Bacteria | 0.1420 | BELOW AVERAGE |
| Protozoa:Bacteria | All Bact | VERY POOR |
| Gram+:Gram- | 1.8434 | IDEAL |
| Stress Indicators | | |
| Sat:Unsat | 1.9871 | LOW |
| Mono:Poly | 40.9342 | GOOD |
| Pre 16:Cyclo 17 | All Pre16:1 | VERY ACTIVE |
| Pre 18:Cyclo 19 | 10.4130 | ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 7/2/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

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| | |
|----------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Received: | 5/27/2024 |
| Date Reported: | 5/29/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO , TX 76571 |

| | |
|---------------|------------------------|
| Grower: | ALMENS TRIAL/ENLIGHTEN |
| Field ID: | PALMENS |
| Sample ID 1: | ENSOIL #2 |
| Sample ID 2: | - |
| Sample Depth: | 0-8 |

PLFA ANALYSIS REPORT

Lab # 26623

| | Value | Rank |
|----------------------------------|---------|-----------|
| Total Biomass, PLFA ng/g soil | 4610.73 | EXCELLENT |
| Functional Group Diversity Index | 1.423 | GOOD |

| Overall Rank |
|---------------|
| ABOVE AVERAGE |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|---------|-----------|--------------------|
| Total Bacteria | 2711.90 | PLFA ng/g | 58.82 |
| Gram + | 1145.30 | PLFA ng/g | 24.84 |
| Actinomycetes | 638.92 | PLFA ng/g | 13.86 |
| Gram - | 927.68 | PLFA ng/g | 20.12 |
| Total Fungi | 422.06 | PLFA ng/g | 9.15 |
| Arbuscular Mycorrhizal | 194.40 | PLFA ng/g | 4.22 |
| Saprophytic | 227.66 | PLFA ng/g | 4.94 |
| Protozoa | 3.95 | PLFA ng/g | 0.09 |
| Undifferentiated | 1472.82 | PLFA ng/g | 31.94 |

Ratios

| Community | Value | Rank |
|-------------------|--------|-----------|
| Fungi:Bacteria | 0.1556 | AVERAGE |
| Protozoa:Bacteria | 0.0015 | VERY POOR |
| Gram+:Gram- | 1.9233 | IDEAL |

Stress Indicators

| | | |
|-----------------|---------|-----------------|
| Sat:Unsat | 1.7517 | LOW |
| Mono:Poly | 56.1092 | VERY GOOD |
| Pre 16:Cyclo 17 | 11.3528 | ACTIVE |
| Pre 18:Cyclo 19 | 8.4538 | SLIGHTLY ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 7/2/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Recd: | 8/5/2024 |
| Date Repd: | 8/7/2024 |

| | |
|-------------------|-------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND, SC |

| | |
|---------------|------------|
| Grower: | MIKE JENKS |
| Field ID: | CONTROL |
| Sample ID 1: | - |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 45428 | 14.2 | 3.3 | 17.5 | 35.7 | 18.7 | 1.10 | 18.7 | 0.0 | 65.0 | 32.6 | 24.4 | 8.2 | 8.2 | 0.0 | 75.0 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 45428 | 6.7 | - | 0.15 | NONE | 7.2 | 88 | 710 | 271 | 11 | 0.81 | 4.3 | 45 | 0.07 | 94 | 6.38 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 45428 | 260.8 | 221 | 118.1 | 11.84 | 24.92 | 20% Legume 80% Grass | 25.6 | 65.0 | 39.5 | 41.05 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 8/7/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Recd: | 8/5/2024 |
| Date Repd: | 8/7/2024 |

| | |
|-------------------|-------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND, SC |

| | |
|---------------|-------------|
| Grower: | MIKE JENKS |
| Field ID: | TREATMENT 1 |
| Sample ID 1: | - |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 45429 | 7.3 | 2.8 | 10.1 | 28.4 | 18.5 | 1.85 | 18.5 | 0.0 | 51.4 | 36.6 | 31.0 | 5.6 | 5.6 | 0.0 | 84.2 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 45429 | 7.1 | - | 0.14 | NONE | 8.9 | 63 | 790 | 290 | 9 | 0.73 | 1.0 | 30 | 0.05 | 70 | 4.55 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 45429 | 243.7 | 220 | 110.8 | 11.92 | 23.65 | 20% Legume 80% Grass | 13.2 | 51.4 | 38.2 | 39.71 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 8/7/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Recd: | 8/5/2024 |
| Date Repd: | 8/7/2024 |

| | |
|-------------------|-------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND, SC |

| | |
|---------------|-------------|
| Grower: | MIKE JENKS |
| Field ID: | TREATMENT 2 |
| Sample ID 1: | - |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 45430 | 11.9 | 2.4 | 14.3 | 34.8 | 20.4 | 1.41 | 20.4 | 0.0 | 62.4 | 47.2 | 40.0 | 7.2 | 7.2 | 0.0 | 108.5 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 45430 | 6.8 | - | 0.13 | NONE | 9.2 | 61 | 749 | 292 | 10 | 0.80 | 1.0 | 34 | 0.06 | 70 | 6.57 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 45430 | 272.0 | 228 | 119.3 | 11.19 | 26.03 | 20% Legume 80% Grass | 21.4 | 62.4 | 41.0 | 42.66 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 8/7/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



Account No.: 611
Invoice No.:
Date Received: 8/5/2024
Date Reported: 8/7/2024

Name:
Company: ENLIGHTENED SOIL
Address: 1003 LANDFALL WAY
City, State, ZIP: JOHNS ISLAND , SC 29455

Grower: MIKE JENKS
Field ID: CONTROL
Sample ID 1: -
Sample ID 2: -
Sample Depth: 0-6

PLFA ANALYSIS REPORT

Lab # 45428

| | Value | Rank |
|----------------------------------|--------|------|
| Total Biomass, PLFA ng/g soil | 876.20 | POOR |
| Functional Group Diversity Index | 1.450 | GOOD |

| Overall Rank |
|---------------|
| ABOVE AVERAGE |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|--------|-----------|--------------------|
| Total Bacteria | 351.45 | PLFA ng/g | 40.11 |
| Gram + | 151.04 | PLFA ng/g | 17.24 |
| Actinomycetes | 65.84 | PLFA ng/g | 7.51 |
| Gram - | 134.56 | PLFA ng/g | 15.36 |
| Total Fungi | 78.05 | PLFA ng/g | 8.91 |
| Arbuscular Mycorrhizal | 30.51 | PLFA ng/g | 3.48 |
| Saprophytic | 47.54 | PLFA ng/g | 5.43 |
| Protozoa | 0.00 | PLFA ng/g | 0.00 |
| Undifferentiated | 446.70 | PLFA ng/g | 50.98 |

Ratios

| Community | Value | Rank |
|-------------------|----------|---------------|
| Fungi:Bacteria | 0.2221 | ABOVE AVERAGE |
| Protozoa:Bacteria | All Bact | VERY POOR |
| Gram+:Gram- | 1.6118 | IDEAL |

Stress Indicators

| | | |
|-----------------|-------------|-------------|
| Sat:Unsat | 2.7739 | LOW |
| Mono:Poly | 47.7459 | GOOD |
| Pre 16:Cyclo 17 | All Pre16:1 | VERY ACTIVE |
| Pre 18:Cyclo 19 | All Pre18:1 | VERY ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 9/12/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

308-627-0065
regenaglab.com



| | |
|----------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Received: | 8/5/2024 |
| Date Reported: | 8/7/2024 |

| | |
|-------------------|-------------------------|
| Name: | |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND , SC 29455 |

| | |
|---------------|-------------|
| Grower: | MIKE JENKS |
| Field ID: | TREATMENT 1 |
| Sample ID 1: | - |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

PLFA ANALYSIS REPORT

Lab # 45429

| | Value | Rank |
|----------------------------------|---------|-----------|
| Total Biomass, PLFA ng/g soil | 7383.69 | EXCELLENT |
| Functional Group Diversity Index | 1.513 | VERY GOOD |

| Overall Rank |
|------------------|
| GOOD - VERY GOOD |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|---------|-----------|--------------------|
| Total Bacteria | 2946.43 | PLFA ng/g | 39.90 |
| Gram + | 1274.67 | PLFA ng/g | 17.26 |
| Actinomycetes | 680.39 | PLFA ng/g | 9.21 |
| Gram - | 991.36 | PLFA ng/g | 13.43 |
| Total Fungi | 738.47 | PLFA ng/g | 10.00 |
| Arbuscular Mycorrhizal | 323.02 | PLFA ng/g | 4.37 |
| Saprophytic | 415.45 | PLFA ng/g | 5.63 |
| Protozoa | 15.80 | PLFA ng/g | 0.21 |
| Undifferentiated | 3682.99 | PLFA ng/g | 49.88 |

Ratios

| Community | Value | Rank |
|-------------------|--------|---------------|
| Fungi:Bacteria | 0.2506 | GOOD |
| Protozoa:Bacteria | 0.0054 | BELOW AVERAGE |
| Gram+:Gram- | 1.9721 | IDEAL |

Stress Indicators

| | | |
|-----------------|---------|--------|
| Sat:Unsat | 2.5148 | LOW |
| Mono:Poly | 20.4369 | GOOD |
| Pre 16:Cyclo 17 | 4.4088 | STATIC |
| Pre 18:Cyclo 19 | 4.9960 | STATIC |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 9/12/2024

Analysis Performed by Regen Ag Lab, LLC

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Gain Ground

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|-------------------|-------------------------|
| Name: | |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND , SC 29455 |

| | |
|---------------|-------------|
| Grower: | MIKE JENKS |
| Field ID: | TREATMENT 2 |
| Sample ID 1: | - |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

PLFA ANALYSIS REPORT

Lab # 45430

| | Value | Rank |
|----------------------------------|---------|-----------|
| Total Biomass, PLFA ng/g soil | 6981.66 | EXCELLENT |
| Functional Group Diversity Index | 1.469 | GOOD |

| Overall Rank |
|----------------------|
| ABOVE AVERAGE - GOOD |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|---------|-----------|--------------------|
| Total Bacteria | 2706.78 | PLFA ng/g | 38.77 |
| Gram + | 1193.95 | PLFA ng/g | 17.10 |
| Actinomycetes | 594.25 | PLFA ng/g | 8.51 |
| Gram - | 918.58 | PLFA ng/g | 13.16 |
| Total Fungi | 589.87 | PLFA ng/g | 8.45 |
| Arbuscular Mycorrhizal | 253.89 | PLFA ng/g | 3.64 |
| Saprophytic | 335.98 | PLFA ng/g | 4.81 |
| Protozoa | 3.08 | PLFA ng/g | 0.04 |
| Undifferentiated | 3681.93 | PLFA ng/g | 52.74 |

Ratios

| Community | Value | Rank |
|-------------------|--------|---------------|
| Fungi:Bacteria | 0.2179 | ABOVE AVERAGE |
| Protozoa:Bacteria | 0.0011 | VERY POOR |
| Gram+:Gram- | 1.9467 | IDEAL |

Stress Indicators

| | | |
|-----------------|---------|-----------------|
| Sat:Unsat | 2.7090 | LOW |
| Mono:Poly | 28.9905 | GOOD |
| Pre 16:Cyclo 17 | 4.9668 | STATIC |
| Pre 18:Cyclo 19 | 6.3110 | SLIGHTLY ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 9/12/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

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Account No.: 611
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Date Recd: 8/5/2024
Date Repd: 8/7/2024

Name: MERIDETH GARRIGAN
Company: ENLIGHTENED SOIL
Address: 1003 LANDFALL WAY
City, State, ZIP: JOHNS ISLAND , SC 29455

Grower: MIKE JENKS
Field ID: CONTROL
Sample ID 1: -
Sample ID 2: -
Sample Depth: 0-6

TOTAL NUTRIENT DIGESTION ANALYSIS REPORT

Lab # 45428

| Nutrient Results | | | Nutrients, Lbs/A | | Fertilizer Equivalent, lbs of Fert* | |
|------------------|----------|--------|------------------|--------|-------------------------------------|--|
| Nutrient | Value | Units | Value | Value | Reference Fertilizer | |
| Carbon | 3.75 | % C | 67500 | 112500 | 60% C | |
| Nitrogen | 0.359 | % N | 6462 | 14048 | 46-0-0 | |
| Phosphorus | 0.078 | % P | 1404 | 6185 | 11-52-0 at 22.7% P | |
| Potassium | 0.134 | % K | 2412 | 4674 | 0-0-60 at 51.6% K | |
| Calcium | 0.644 | % Ca | 11592 | 52691 | Gypsum-22% Ca | |
| Magnesium | 0.277 | % Mg | 4986.0 | 47486 | K-Mag-10.5% Mg | |
| Sulfur | 0.038 | % S | 684.0 | 2850 | AMS-24% S | |
| Zinc | 47.29 | ppm Zn | 85.1 | 243 | ZnSO4-35% Zn | |
| Iron | 15125.40 | ppm Fe | 27226 | 136129 | FeSO4-20% Fe | |
| Manganese | 634.00 | ppm Mn | 1141 | 3681 | MnSO4-31% Mn | |
| Copper | 14.25 | ppm Cu | 25.7 | 103 | CuSO4-25% Cu | |
| Boron | 11.93 | ppm B | 21.5 | 195 | Borax-11% B | |
| Sodium | 0.012 | % Na | 216 | | | |
| Molybdenum | 0.69 | ppm Mo | 1.2 | 3.2 | NaMoO4-39% Mo | |
| Aluminum | 11389.00 | ppm Al | 20500 | | | |
| C:N Ratio | 10.4 | | | | | |

Reviewer Comments

*Lbs of fertilizer needed to be equal to Lbs of soil nutrient/A

Reviewed By: Emily Shafto
Date: 8/7/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



Account No.: 611
Invoice No.:
Date Recd: 8/5/2024
Date Repd: 8/7/2024

Name: MERIDETH GARRIGAN
Company: ENLIGHTENED SOIL
Address: 1003 LANDFALL WAY
City, State, ZIP: JOHNS ISLAND , SC 29455

Grower: MIKE JENKS
Field ID: TREATMENT 1
Sample ID 1: -
Sample ID 2: -
Sample Depth: 0-6

TOTAL NUTRIENT DIGESTION ANALYSIS REPORT

Lab # 45429

| Nutrient Results | | | Nutrients, Lbs/A | | Fertilizer Equivalent, lbs of Fert* | |
|------------------|----------|--------|------------------|--------|-------------------------------------|--|
| Nutrient | Value | Units | Value | Value | Reference Fertilizer | |
| Carbon | 5.19 | % C | 93420 | 155700 | 60% C | |
| Nitrogen | 0.484 | % N | 8712 | 18939 | 46-0-0 | |
| Phosphorus | 0.102 | % P | 1836 | 8088 | 11-52-0 at 22.7% P | |
| Potassium | 0.138 | % K | 2484 | 4814 | 0-0-60 at 51.6% K | |
| Calcium | 0.878 | % Ca | 15804 | 71836 | Gypsum-22% Ca | |
| Magnesium | 0.313 | % Mg | 5634.0 | 53657 | K-Mag-10.5% Mg | |
| Sulfur | 0.048 | % S | 864.0 | 3600 | AMS-24% S | |
| Zinc | 50.70 | ppm Zn | 91.3 | 261 | ZnSO4-35% Zn | |
| Iron | 16122.20 | ppm Fe | 29020 | 145100 | FeSO4-20% Fe | |
| Manganese | 347.30 | ppm Mn | 625 | 2017 | MnSO4-31% Mn | |
| Copper | 15.62 | ppm Cu | 28.1 | 112 | CuSO4-25% Cu | |
| Boron | 11.39 | ppm B | 20.5 | 186 | Borax-11% B | |
| Sodium | 0.014 | % Na | 252 | | | |
| Molybdenum | 0.52 | ppm Mo | 0.9 | 2.4 | NaMoO4-39% Mo | |
| Aluminum | 13022.40 | ppm Al | 23440 | | | |
| C:N Ratio | 10.7 | | | | | |

Reviewer Comments

*Lbs of fertilizer needed to be equal to Lbs of soil nutrient/A

Reviewed By: Emily Shafto
Date: 8/7/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

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| Account No.: | 611 |
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| Date Recd: | 8/5/2024 |
| Date Repd: | 8/7/2024 |

| | |
|-------------------|-------------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND , SC 29455 |

| | |
|---------------|-------------|
| Grower: | MIKE JENKS |
| Field ID: | TREATMENT 2 |
| Sample ID 1: | - |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

TOTAL NUTRIENT DIGESTION ANALYSIS REPORT

Lab # 45430

| Nutrient Results | | | Nutrients, Lbs/A | | Fertilizer Equivalent, lbs of Fert* | |
|------------------|----------|--------|------------------|--------|-------------------------------------|--|
| Nutrient | Value | Units | Value | Value | Reference Fertilizer | |
| Carbon | 5.34 | % C | 96120 | 160200 | 60% C | |
| Nitrogen | 0.510 | % N | 9180 | 19957 | 46-0-0 | |
| Phosphorus | 0.104 | % P | 1872 | 8247 | 11-52-0 at 22.7% P | |
| Potassium | 0.138 | % K | 2484 | 4814 | 0-0-60 at 51.6% K | |
| Calcium | 0.818 | % Ca | 14724 | 66927 | Gypsum-22% Ca | |
| Magnesium | 0.297 | % Mg | 5346.0 | 50914 | K-Mag-10.5% Mg | |
| Sulfur | 0.051 | % S | 918.0 | 3825 | AMS-24% S | |
| Zinc | 50.53 | ppm Zn | 91.0 | 260 | ZnSO4-35% Zn | |
| Iron | 15588.00 | ppm Fe | 28058 | 140292 | FeSO4-20% Fe | |
| Manganese | 287.20 | ppm Mn | 517 | 1668 | MnSO4-31% Mn | |
| Copper | 14.22 | ppm Cu | 25.6 | 102 | CuSO4-25% Cu | |
| Boron | 11.61 | ppm B | 20.9 | 190 | Borax-11% B | |
| Sodium | 0.010 | % Na | 180 | | | |
| Molybdenum | 0.42 | ppm Mo | 0.8 | 1.9 | NaMoO4-39% Mo | |
| Aluminum | 13062.80 | ppm Al | 23513 | | | |
| C:N Ratio | 10.5 | | | | | |

Reviewer Comments

*Lbs of fertilizer needed to be equal to Lbs of soil nutrient/A

Reviewed By: Emily Shafto
Date: 8/7/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

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Product Trial Report

TotalAcre®

| GROWER DETAILS | FIELD DETAILS | PLANTING/HARVEST DETAILS | Total Acre Final Report |
|---------------------------------------|--|-------------------------------------|---|
| Grower: Schlatter Farms | Total Acres: 77.10 | Crop: Corn | Report Date: 12/13/2024 |
| City & State: Paulding, OH | Soil Type: Please see Soil Type Map | Plant Date: 06/11/2024 | Harvest Year: 2024 |
| Zip Code: 45879 | Tile: No Tile | Row Spacing: 30" | Crop: Corn |
| | Irrigation: None | Planting Depth: 2.25 | Trial Name: EnSoil Algae |
| | Fall Tillage: Conventional | Harvest Date: 11/22/2024 | Trial Type: In-Furrow, V3-V6, V8-V10 & VT-R1 |
| | Spring Tillage: No Till | Hybrid: 5824AM | |
| | | Seed Company: Beck's Hybrids | |
| | | Population: 34000 | |

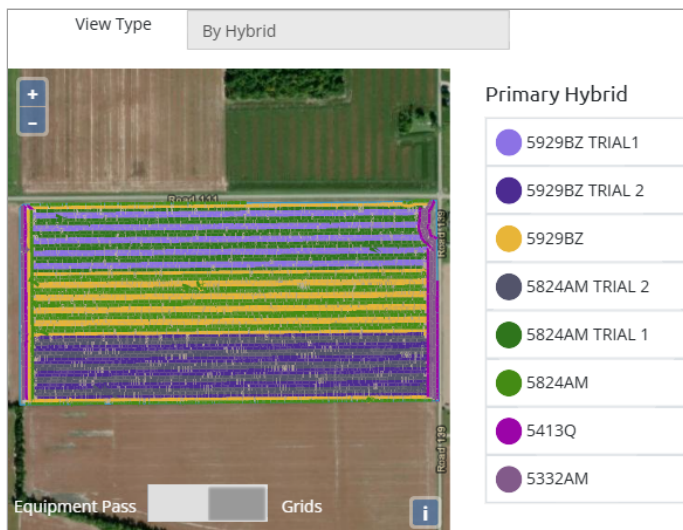
Field Map



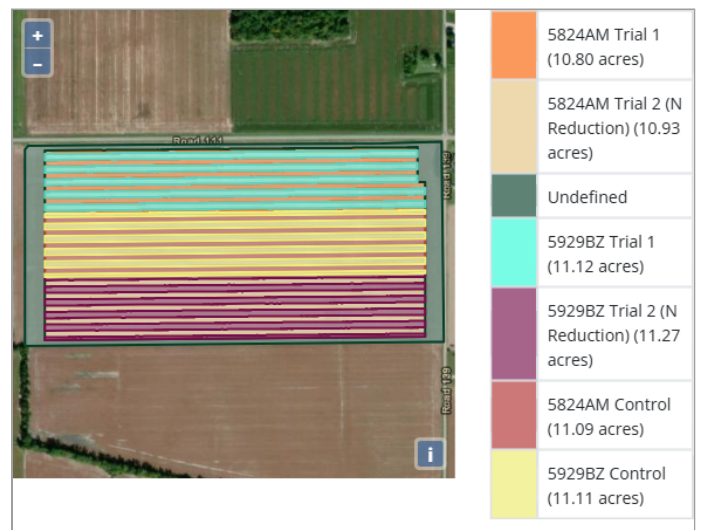
Soil Type



Planting Map

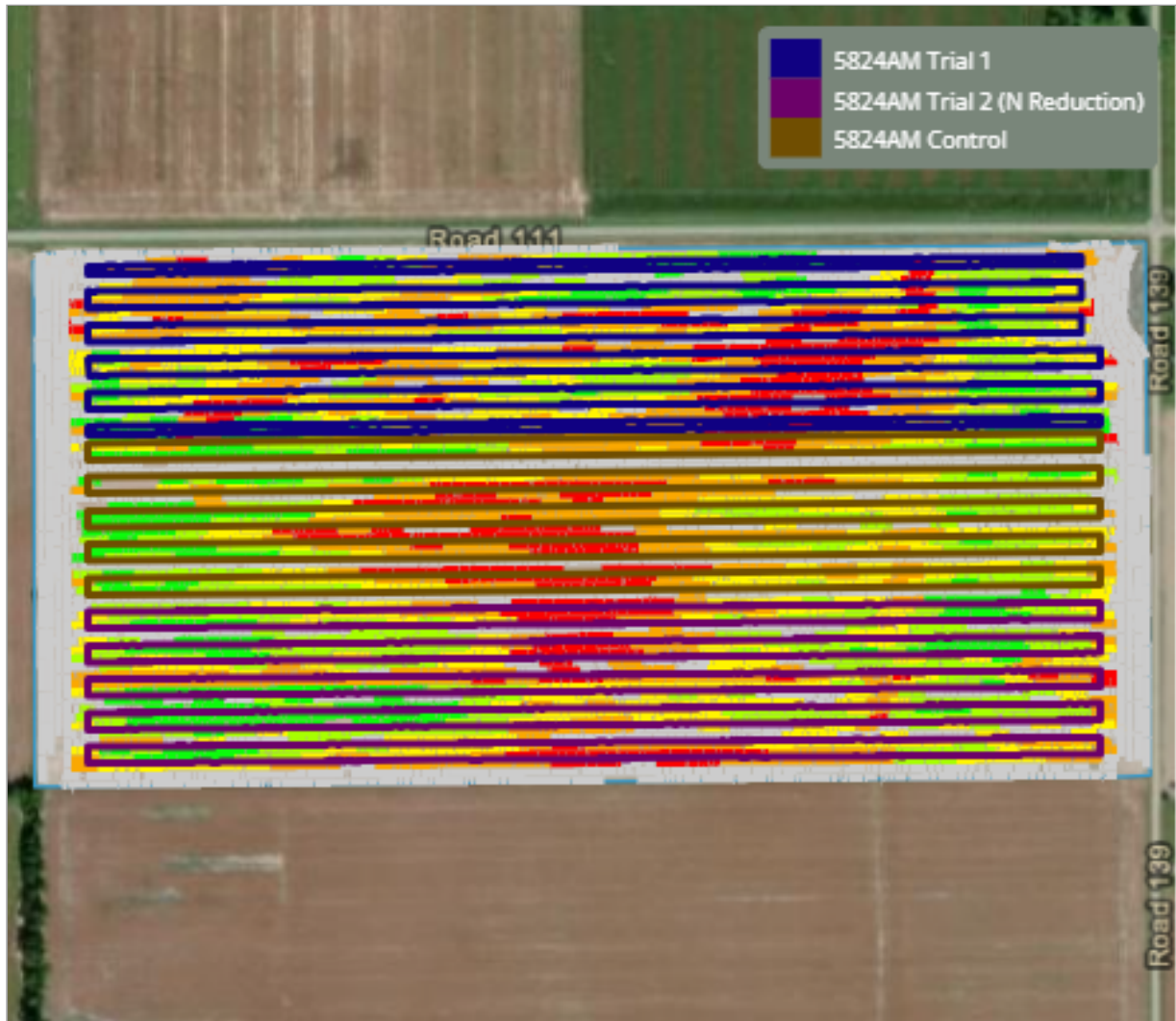


Trial Zones



Yield Results Data

High Level Yield Heat Map



This data was filtered based on $-2.5 / +2.5$ St Dev

| Yield Summary BPA | |
|-----------------------|--------|
| Location | Yield |
| 5824AM Trial 1 | 132.71 |
| 5824AM Control | 137.86 |
| Yield Response | -5.15 |

| Yield Summary BPA | |
|------------------------------|--------|
| Location | Yield |
| 5824AM Trial 2 (N Reduction) | 141.29 |
| 5824AM Control | 137.86 |
| Yield Response | 3.43 |

| Yield Values | |
|--------------|---------------|
| ● | 57.6 - 100.2 |
| ● | 100.3 - 127.7 |
| ● | 127.9 - 145.8 |
| ● | 145.9 - 165.6 |
| ● | 165.6 - 203.5 |

Tissue Results Data

| Date | GDUs | Water | Tissue Site | Nitrogen | Phosphorus | Potassium | Magnesium | Calcium | Sulfur | Zinc | Manganese | Copper | Iron | Boron | Aluminum | Molybdenum | Sodium |
|------------|------|--------|----------------|----------|------------|-----------|-----------|---------|--------|-----------|------------|-----------|------------|-----------|----------|------------|----------|
| 07/02/2024 | 528 | - | Ensoil Algae | 5.17 % | 0.43 % | 3.88 % | 0.3 % | 0.56 % | 0.32 % | 31.08 ppm | 17.23 ppm | 13.92 ppm | 366.37 ppm | 12.05 ppm | | 1.36 ppm | 0.16 ppm |
| | | | Ensoil Trial 2 | 4.44 % | 0.28 % | 2.98 % | 0.31 % | 0.7 % | 0.29 % | 35.13 ppm | 77.15 ppm | 10.99 ppm | 397.99 ppm | 13.84 ppm | | 1.13 ppm | 0.19 ppm |
| | | | Control | 5.19 % | 0.46 % | 3.03 % | 0.52 % | 0.82 % | 0.38 % | 34.9 ppm | 22.56 ppm | 19.44 ppm | 398.63 ppm | 11.71 ppm | | 1.45 ppm | 0.2 ppm |
| 07/30/2024 | 1194 | 1.8 in | Ensoil Algae | 3.04 % | 0.33 % | 2.44 % | 0.14 % | 0.21 % | 0.17 % | 20.07 ppm | 9.41 ppm | 6.56 ppm | 70.91 ppm | 7.28 ppm | | 0.99 ppm | 0.41 ppm |
| | | | Ensoil Trial 2 | 3.06 % | 0.33 % | 2.27 % | 0.16 % | 0.31 % | 0.22 % | 21.09 ppm | 10.57 ppm | 7.32 ppm | 78.99 ppm | 7.44 ppm | | 1.19 ppm | 0.36 ppm |
| | | | Control | 3.18 % | 0.38 % | 2.21 % | 0.19 % | 0.28 % | 0.21 % | 24.77 ppm | 12.04 ppm | 7.31 ppm | 78.82 ppm | 8.24 ppm | | 0.8 ppm | 0.75 ppm |
| 08/06/2024 | 1382 | 0.6 in | Ensoil Algae | 3.18 % | 0.31 % | 2.26 % | 0.19 % | 0.53 % | 0.27 % | 25.17 ppm | 12.57 ppm | 11.37 ppm | 148 ppm | 7.04 ppm | | 1.1 ppm | 0.59 ppm |
| | | | Ensoil Trial 2 | 3.58 % | 0.29 % | 2.19 % | 0.16 % | 0.38 % | 0.2 % | 21.88 ppm | 11.99 ppm | 8.01 ppm | 151 ppm | 6.8 ppm | | 1.25 ppm | 0.52 ppm |
| | | | Control | 2.91 % | 0.33 % | 2.2 % | 0.19 % | 0.37 % | 0.22 % | 21.91 ppm | 12.45 ppm | 8.35 ppm | 150 ppm | 6.43 ppm | | 1.07 ppm | 0.52 ppm |
| 08/13/2024 | 1513 | 0.2 in | Ensoil Algae | 3.34 % | 0.3 % | 2.13 % | 0.24 % | 0.55 % | 0.28 % | 24.05 ppm | 28.93 ppm | 12.98 ppm | 195.2 ppm | 11.28 ppm | | 1.1 ppm | 0.44 ppm |
| | | | Ensoil Trial 2 | 2.85 % | 0.3 % | 2.28 % | 0.16 % | 0.38 % | 0.21 % | 25.2 ppm | 15.67 ppm | 9.33 ppm | 108.71 ppm | 8.75 ppm | | 0.99 ppm | 0.27 ppm |
| | | | Control | 3.72 % | 0.34 % | 1.4 % | 0.57 % | 0.96 % | 0.47 % | 26.21 ppm | 206.26 ppm | 15.04 ppm | 245.62 ppm | 16.55 ppm | | 1.44 ppm | 0.42 ppm |
| 08/21/2024 | 1667 | 0.6 in | Ensoil Algae | 3.32 % | 0.37 % | 2.44 % | 0.26 % | 0.58 % | 0.29 % | 30.14 ppm | 16.92 ppm | 14.05 ppm | 175.45 ppm | 15.84 ppm | | 1.26 ppm | 0.4 ppm |
| | | | Ensoil Trial 2 | 3.14 % | 0.32 % | 2.11 % | 0.19 % | 0.58 % | 0.24 % | 33.74 ppm | 17.64 ppm | 12.62 ppm | 133.61 ppm | 15.39 ppm | | 1.24 ppm | 0.24 ppm |
| | | | Control | 3.05 % | 0.36 % | 2.14 % | 0.24 % | 0.6 % | 0.29 % | 34.7 ppm | 23.42 ppm | 14.7 ppm | 167.22 ppm | 22.63 ppm | | 1.4 ppm | 0.48 ppm |

Product Trial Comments:

This strip trial was designed to investigate the performance of Ensoil on corn across the grower's standard nitrogen rate and a reduced rate of nitrogen. Four applications of Ensoil (Timings include: 1.) In furrow 2.) V3-V6 3.) V8-V10 4.) VT-R1) were used on both the grower's standard nitrogen rate and the reduced nitrogen rate. For this study, a split hybrid planter provided the opportunity to evaluate hybrid specific responses on two different hybrids (Beck's 5824AM and Beck's 5929BZ). This report summarizes the findings on the Beck's 5824AM variety.

The northern portion of the field and the control received the grower's standard N rate (232 units) and the southern block in the field received a reduced rate of N (125 units). The control, which was the grower's standard N rate without Ensoil applications, was strategically placed in the middle of the field to split the two trials (standard N rate vs. reduced rate).

Unfortunately, this plot incurred a projected yield loss of around 40% due to drought. Due to the nature of the study and the extreme weather events, the plot was left largely intact (minimal zone alteration) and the yield data was standardized using the -2.5/+2.5 Standard Deviation method in order to exclude outlying and erroneous data.

In summary, the standard N rate with Ensoil applications yielded less than the grower's standard N rate without Ensoil applications (-5.15 bu/ac). On the other hand, the reduced N rate with Ensoil applications showed a positive response of around +3.43 bu/ac. Alongside the yield gain, the reduction in nitrogen saved the grower an additional \$51.43/ac (with an overall reduction of 27.5 gal/ac of UAN28% applied at the V10 growth stage). This makes for a very nice ROI during a tough year.

Application Date and Details:

In Furrow Application

Application Date: 6/11/24

Application Method: In furrow

Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 5 gallons

V3-V6 Application

Application Date: 7/02/24

Application Method: Sprayer Broadcast

Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 10 gallons

V8-V10 Application

Application Date: 7/24/24

Application Method: Y-Drop

Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: Grower Standard N Rate (60 gal/ac); Reduced N Rate (33 gal/ac)

VT-R1 Application

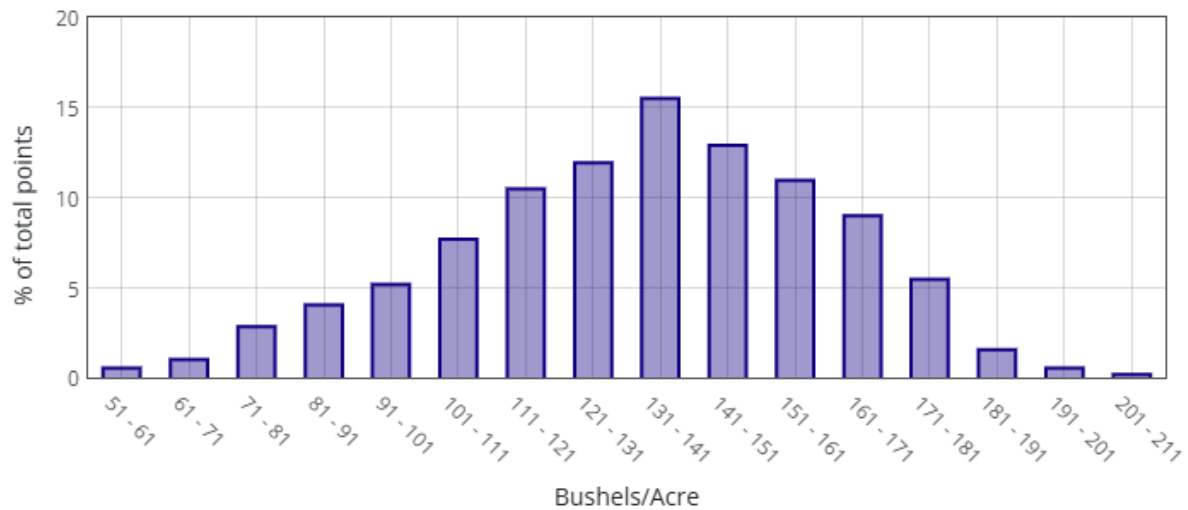
Application Date: 8/15/24

Application Method: Sprayer Broadcast

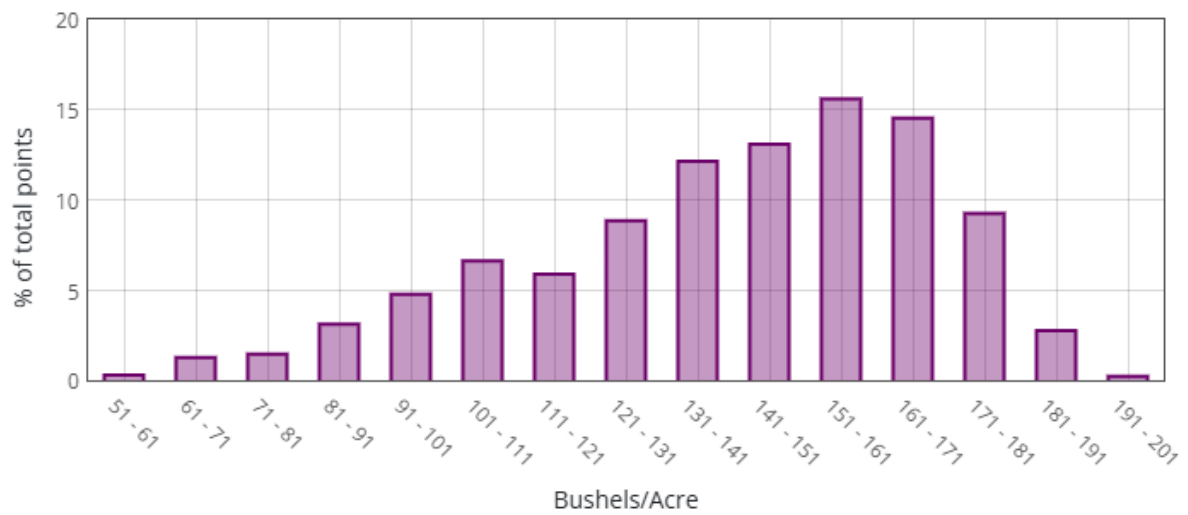
Product Application Rate/Acre: Ensoil @ 8 oz/ac

Tank Mix Rate/Acre: 10 gallons

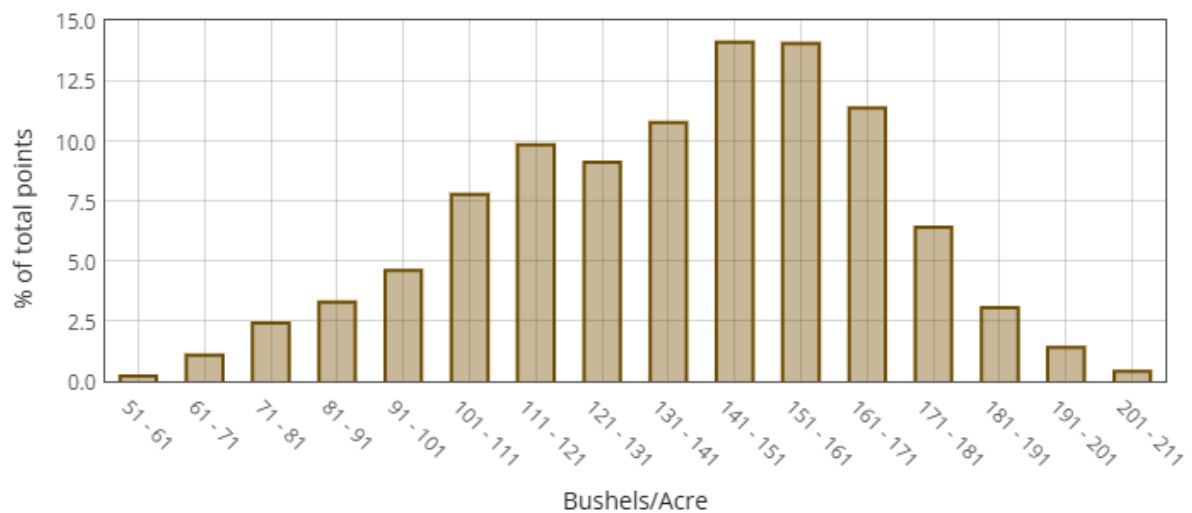
5824AM Trial 1



5824AM Trial 2 (N Reduction)



5824AM Control

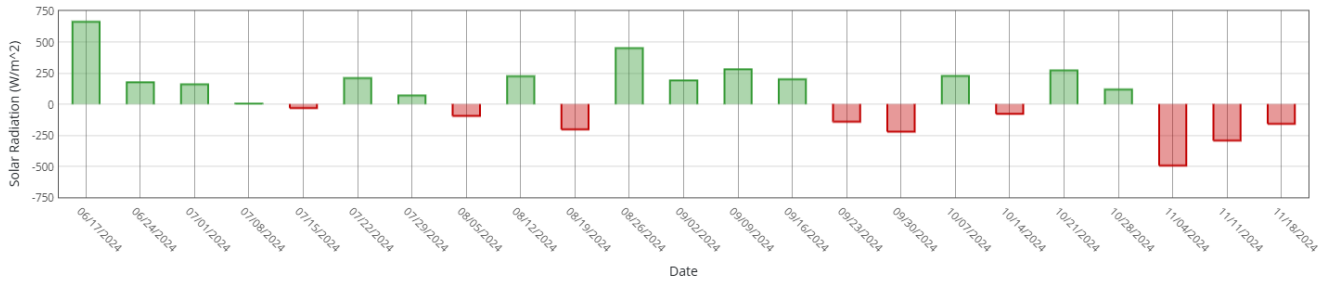


Trial Location Weather Data vs 5 Yr Avg

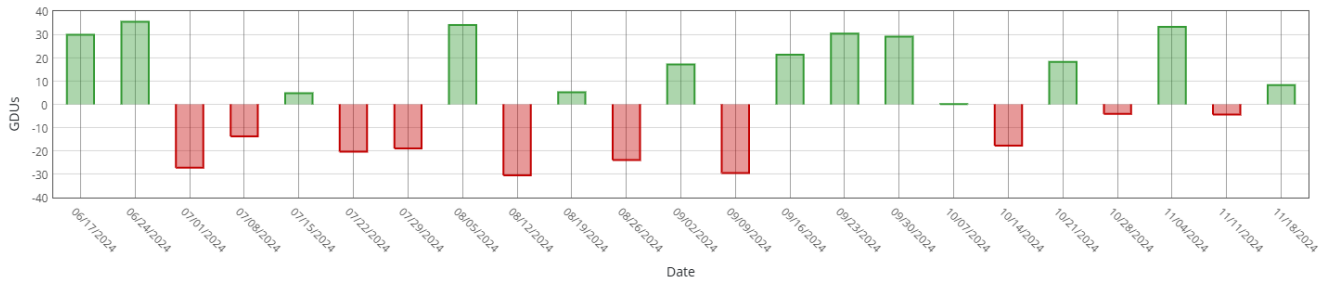
Historical Averages based on past 5 years

Cumulative Week over Week

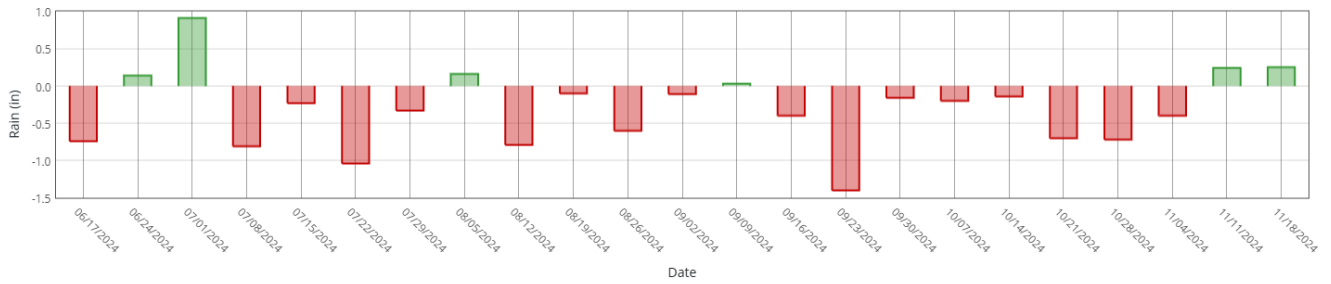
Sunlight



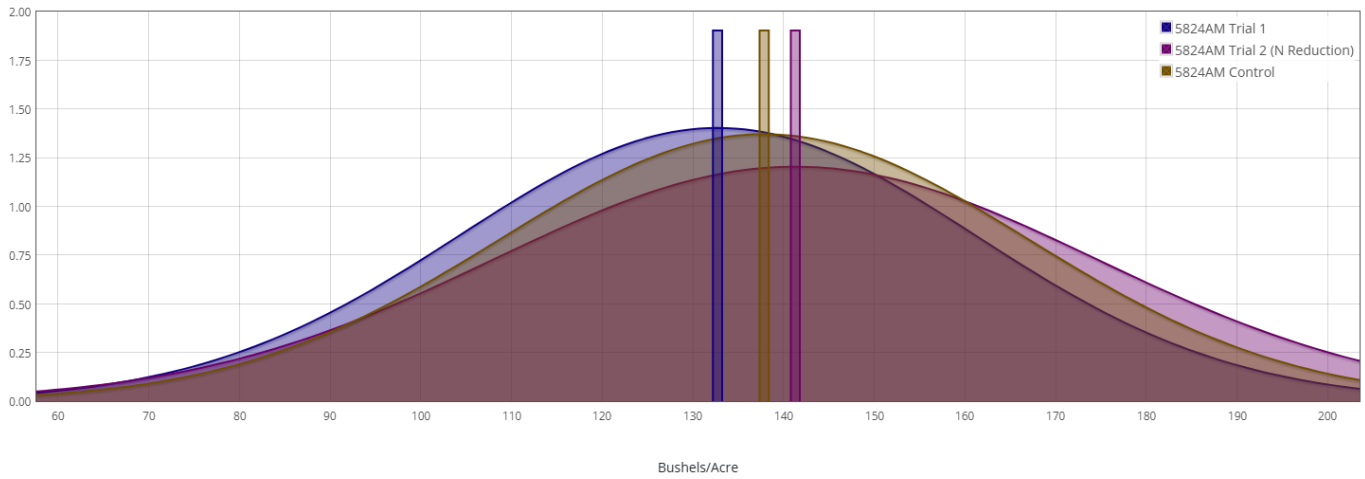
Heat (GDUs)



Rain



Normal Curve Distribution



Additional References



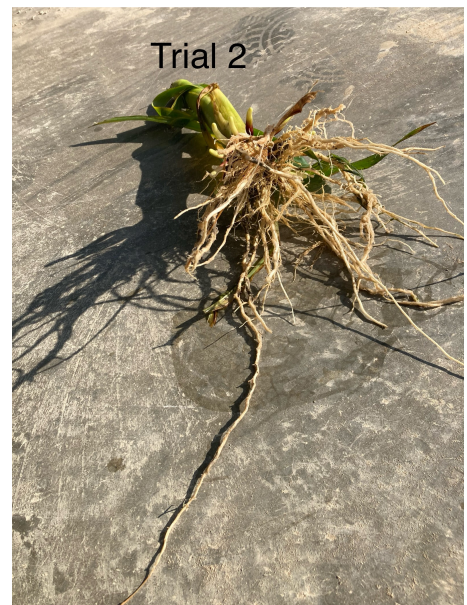
The root system on the Trial 2 plant (N Reduction) looks more robust with a few longer nodal roots.



Trial 1 (Standard N Rate w/ Ensoil)



Control (Standard N Rate w/o Ensoil)



Trial 2 (Reduced N Rate w/ Ensoil)



| | |
|--------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Recd: | 9/5/2024 |
| Date Repd: | 9/9/2024 |

| | |
|-------------------|------------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND, SC 29455 |

| | |
|---------------|-------------------------|
| Grower: | N SCHLATTER/JESSICA MUR |
| Field ID: | TAYLOR 80 |
| Sample ID 1: | CONTROL 1 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 50513 | 24.0 | 4.3 | 28.3 | 42.9 | 16.0 | 0.59 | 16.0 | 0.0 | 79.6 | 25.8 | 20.6 | 5.2 | 4.6 | 0.7 | 57.9 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 50513 | 7.3 | - | 0.26 | NONE | 3.8 | 61 | 1046 | 288 | 21 | 0.79 | 1.2 | 127 | 0.42 | 112 | 16.72 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 50513 | 63.9 | 220 | 29.0 | 13.79 | 12.39 | 40% Legume 60% Grass | 43.2 | 79.6 | 36.4 | 37.85 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 50513 | CORN BU/A | 200 | 0 | | 79.6 | 140 | 30 | 30 | - | - | - | - | 4 | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 9/9/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Recd: | 9/5/2024 |
| Date Repd: | 9/9/2024 |

| | |
|-------------------|------------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND, SC 29455 |

| | |
|---------------|-------------------------|
| Grower: | N SCHLATTER/JESSICA MUR |
| Field ID: | TAYLOR 80 |
| Sample ID 1: | TRIAL 1 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 50514 | 22.8 | 3.2 | 26.0 | 43.0 | 17.9 | 0.72 | 9.8 | 8.2 | 64.4 | 22.4 | 17.9 | 4.5 | 1.8 | 2.6 | 45.3 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 50514 | 7.7 | - | 0.25 | HIGH | 3.1 | 76 | 1407 | 303 | 18 | 0.98 | 1.3 | 102 | 0.41 | 76 | 16.75 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 50514 | 30.1 | 221 | 13.6 | 12.35 | 9.23 | 50% Legume 50% Grass | 41.0 | 64.4 | 23.4 | 24.31 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 50514 | CORN BU/A | 200 | 0 | | 64.4 | 155 | 35 | 25 | - | - | - | - | 4 | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 9/9/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|----------|
| Account No.: | 611 |
| Invoice No.: | |
| Date Recd: | 9/5/2024 |
| Date Repd: | 9/9/2024 |

| | |
|-------------------|------------------------|
| Name: | MERIDETH GARRIGAN |
| Company: | ENLIGHTENED SOIL |
| Address: | 1003 LANDFALL WAY |
| City, State, ZIP: | JOHNS ISLAND, SC 29455 |

| | |
|---------------|-------------------------|
| Grower: | N SCHLATTER/JESSICA MUR |
| Field ID: | TAYLOR 80 |
| Sample ID 1: | TRIAL 2 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 50515 | 12.1 | 4.9 | 17.0 | 30.9 | 15.4 | 0.99 | 15.4 | 0.0 | 58.2 | 21.4 | 15.9 | 5.5 | 5.5 | 0.0 | 49.3 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 50515 | 7.7 | - | 0.22 | HIGH | 4.4 | 52 | 1107 | 301 | 23 | 0.59 | 1.0 | 157 | 0.50 | 129 | 20.74 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 50515 | 85.4 | 247 | 34.6 | 16.04 | 15.01 | 30% Legume 70% Grass | 21.8 | 58.2 | 36.4 | 37.89 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 50515 | CORN BU/A | 200 | 0 | | 58.2 | 160 | 35 | 40 | - | - | - | - | 5 | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 9/9/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



Account No.: 611
Invoice No.:
Date Received: 9/7/2024
Date Reported: 9/9/2024

Name:
Company: ENLIGHTENED SOIL
Address: 1003 LANDFALL WAY
City, State, ZIP: JOHNS ISLAND , SC 29455

Grower: SCHLATTER/JESSICA MUR
Field ID: TAYLOR 80
Sample ID 1: CONTROL 1
Sample ID 2: -
Sample Depth: 0-6

PLFA ANALYSIS REPORT

Lab # 50513

| | Value | Rank |
|----------------------------------|--------|---------|
| Total Biomass, PLFA ng/g soil | 941.29 | POOR |
| Functional Group Diversity Index | 1.274 | AVERAGE |

| Overall Rank |
|---------------|
| BELOW AVERAGE |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|--------|-----------|--------------------|
| Total Bacteria | 491.78 | PLFA ng/g | 52.25 |
| Gram + | 259.36 | PLFA ng/g | 27.55 |
| Actinomycetes | 126.03 | PLFA ng/g | 13.39 |
| Gram - | 106.38 | PLFA ng/g | 11.30 |
| Total Fungi | 43.87 | PLFA ng/g | 4.66 |
| Arbuscular Mycorrhizal | 23.01 | PLFA ng/g | 2.44 |
| Saprophytic | 20.86 | PLFA ng/g | 2.22 |
| Protozoa | 0.00 | PLFA ng/g | 0.00 |
| Undifferentiated | 405.64 | PLFA ng/g | 43.09 |

Ratios

| Community | Value | Rank |
|--------------------------|-------------|-------------|
| Fungi:Bacteria | 0.0892 | POOR |
| Protozoa:Bacteria | All Bact | VERY POOR |
| Gram+:Gram- | 3.6227 | GRAM+ DOM |
| Stress Indicators | | |
| Sat:Unsat | 3.4806 | GOOD |
| Mono:Poly | All Mono | VERY GOOD |
| Pre 16:Cyclo 17 | All Pre16:1 | VERY ACTIVE |
| Pre 18:Cyclo 19 | All Pre18:1 | VERY ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 10/2/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

308-627-0065
regenaglab.com



Account No.: 611
Invoice No.:
Date Received: 9/7/2024
Date Reported: 9/9/2024

Name:
Company: ENLIGHTENED SOIL
Address: 1003 LANDFALL WAY
City, State, ZIP: JOHNS ISLAND , SC 29455

Grower: SCHLATTER/JESSICA MUR
Field ID: TAYLOR 80
Sample ID 1: TRIAL 1
Sample ID 2: -
Sample Depth: 0-6

PLFA ANALYSIS REPORT

Lab # 50514

| | Value | Rank |
|----------------------------------|---------|---------------|
| Total Biomass, PLFA ng/g soil | 1427.30 | BELOW AVERAGE |
| Functional Group Diversity Index | 1.141 | BELOW AVERAGE |

| Overall Rank |
|----------------------|
| POOR - BELOW AVERAGE |

Community Breakdown

| Functional Group | Value | Units | % of Total Biomass |
|------------------------|--------|-----------|--------------------|
| Total Bacteria | 498.11 | PLFA ng/g | 34.90 |
| Gram + | 316.69 | PLFA ng/g | 22.19 |
| Actinomycetes | 106.94 | PLFA ng/g | 7.49 |
| Gram - | 74.48 | PLFA ng/g | 5.22 |
| Total Fungi | 37.61 | PLFA ng/g | 2.64 |
| Arbuscular Mycorrhizal | 21.70 | PLFA ng/g | 1.52 |
| Saprophytic | 15.91 | PLFA ng/g | 1.11 |
| Protozoa | 0.00 | PLFA ng/g | 0.00 |
| Undifferentiated | 891.58 | PLFA ng/g | 62.47 |

Ratios

| Community | Value | Rank |
|-------------------|----------|----------------|
| Fungi:Bacteria | 0.0755 | POOR |
| Protozoa:Bacteria | All Bact | VERY POOR |
| Gram+:Gram- | 5.6874 | VERY GRAM+ DOM |

Stress Indicators

| | | |
|-----------------|-------------|-------------|
| Sat:Unsat | 9.5018 | VERY GOOD |
| Mono:Poly | All Mono | VERY GOOD |
| Pre 16:Cyclo 17 | None Found | N/A |
| Pre 18:Cyclo 19 | All Pre18:1 | VERY ACTIVE |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 10/2/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

308-627-0065
regenaglab.com



| | | | | | |
|----------------|----------|-------------------|-------------------------|---------------|-----------------------|
| Account No.: | 611 | Name: | | Grower: | SCHLATTER/JESSICA MUR |
| Invoice No.: | | Company: | ENLIGHTENED SOIL | Field ID: | TAYLOR 80 |
| Date Received: | 9/7/2024 | Address: | 1003 LANDFALL WAY | Sample ID 1: | TRIAL 2 |
| Date Reported: | 9/9/2024 | City, State, ZIP: | JOHNS ISLAND , SC 29455 | Sample ID 2: | - |
| | | | | Sample Depth: | 0-6 |

PLFA ANALYSIS REPORT

Lab # 50515

| | Value | Rank | Overall Rank |
|----------------------------------|---------|---------------|--------------|
| Total Biomass, PLFA ng/g soil | 1340.46 | BELOW AVERAGE | AVERAGE |
| Functional Group Diversity Index | 1.347 | ABOVE AVERAGE | |

| Community Breakdown | | | | Ratios | | |
|------------------------|--------|-----------|--------------------|-------------------|--------|----------------|
| Functional Group | Value | Units | % of Total Biomass | Community | Value | Rank |
| Total Bacteria | 619.70 | PLFA ng/g | 46.23 | Fungi:Bacteria | 0.1122 | BELOW AVERAGE |
| Gram + | 330.28 | PLFA ng/g | 24.64 | Protozoa:Bacteria | 0.0117 | ABOVE AVERAGE |
| Actinomycetes | 168.88 | PLFA ng/g | 12.60 | Gram+:Gram- | 4.1411 | VERY GRAM+ DOM |
| Gram - | 120.54 | PLFA ng/g | 8.99 | | | |
| Total Fungi | 69.54 | PLFA ng/g | 5.19 | | | |
| Arbuscular Mycorrhizal | 29.82 | PLFA ng/g | 2.22 | | | |
| Saprophytic | 39.72 | PLFA ng/g | 2.96 | | | |
| Protozoa | 7.28 | PLFA ng/g | 0.54 | | | |
| Undifferentiated | 643.94 | PLFA ng/g | 48.04 | | | |

Reviewer Comments

Reviewed By: Lance Gunderson
Date: 10/2/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68

Gain Ground

308-627-0065
regenaglab.com



Account No.: 138
Invoice No.:
Date Recd: 5/31/2024
Date Repd: 6/4/2024

Name: LIZ HANEY
Company: SOIL REGEN LLC
Address: 1181 E CREEKVIEW DR
City, State, ZIP: SALADO, TX 76571

Grower: EVAN S
Field ID: SCHLATTER
Sample ID 1: CONTROL
Sample ID 2: -
Sample Depth: 0-6

HANEY SOIL HEALTH ANAL

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 29359 | 4.1 | 3.2 | 7.4 | 31.2 | 24.2 | 3.43 | 24.2 | 0.0 | 56.8 | 31.4 | 24.0 | 7.4 | 7.4 | 0.0 | 72.2 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 29359 | 7.6 | - | 0.26 | HIGH | 3.9 | 60 | 1006 | 254 | 28 | 0.85 | 2.5 | 156 | 0.41 | 109 | 17.94 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 29359 | 281.0 | 373 | 75.3 | 15.44 | 29.95 | 20% Legume 80% Grass | 7.4 | 56.8 | 49.3 | 51.31 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 29359 | CORN BU/A | 200 | 40 | | 56.8 | 120 | 25 | 30 | - | - | - | - | - | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson Recommendations Provided by Regen Ag Lab, LLC

Date: 6/4/2024 Analysis Performed by Regen Ag Lab, LLC



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/31/2024 |
| Date Repd: | 6/4/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|-------------|
| Grower: | EVAN S |
| Field ID: | SCHLATTER |
| Sample ID 1: | TREATMENT 1 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANAL

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | Avail. P lbs/A |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | |
| 29360 | 7.0 | 3.8 | 10.8 | 31.9 | 21.8 | 2.15 | 13.9 | 7.9 | 44.5 | 23.6 | 18.2 | 5.4 | 2.6 | 2.8 | 47.8 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 29360 | 7.8 | - | 0.23 | HIGH | 2.9 | 56 | 1366 | 277 | 22 | 0.67 | 2.8 | 113 | 0.33 | 74 | 14.75 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 29360 | 51.4 | 323 | 15.9 | 14.81 | 13.77 | 40% Legume 60% Grass | 12.7 | 44.5 | 31.8 | 33.05 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 29360 | CORN BU/A | 200 | 40 | | 44.5 | 135 | 35 | 35 | - | - | - | - | - | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson Recommendations Provided by Regen Ag Lab, LLC

Date: 6/4/2024 Analysis Performed by Regen Ag Lab, LLC



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/31/2024 |
| Date Repd: | 6/4/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|-------------|
| Grower: | EVAN S |
| Field ID: | SCHLATTER |
| Sample ID 1: | TREATMENT 2 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANAL

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | Avail. P lbs/A |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | |
| 29361 | 4.4 | 3.2 | 7.6 | 29.3 | 21.8 | 2.92 | 21.8 | 0.0 | 52.9 | 28.8 | 21.5 | 7.3 | 7.3 | 0.0 | 66.3 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 29361 | 7.7 | - | 0.26 | HIGH | 4.6 | 62 | 1204 | 285 | 25 | 0.63 | 2.2 | 168 | 0.47 | 109 | 24.35 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 29361 | 232.7 | 346 | 67.2 | 15.87 | 25.73 | 20% Legume 80% Grass | 7.9 | 52.9 | 45.0 | 46.81 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 29361 | CORN BU/A | 200 | 40 | | 52.9 | 125 | 25 | 30 | - | - | - | - | - | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson Recommendations Provided by Regen Ag Lab, LLC
Date: 6/4/2024 Analysis Performed by Regen Ag Lab, LLC

Gain Ground



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/31/2024 |
| Date Repd: | 6/4/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|-----------|
| Grower: | EVAN S |
| Field ID: | SCHLATTER |
| Sample ID 1: | CONTROL |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 29359 | 4.1 | 3.2 | 7.4 | 31.2 | 24.2 | 3.43 | 24.2 | 0.0 | 56.8 | 31.4 | 24.0 | 7.4 | 7.4 | 0.0 | 72.2 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 29359 | 7.6 | - | 0.26 | HIGH | 3.9 | 60 | 1006 | 254 | 28 | 0.85 | 2.5 | 156 | 0.41 | 109 | 17.94 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 29359 | 281.0 | 373 | 75.3 | 15.44 | 29.95 | 20% Legume 80% Grass | 7.4 | 56.8 | 49.3 | 51.31 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 29359 | CORN BU/A | 200 | 40 | | 56.8 | 120 | 25 | 30 | - | - | - | - | - | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 6/4/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/31/2024 |
| Date Repd: | 6/4/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|-------------|
| Grower: | EVAN S |
| Field ID: | SCHLATTER |
| Sample ID 1: | TREATMENT 1 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 29360 | 7.0 | 3.8 | 10.8 | 31.9 | 21.8 | 2.15 | 13.9 | 7.9 | 44.5 | 23.6 | 18.2 | 5.4 | 2.6 | 2.8 | 47.8 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 29360 | 7.8 | - | 0.23 | HIGH | 2.9 | 56 | 1366 | 277 | 22 | 0.67 | 2.8 | 113 | 0.33 | 74 | 14.75 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 29360 | 51.4 | 323 | 15.9 | 14.81 | 13.77 | 40% Legume 60% Grass | 12.7 | 44.5 | 31.8 | 33.05 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 29360 | CORN BU/A | 200 | 40 | | 44.5 | 135 | 35 | 35 | - | - | - | - | - | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 6/4/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/31/2024 |
| Date Repd: | 6/4/2024 |

| | |
|-------------------|---------------------|
| Name: | LIZ HANEY |
| Company: | SOIL REGEN LLC |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO, TX 76571 |

| | |
|---------------|-------------|
| Grower: | EVAN S |
| Field ID: | SCHLATTER |
| Sample ID 1: | TREATMENT 2 |
| Sample ID 2: | - |
| Sample Depth: | 0-6 |

HANEY SOIL HEALTH ANALYSIS

| Lab # | Nitrogen | | | | | | | | | Phosphorus | | | | | |
|-------|----------------------|-----------------------|-------------------|------------------|-----------------|---------------------|----------------------|----------------------|-------------------|------------------|-----------------------|-----------------|---------------------|----------------------|-------------------|
| | H3A Extract | | | H2O Extract | | | | | Avail. N lbs/A | H3A Extract | | | | | |
| | Nitrate ppm NO3-N | Ammonium ppm NH4-N | Inorg. N ppm N | Total N ppm N | Org. N ppm N | Org. N: Inorg. N | Org. N Rel. ppm N | Org. N Res. ppm N | | Total P ppm P | Inorg. P ppm PO4-P | Org. P ppm P | Org. P Rel ppm P | Org. P Res. ppm P | Avail. P lbs/A |
| 29361 | 4.4 | 3.2 | 7.6 | 29.3 | 21.8 | 2.92 | 21.8 | 0.0 | 52.9 | 28.8 | 21.5 | 7.3 | 7.3 | 0.0 | 66.3 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Other Soil Measures | | | | | Fertility | | | | | | | | | |
|-------|---------------------|------------------------|-------------------------|----------------|------------------|--------------------|-------------------|---------------------|------------------|----------------|---------------------|----------------|------------------|--------------------|-----------------|
| | | | | | | H3A Extract | | | | | | | | | |
| | Soil pH 1:1 | Buffer pH Mod. WDRF | Soluble Salt mmho/cm | Excess Lime | Soil OM % LOI | Potassium ppm K | Calcium ppm Ca | Magnesium ppm Mg | Sodium ppm Na | Zinc ppm Zn | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Aluminum ppm Al | Sulfur ppm S |
| 29361 | 7.7 | - | 0.26 | HIGH | 4.6 | 62 | 1204 | 285 | 25 | 0.63 | 2.2 | 168 | 0.47 | 109 | 24.35 |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Soil Health | | | | | | Nitrogen Comparison | | | | Reviewer Comments | | | | |
|-------|-------------------------|-----------------|----------|-------|-------|--------------------------|---------------------------|---------------------|-----------------------|----------------------|-------------------|--|--|--|--|
| | H2O Extract | | | | | | Traditional N lbs/A | Haney N lbs/A | Differ. N lbs/A | Savings N \$/A | | | | | |
| | Soil Resp. ppm CO2-C | Org. C ppm C | MAC % | C:N | SHC | Cover Crop Suggestion | | | | | | | | | |
| 29361 | 232.7 | 346 | 67.2 | 15.87 | 25.73 | 20% Legume 80% Grass | 7.9 | 52.9 | 45.0 | 46.81 | | | | | |
| Rank | | | | | | | | | | | | | | | |

| Lab # | Intended | | N Credits, lbs/A | | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | |
|-------|-----------|------------|------------------|---------|-------|---|------|-----|---|----|----|----|----|----|----------|
| | Crop | Yield Goal | Past Crop | Subsoil | Haney | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | Lime T/A |
| 29361 | CORN BU/A | 200 | 40 | | 52.9 | 125 | 25 | 30 | - | - | - | - | - | - | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Reviewed By: Lance Gunderson

Date: 6/4/2024

Recommendations Provided by Regen Ag Lab, LLC

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com



| | |
|--------------|-----------|
| Account No.: | 138 |
| Invoice No.: | |
| Date Recd: | 5/31/2024 |
| Date Repd: | 6/4/2024 |

| | |
|-------------------|---------------------|
| Name: | |
| Company: | SOIL REGEN |
| Address: | 1181 E CREEKVIEW DR |
| City, State, ZIP: | SALADO , TX 76571 |

SOIL ANALYSIS REPORT

| Lab # | Sample Information | | | | Nitrate | Nitrate | Phos | Potassium | Calcium | Magnesium | Sodium | CEC | % Saturation | | | | | |
|-------|--------------------|-----------|-------------|-------|-----------|---------|-------|-----------|---------|-----------|--------|---------|--------------|---|----|----|---|----|
| | | | | | ppm NO3-N | lbs/A N | ppm P | ppm K | ppm Ca | ppm Mg | ppm Na | me/100g | % | % | % | % | % | % |
| | Grower | Field ID | Sample ID 1 | Depth | 1N KCl | 1N KCl | M3 | NH4OAc | NH4OAc | NH4OAc | NH4OAc | NH4OAc | Base | H | Ca | Mg | K | Na |
| 29359 | EVAN S | SCHLATTER | CONTROL | 0-6 | 4.1 | 7 | 43 | 193 | 3248 | 530 | 29 | 21.3 | 100 | - | 76 | 21 | 2 | 1 |
| 29360 | EVAN S | SCHLATTER | TREATMENT 1 | 0-6 | 6.8 | 12 | 67 | 152 | 3235 | 489 | 27 | 20.8 | 100 | - | 78 | 20 | 2 | 1 |
| 29361 | EVAN S | SCHLATTER | TREATMENT 2 | 0-6 | 3.8 | 7 | 62 | 236 | 3814 | 639 | 28 | 25.1 | 100 | - | 76 | 21 | 2 | 0 |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Lab # | Soil pH | Buffer pH | Soluble Salt | Excess | Soil OM | Sulfur | Zinc | Iron | Manganese | Copper | Boron | Chloride | Org. C | Tot. C | Tot. N | Dry Wt |
|-------|---------|-----------|--------------|--------|---------|--------|--------|--------|-----------|--------|-------|----------|--------|--------|--------|--------|
| | S. U. | S. U. | mmho/cm | Lime | % | ppm S | ppm Zn | ppm Fe | ppm Mn | ppm Cu | ppm B | ppm Cl | % C | % C | % N | g |
| | 1:1 H2O | Mod. WDRF | 1:1 H2O | Rating | LOI | M3 | DTPA | DTPA | DTPA | DTPA | H2O | CaNO3 | LECO | LECO | LECO | |
| 29359 | 7.6 | - | 0.26 | HIGH | 3.9 | 31.11 | 2.29 | 131 | 5.7 | 2.51 | - | - | - | - | - | - |
| 29360 | 7.8 | - | 0.23 | HIGH | 2.9 | 29.91 | 1.87 | 87 | 6.2 | 2.01 | - | - | - | - | - | - |
| 29361 | 7.7 | - | 0.26 | HIGH | 4.6 | 37.22 | 1.94 | 140 | 5.7 | 2.58 | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Reviewer Comments

Reviewed By: Emily Shafto

Date: 6/4/2024

Analysis Performed by Regen Ag Lab, LLC

Regen Ag Lab, LLC
31740 Hwy 10, Pleasanton NE 68866

Gain Ground

308-627-0065
regenaglab.com

RECOMMENDATIONS

Account:138

Name:SOIL REGEN

Date Reported:6/4/2024

| Sample Information | | | Intended Crop/Yield | | N Credits | | Fertility Recommendations, lbs of Required Nutrients per Acre | | | | | | | | | | | |
|--------------------|-----------|-------------|---------------------|-----|-----------|---------|---|------|-----|---|----|----|----|----|----|---|----|----------|
| Lab # | Field ID | Sample ID | Crop | YG | Past Crop | Subsoil | N | P2O5 | K2O | S | Zn | Mg | Fe | Mn | Cu | B | Cl | Lime T/A |
| 29359 | SCHLATTER | CONTROL | CORN BU/A | 200 | 40 | | 170 | 25 | 25 | - | - | - | - | - | - | | | - |
| 29360 | SCHLATTER | TREATMENT 1 | CORN BU/A | 200 | 40 | | 165 | - | 30 | - | - | - | - | - | - | | | - |
| 29361 | SCHLATTER | TREATMENT 2 | CORN BU/A | 200 | 40 | | 170 | - | - | - | - | - | - | - | - | | | - |
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Reviewed By: Emily Shafto

Date: 6/4/2024

Recommendations Provided by Regen Ag Lab, LLC