4-Year Trial with Biodyne Biologicals

Proves Positive Impact for P & K Availability

GROWER CASE STUDY

FIELD 2

FIELD HISTORY

- Northwest Iowa
- Corn-Soybean Rotation
  Non-Irrigated
- Corn 219 BPA 10-yr APH
  Soybean 62 BPA 10-yr APH
- Average CEC 27.8
  Average pH 6.5

APPROACH

- Biology applied for 4 years
- **Environoc 401** applied in the spring, **Environoc 501** applied in the fall
- There were no commercial phosphorus applications for 4 years
- Fall soil sampling by a third-party provider *(Tucker Consulting, Storm Lake, IA)*

YIELD RESULTS

2022 SOYBEANS:	**58 BPA**
2021 CORN:	**256 BPA**
2020 SOYBEANS:	**63 BPA**
2019 CORN:	**215 BPA**

COST SAVINGS OF

$174/acre

over the course of the 4-year trial

The following is a 4-year case study showing the result of consistent Environoc 401 and 501 use on corn and soybeans in northwest Iowa.

NUTRIENT LEVEL IMPACTS

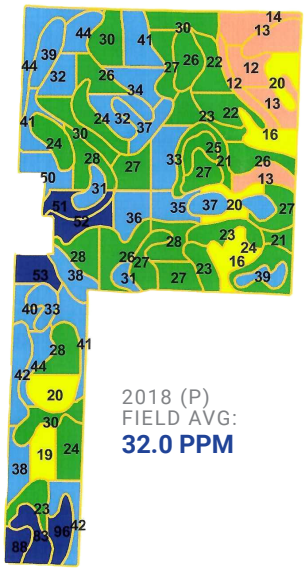
PHOSPHORUS (P)

CONVENTIONAL INDUSTRY NUTRIENT REMOVAL RATE
254 units

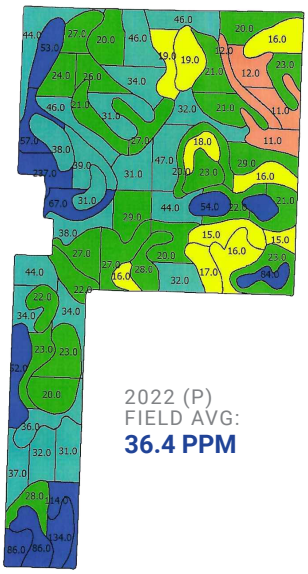
ACTUAL (P) APPLIED
0 units

ACTUAL AVERAGE LEVELS
2018 - 32.0 ppm
2022 - 36.4 ppm

(P) levels increased 4.4 ppm with 0 units applied.



2018 (P) FIELD AVG: **32.0 PPM**



2022 (P) FIELD AVG: **36.4 PPM**

2018
Historically high rainfall in Iowa.

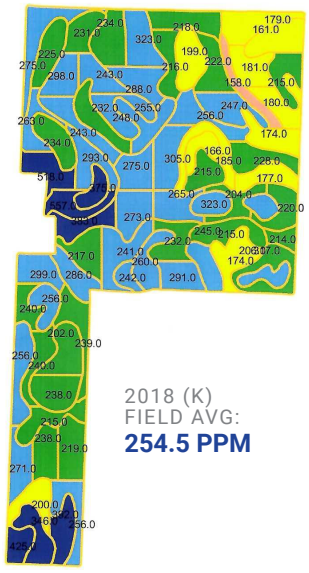
2022
Historical drought conditions in Iowa.

POTASSIUM (K)

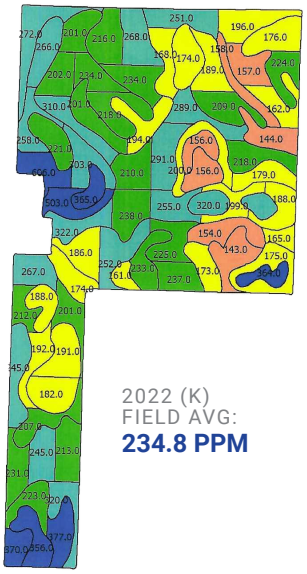
CONVENTIONAL INDUSTRY NUTRIENT REMOVAL RATE
264 units

ACTUAL (K) APPLIED
126 units

ACTUAL AVERAGE LEVELS
2018 - 254.5 ppm
2022 - 234.8 ppm



2018 (K) FIELD AVG: **254.5 PPM**



2022 (K) FIELD AVG: **234.8 PPM**

CONCLUSION

Phosphorus levels in this field should have shown a decrease in fall soil test levels according to common university recommendations. However, due to supported biological activity with Biodyne biologicals, (P) levels increased with no additional commercial fertilizer applied, and (K) only saw a small change in nutrient levels.

MADE IN USA

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LEADERS IN THE FIELD