4-Year Trial with Biodyne Biologicals

Proves Positive Impact for P & K Availability

GROWER CASE STUDY

FIELD 1

FIELD HISTORY

- Northwest Iowa
- Corn-Soybean Rotation
  Non-Irrigated
- Corn 205 BPA 10-yr APH
  Soybean 63 BPA 10-yr APH
- Average CEC 24.3
  Average pH 6.3

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 CORN:	**201 BPA**
2021 SOYBEANS:	**63 BPA**
2020 CORN:	**256 BPA**
2019 SOYBEANS:	**71 BPA**

COST SAVINGS OF

$149/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

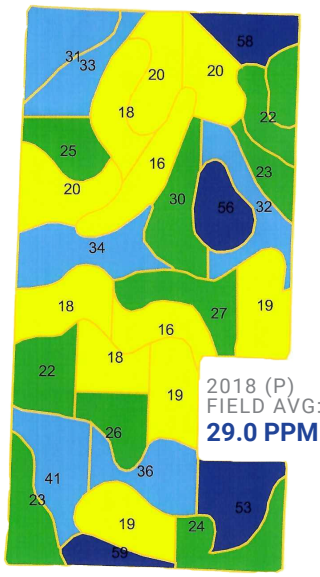
PHOSPHORUS (P)

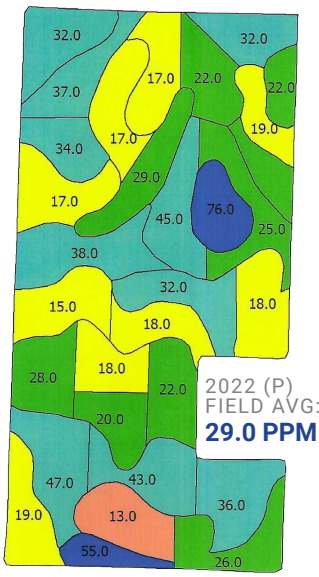
CONVENTIONAL INDUSTRY NUTRIENT REMOVAL RATE
262 units

ACTUAL (P) APPLIED
0 units

ACTUAL AVERAGE LEVELS
2018 - 29.0 ppm
2022 - 29.0 ppm

- **0 lbs (P) applied from 2018-2022.**
- **Avg. P levels remained consistent.**





2018
Historically high rainfall in Iowa.

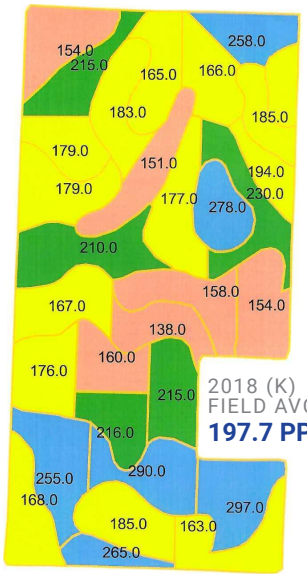
2022
Historical drought conditions in Iowa.

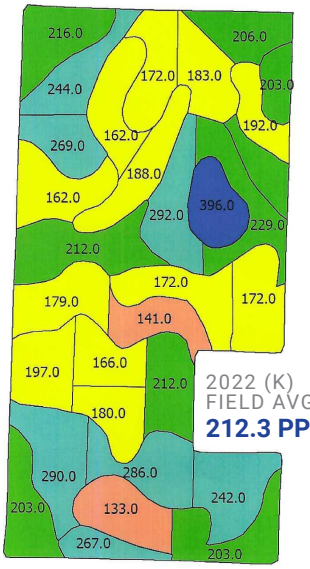
POTASSIUM (K)

CONVENTIONAL INDUSTRY NUTRIENT REMOVAL RATE
284 units

ACTUAL (K) APPLIED
220 units

ACTUAL AVERAGE LEVELS
2018 - 197.7 ppm
2022 - 212.3 ppm





CONCLUSION

According to common university recommendations, this field's (P) and (K) averages should have shown a decrease in soil test levels. Instead, (P) levels remained consistent and (K) levels increased, even through historically wet and dry years, due to supported biological activity in the soil.

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LEADERS IN THE FIELD