Pivot Bio Test Plots 2021

Goodhue County, Minnesota

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Test Plot Format:

- On April 20, 2021 – Urea and Ammonium Sulfate preplant were applied to each of the two fields providing 90 pounds of Nitrogen

- On April 27, 2021 - I planted two ~40 acre fields. I alternated planting with a 16-row planter resulting in 16 rows with a Pivot Bio treatment and the next 16 rows without treatment creating 80-foot-wide plots on each field

- I used 5438 Dekalb on each field as a static population of 35,000

- On June 10, 2021 – Ag Partners applied Urea and Ammonium Sulfate which provided Nitrogen at the rates of 129, 97, and 60 pounds in 80-foot swaths. This resulted in the total applied Nitrogen in the amounts of 219, 187, and 150 pounds

- Field #1(Flat) had one plot of 129 total pounds of Nitrogen

- A total of 25 replications were done with Field #1 (Flat) showing a 4.4 bushel yield advantage and Field #2 (Roger North) showing a 2.9 bushel yield advantage

2021 Growing Season Weather Conditions:

- Great planting conditions to start

- An extremely hot & dry summer

- Fields sustained some wind damage

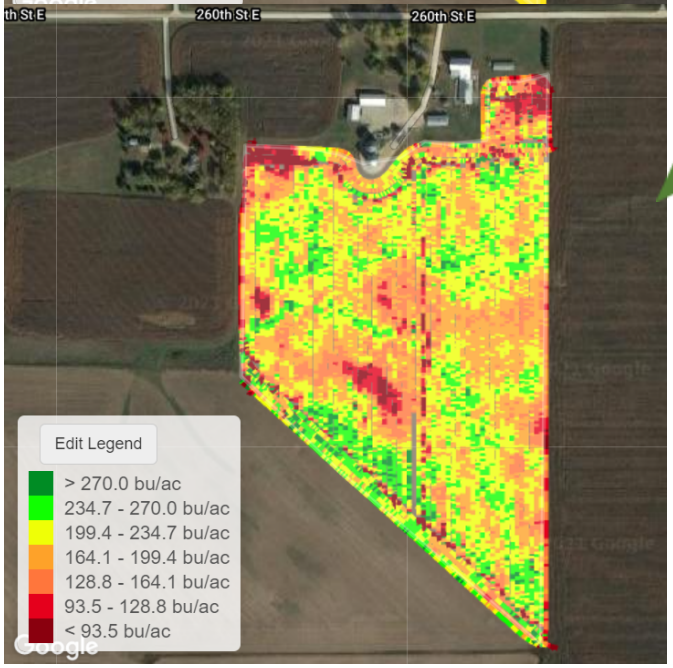
Field #1 (Flat)

Overall Yield Advantage:

4.4 Bushels

Planting Map

As Applied Fertilizer Map



Yield Map

Field #1 (Flat) – 4.4 Yield Advantage

219 Pounds of High Nitrogen
Value of Applied Nitrogen: $90.89

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	202	198	4
2	214	203	11
3	185	187	-2
4	212	207	5
Average	203.25	198.75	**4.5**

187 Pounds of Medium Nitrogen
Value of Applied Nitrogen: $77.61

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	211	206	5
2	212	209	3
3	185	179	6
Average	202.7	198	**4.7**

150 Pounds of Low Nitrogen
Value of Applied Nitrogen: $62.25

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	211	215	-4
2	197	192	5
3	201	190	11
Average	203	199	**4.0**

129 Pounds of Ultra-Low Nitrogen
Value of Applied Nitrogen: $53.54

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	202	202	0.0
Average	202	202	**0.0**

Field #2 (Roger North)

Overall Yield Advantage:

2.9 Bushels

Planting Map

As Applied Fertilizer Map

Yield Map

Field #2 (Roger North) – 2.9 Yield Advantage

219 Pounds of High Nitrogen
Value of Applied Nitrogen: $90.89

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	210	195	15
2	225	222	3
3	224	229	-5
4	213	206	7
5	192	184	8
Average	212.8	207.2	**5.6**

187 Pounds of Medium Nitrogen
Value of Applied Nitrogen: $77.61

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	203	209	-6
2	222	225	-3
3	232	222	10
4	217	214	3
5	204	193	11
Average	215.6	212.6	**3.0**

150 Pounds of Low Nitrogen
Value of Applied Nitrogen: $62.25

Trial	Dekalb 5438 with Pivot Bio Yield	Dekalb 5438 Yield	Difference in Yield
1	215	212	3
2	200	210	-10
3	231	237	-6
4	191	200	-9
5	224	201	23
Average	212.2	212	**0.2**

Results & Observations:

- A total of 25 replications were done with Field #1 (Flat) showing a **4.4** bushel yield advantage and Field #2 (Roger North) showing a **2.9** bushel yield advantage

- Very little difference in yields on the sections without Pivot Bio – even with a **70** pound difference in Nitrogen and an additional cost of **$28.64**

- The ultra-low plot on field #1 (flat) that received **129** pounds of Nitrogen yielded basically the same as the plot that received **219** pounds of Nitrogen, an additional cost of **$37.35**

- These fields were stressed by heat and drought, I don't believe Nitrogen was a limiting factor

- I believe Pivot Bio would have produced better results if I had cut back even further on Nitrogen