



EFFECTS OF FULL TIMAC AGRO PROGRAM ON GRAIN CORN PRODUCTION

RESEARCHER:

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SITE LOCATION:

Manheim, PA
Corn grain

PURPOSE AND HYPOTHESIS

The Purpose of this experiment was to test a program approach to fertilizing corn for grain versus an untreated control. Our hypothesis is that a program incorporating products to maximize nutrient protection, plant performance and soil microbial activity will enhance yield and improve nutrient efficiency.

PRODUCTION AND TREATMENTS

Planted	May 3 2018
Variety and Population	SW 6780 GenVT2P at 35,000 drop
Base Fertilization Control	5 gallon of 7-21-7-1Zn in furrow and 120 units of nitrogen broadcast as 36-0-0-7s
Trial Design	Strip Plot, 4 Replication, 3 rd Party Research

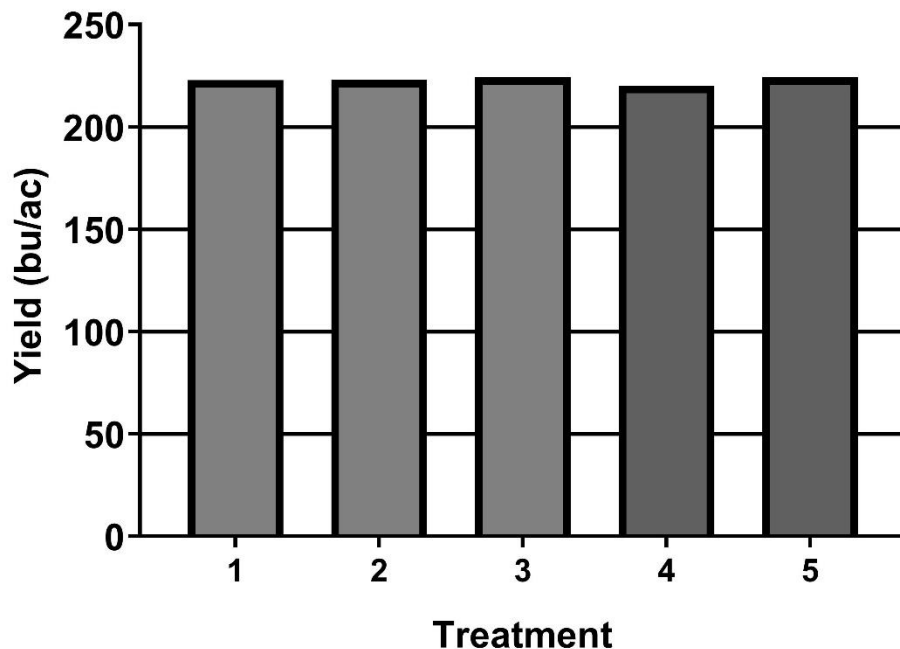
DESIGNATION	TREATMENT INFORMATION
1	120 units N as 36-0-0-7s single application before planting
2	120 units of N as 36-0-0-7s split applied half at planting and half at V5
3	120 Units N as 36-0-0-7s Treated with Duo Maxx at 3 qt/ton before planting
4	120 Units N as 36-0-0-7s Duo Maxx at 3 qt/ton, Fertiactyl GZ with the 7-21-7 starter at 2 qt/ac and Fertileader Axis at 2.5 pt/ac applied at V5
5	96 Units N (20% Less) as 36-0-0-7S Duo Maxx, Fertiactyl GZ with the 7-21-7 starter at 2 qt/ac and Fertileader Axis at 2.5 pt/ac applied at V5

RESULTS

PRODUCT	POPULATIONS	YIELD	TEST WEIGHT
1-Untreated	32,625	222.83	53.76
2-Split applied N	33,375	223	53.79
3-Duo Maxx	34,000	224.175	53.79
4-Duo Maxx + Bios	34,000	220.1	53.75
5-Duo Maxx + Bios -20%N (24 units)	33,750	224.25	53.68

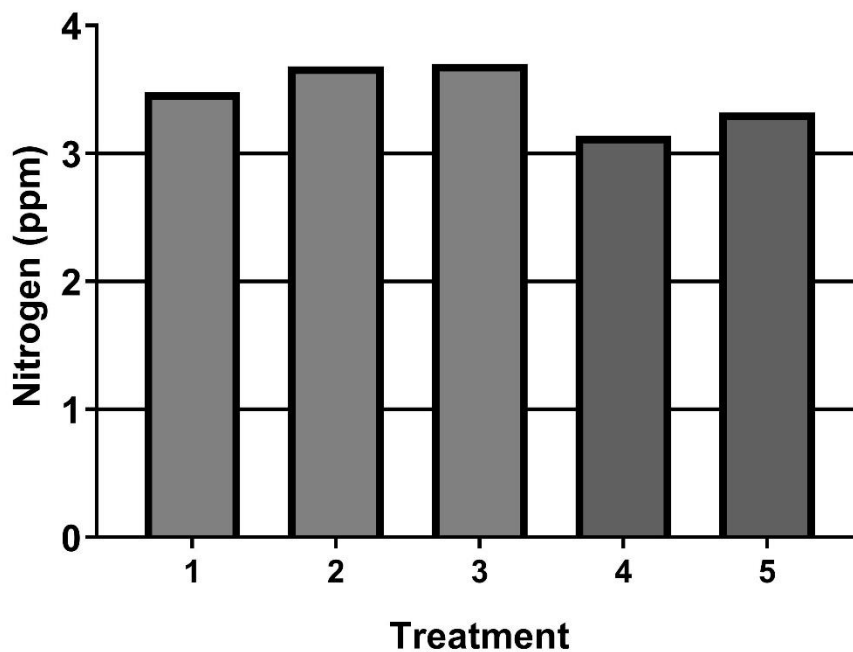


Program Effects on Corn Yield

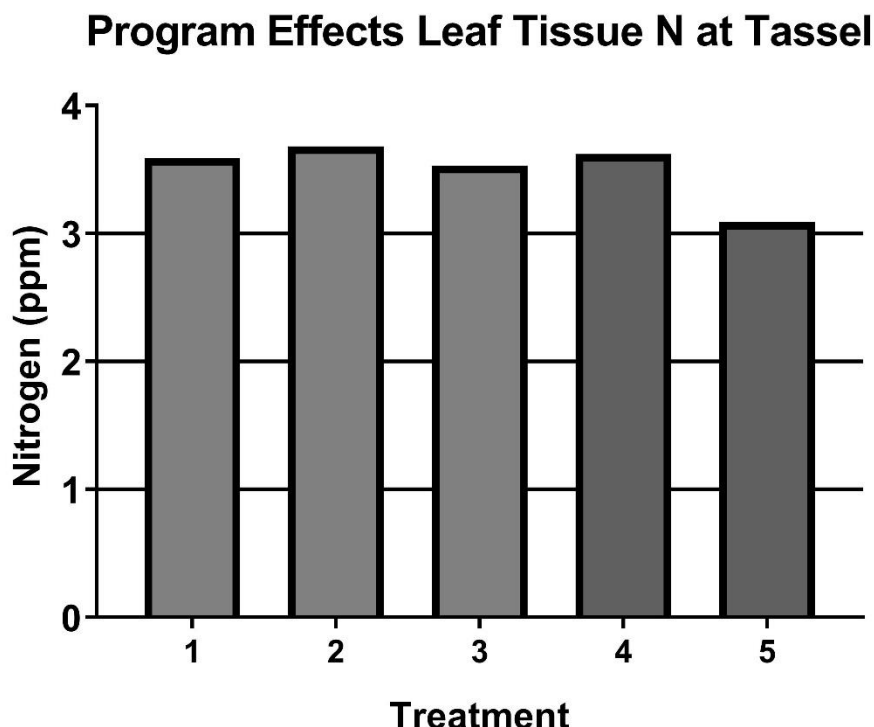


GRAPH 1: Program effects on Corn Yield.

Program Effects Leaf Tissue N at V6



GRAPH 2: Program Effect on leaf tissue N at V6.



GRAPH 3: Program Effect on leaf tissue N at Tassel.

END OF YEAR SOIL AMMONIUM AND NITRATE TEST TAKEN 10/17

AMMONIUM: 3 PPM

NITRATE NITROGEN: 40 PPM

Nitrogen Credits for Corn ¹		
PSNT Result ppm N	Soil Yield Potential ²	
	High	Medium
	— N Credit, lb/a —	
≥ 21	No additional N is needed.	
18-20	100	80
15-17	60	80
13-14	35	40
11-12	10	40
≤ 10	0	0

KEY FINDINGS:

All four of the treatments showed no significant difference in yields including using 20% less nitrogen. The full program using 20% less N yielded the highest at 224.25 bu per acre. This could indicate improved nutrient efficiency with this program. A soil ammonium and nitrate test was conducted after harvest and showed large amounts of soil nitrate still available. This site appears to not be nitrogen responsive. The treatments of Duo Maxx, Fertiactyl and Fertileader are all meant to improve nutrient availability and uptake. This allows for sustained yields even while using less N.