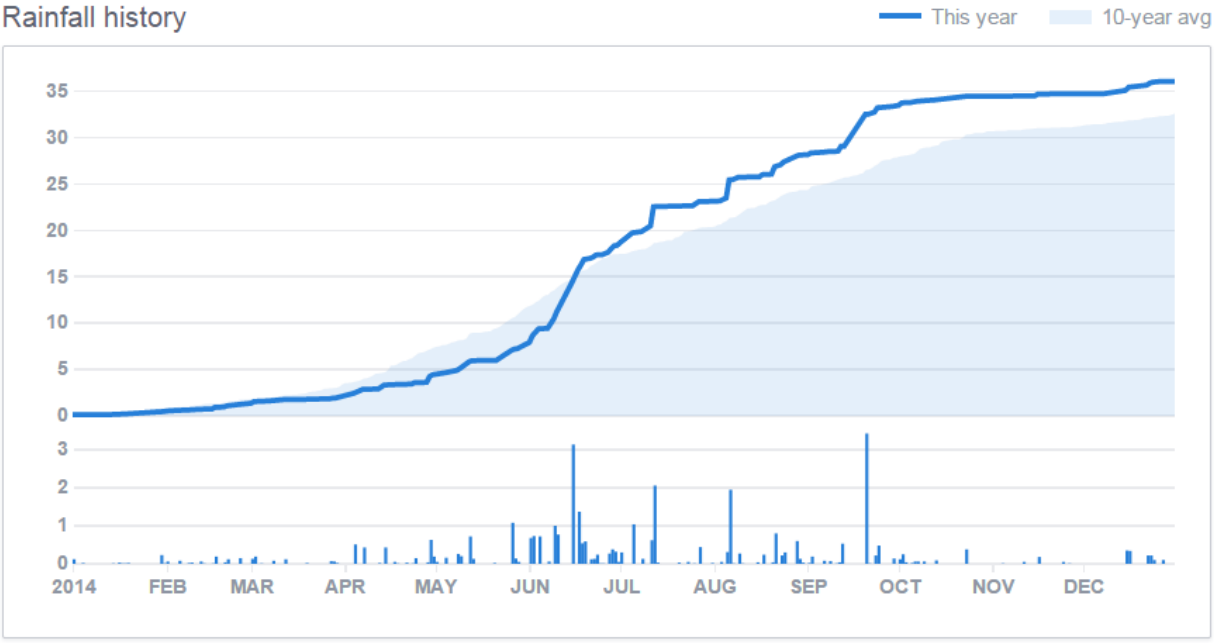
Nebraska On-Farm Research Network

Foliar Micronutrient Application to Corn

Study ID: 012027201401
County: Cedar
Soil Type: Crofton and Nora silty clay loam
Planting Date: 5/25/2014
Harvest Date: Unknown
Population: 32,000 seeds/acre
Row Spacing: 20”
Hybrid: P0621 HR
Reps: 10
Irrigation: Pivot – Amounts Unknown

Previous Crop: Soybean
Tillage: No-till
Herbicides: **Pre:** 2 oz. Balance Flexx on 5/16/14
Post: none
Insecticides/Fungicides: Gaucho and Allegiance FL seed treatment
Fertilizer: 40 gal/acre UAN 32% on 5/26/14
15 gal/acre UAN 32% on 7/25/14



Soil Test Values:

OM	pH	NO_3–N (0-4”)	NO_3-N (4-8”)	P Bray 1	P Bray 2	K	S	Mn	B	Zn
--%---		----------lbs/acre----------		----------ppm----------						
3.3	7.9	8	4	26 (H)	84 (VH)	274 (VH)	13 (M)	5 (L)	0.9 (M)	2 (M)

*VH=Very High, H=High, M=Medium, L=Low, VL=Very Low

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Introduction: This study is looking at the effects of foliar fertilizers on corn yield and concentrations of nutrients in leaf tissue samples. Two foliar fertilizers were used in this study. Product 1 (analysis below) was applied at a rate of 1qt/ac and product 2 (analysis below) was applied at a rate of 1pt/ac. Both products were applied with a high clearance applicator on July 3rd. Leaf samples were collected from treated and untreated strips approximately 1 month after application and analyzed for nutrient concentrations. Yields were harvested from treated and untreated strips and collected from yield monitor data.

Product 1:
Guaranteed Analysis
Sulfur (S) ……..3.6%
Boron (B) ……0.1%
Manganese (Mn)……3.0%
Zinc (Zn) ……4.0%

Product 2:
Guaranteed Analysis
Boron (B) ……8%

Results:

	Yield†	Plant Tissue Samples							Net Return‡
		N	P	K	S	Mn	B	Zn	
	(bu/acre)	*----------(%)----------*				*----------(ppm)----------*			
Check	202 A*	3.04 A	0.37 A	2.62 A	0.19 A	66.7 A	6.0 A	17.8 A	$707.00
Foliar Treatment	208 A	3.12 A	0.37 A	2.58 A	0.19 A	68.3 A	5.5 A	18.0 A	$709.94
P-Value	*0.3617*	*0.2540*	*0.8302*	*0.8267*	*0.7926*	*0.8222*	*0.7075*	*0.7412*	--

†Bushels per acre corrected to 15.5% moisture.
*Values with the same letter are not significantly different at a 90% confidence level.
‡Net return based on $3.50/bu corn, $23.79/gal product 1, $31.93/gal product 2, and $8.12 ground applicator cost.

Summary: At this location, the foliar micronutrient treatments did not significantly increase yield when compared to the non-treated areas. We looked at the tissue sample values for the nutrients applied in the foliar treatment (S, Mn, B, and Zn). There was no difference in plant tissue samples values for any of these nutrients.

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