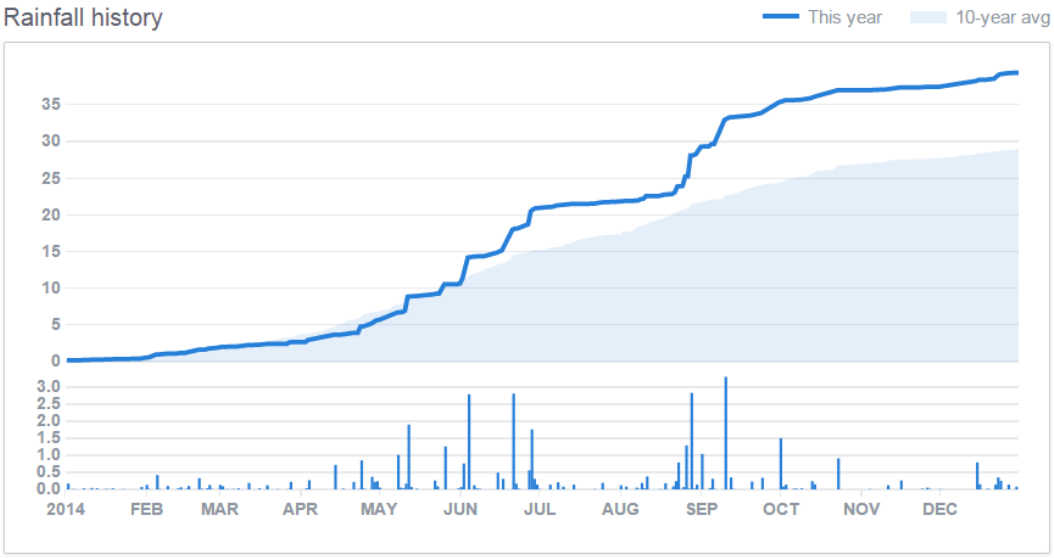
Nebraska On-Farm Research Network

Foliar Micronutrient Application on Corn

Study ID: 039155201404
County: Saunders
Soil Type: Yutan silty clay loam
Planting Date: 5/16/2014
Harvest Date: 11/13/2014
Population: 37,000
Row Spacing: 30”
Hybrid: Pioneer 1690 HR
Reps: 20
Soil Test Values: not available
Previous Crop: Soybeans

Tillage: No-till
Herbicides: Pre: 13 oz/ac Verdict on 5/20/14
22 oz/ac Roundup PowerMAX on 5/20/14
Post: 0.6 oz/ac Armezon on 6/20/14
22 oz/ac Roundup PowerMAX on 6/20/14
Insecticides/Fungicides: Gaucho Seed Treatment
2 oz/ac Baythroid XL on 7/2/14
4 oz/ac Priaxor on 7/2/14
10 oz/ac Headline AMP on 8/8/14
Fertilizer: 160# N/ac as anhydrous ammonia, spring 2014
20 gal/ac of 10-34-0 in furrow 2 x 2 on 5/16/14

Irrigation: Pivot irrigated, amounts unknown
Note: Hailed mid-June, 14% damage



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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 1 qt/ac and product 2 (analysis below) was applied at a rate of 1 pt/ac. Both products were applied with a high clearance applicator on July 2rd. Applied strips were 100' wide and the sprayer only drove through the treated strips. 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 weighed using a weigh wagon.

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† *(bu/acre)*	Net Return ‡
Check	248 A*	$868.00
Foliar Treatment	245 B	$839.44
P-Value	*0.0010*	--

†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 were significantly lower yielding when compared to the non-treated areas. No plant tissue samples or soil test values are available for this site. With lower yields and increased cost of production, the foliar nutrient treatment resulted in a loss of $28.56/acre at this site.

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In partnership with: Soybeans Nebraska Soybean Board; Nebraska Corn Board; Nebraska Corn Growers Association