Effects of Max-In Boron on Sugarbeet Production.

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Introduction

Max-In Boron is being tested in sugarbeets to identify applicable timings for increased sugar concentration. The research was conducted at the Nesson Valley Irrigation Research and Development Project to test the effects of one pint per acre of Max-In Boron applied to sugarbeets.

Experimental Design and Methods

The experimental design is a Randomized Complete Block Design (RCBD) with four replications. Each plot will be 30ft. by 100 ft. with Max-In Boron treatments randomized for each plot. The treatments consist of four treatments: 1)no application, 2)last herbicide (glyphosate) application + 1st week August, 3)last herbicide (glyphosate) application + 3rd week August, and 4)last herbicide (glyphosate) application + 1st week September. Sugarbeets will be planted and beets will be monitored for visual differences during the season for plant growth following application treatments. Max-In Boron will be applied at one pint per acre per treatment and tank mixed with last herbicide application of glyphosate. Subsequent treatment applications will be applied alone. Ten gallons of water will be applied per application. Root sampling will occur in early August, and early September and at harvest (late September). Samples will be analyzed at Sidney Sugars laboratory and samples will be statistically analyzed for treatment differences.
All cultural practices (tillage, fertilizer, planting populations, chemical, and fungicide applications) will be the same for the sugarbeets in the trial to minimize the effects of variables other than Max-In Boron application treatment timings.

Year 1 Results

Table 1. Effects of Max-In Boron on Sugarbeet Production

Treatment	Application Date	sample 1 (Aug 11)		sample 2 (Sept 8)		sample 3 (Sept 21)	
		sugar	recoverable sugar	sugar	recoverable sugar	sugar	recoverable sugar
		%	lbs/a	%	lbs/a	%	lbs/a
1	no application	12.7	3102	15.2	6782	17.0	9128
2	7/18 and 8/5	12.2	2892	15.2	7346	16.2	8130
3	7/18 and 8/25	12.6	2687	16.1	6486	17.4	9680
4	7/18 and 9/7	12.0	2700	15.5	6776	16.9	9386
LSD 5%		n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
LSD 10%		n.s.	n.s.	0.9	n.s.	1.0	727

Conclusion

Response to Max-In Boron was not significant when comparing the application treatments to the check application. Significant differences did occur ($P<0.10$) between percent sugar in samples 2 and 3 and recoverable sugar in sample 3 (Table 1). The differences did not directly reflect upon the benefits of applying Max-In Boron to the check (no application) treatment. Sample 1-3 were taken on August 11, September 8 and September 22 respectively. This trial will be performed again in 2017 to determine if application timing does factor in on sugarbeet production.