

Soybean response to special foliar inputs, Carrington, 2008.

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A field study was conducted at the NDSU Carrington Research Extension Center to examine the performance of foliar inputs on soybean seed yield and quality. Experimental design was a randomized complete block with four replications. The previous crop was spring wheat. The irrigated, conventional-till trial was established on a Heimdal Emrick loam soil with 75 lb/A (0-24") nitrate-N, 22 ppm P, 151 ppm K, 4 lb/A (0-24") Cl (very low), 116 lb/A (0-24") S, 0.8 ppm B (low), 0.87 ppm Zn, 25.1 ppm Fe, 4.4 ppm Mn, 0.61 ppm Cu, 653 ppm Mg, 2813 ppm Ca, 0% carbonate, 0.29 mmho/cm (0-6") and 0.35 mmho/cm (6-24") soluble salts, 20.2 meq CEC, 3.0% organic matter and 7.5 pH. Inoculated Dairyland Seeds 'DSR0401' was planted in 7-inch rows at 200,000 pls/A on May 22. See table for treatment list. POST foliar treatments were applied with a CO₂-pressurized hand-boom sprayer delivering 14 gal/A at 35 psi with 8001 flat-fan nozzles. The V2 growth stage treatments were applied on July 3 and R2 growth stage treatments were applied on July 30. The trial was harvested with a plot combine on October 16.

Plots were visually inspected on August 15 and 29 (R5 stage), and September 12 (R6 stage) and observations indicated no foliage color differences. 'GreenSeeker' readings taken on August 27 indicated no difference among treatments for green plant color (Table). Soybean plant maturity, and seed yield and quality were similar among treatments including the untreated check.

Table.												
No.	Company	Treatment				Plant		Seed	Test	Seeds/	Oil	Protein
		Name ¹	Rate	Unit	Timing	Green color ²	PM	yield	weight	lb		
						NDVI	Jday	bu/A	lb/bu			
1	x	untreated check	x	x	x	0.9	268	47.31	57.5	3336	16.1	37.8
2	Nortrace	6-0-0-9 Zn	32	fl oz/a	V2	0.9	269	45.89	57.5	3372	16.2	37.9
3	National Stimulants	NBS	13	fl oz/a	V2	0.9	270	47.95	57.4	3358	16.1	38.1
4		sugar	1	lb/a	V2	0.9	269	45.93	57.3	3321	16.1	38.1
		sugar	1	lb/a	R2							
5	WinField	MAX-IN	32	fl oz/a	V2	0.9	270	48.14	57.4	3308	16.2	37.9
		MAX-IN	32	fl oz/a	R2							
6		MAX-IN MnNF	32	fl oz/a	V2	0.9	269	49.43	57.7	3329	16.1	38.0
		MAX-IN MNNF	32	fl oz/a	R2							
7	EMD Crop BioScience	LCO Foliar	32	fl oz/a	V2	0.9	269	47.18	57.6	3299	16.1	38.0
8	TJ Technologies	Sufl/Can/Soy Mix	48	fl oz/a	V2	0.9	270	46.65	57.3	3307	16.3	38.0
9	BASF	Headline	3	fl oz/a	V2	0.9	270	45.96	57.4	3285	16.2	37.9
		NIS	0.3	%v/v	V2							
10		Headline	3	fl oz/a	V2	0.9	270	47.33	57.4	3263	16.3	37.7
		NIS	0.3	%v/v	V2							
		Headline	6	fl oz/a	R2							
		NIS	0.3	%v/v	R2							
11		Headline	6	fl oz/a	R2	0.9	270	47.25	57.4	3286	16.1	37.9
		NIS	0.3	%v/v	R2							
12	Helena	CoRon	64	fl oz/a	R2	0.9	269	49.65	57.1	3246	16.2	38.0
13	Agro-Culture Liquid Fertilizers	Micro500	32	fl oz/a	R2	0.9	269	45.95	57.7	3386	16.1	38.2
14		SureK	256	fl oz/a	R2	0.9	270	48.96	57.6	3254	16.4	37.9
15		MAX-IN	32	fl oz/a	V2	0.9	270	48.43	57.1	3197	16.4	37.8
		LCO Foliar	32	fl oz/a	V2							
		MAX-IN	32	fl oz/a	R2							
		Headline	6	fl oz/a	R2							
		NIS	0.3	%v/v	R2							
16	Advanced Microbial Solutions	Soil Builder	192	fl oz/a	V2	0.9	270	50.72	57.8	3319	16.1	37.7
		Ag Blend	192	fl oz/a	R2							
Mean						0.9	269	47.7	57.5	3304	16.2	37.9
C.V. (%)						0.5	0.3	7.1	0.7	2.7	1.0	0.6
LSD (0.05)						NS	NS	NS	NS	NS	NS	NS
¹ NIS=Induce.												
² GreenSeeker readings on August 27.												