Soybean response to foliar nodulation promoter, Carrington, 2018.

(Greg Endres and Mike Ostlie)

A field trial was conducted at the Carrington REC in cooperation with Loveland Products, Inc. to examine the response of soybean to a foliar nodulation promoter. Experimental design was a randomized complete block with six replications. Previous crop was flax in 2017 and soybean was last grown in 2014. July 7 soil sampling indicated an analysis of 24 lb nitrate N/acre, 16 ppm P (Olsen), 223 ppm K, 3.6% organic matter, 5.1 pH (0-6" soil depth), and 0.16 mmho/cm soluble salts (0-6" soil depth). Liquid inoculant was Dyna-Start Rhizobia Liquid at 1.16 cwt/A. Proseed '30-20 RR2Y' treated with Cruiser Maxx Vibrance was seeded in 7-inch rows on May 23. Foliar LPI 6658 nodule enhancer at 20 fl oz/acre and Liberate at 0.125% v/v were applied on June 25 at V3 stage with a hand-boom plot sprayer delivering 14 gpa at 35 psi through flat fan 8001 nozzles. Seed was harvested with a plot combine on September 11.

Plant stand was statistically similar among treatments (Table). Plant vigor was visually evaluated on June 18 and was similar among treatments (data not shown). Plant nodule counts were taken on three plants/plot about three weeks after plant emergence and one month after foliar product application. Average nodule number was similar among treatments at each sampling date. Days to flower (data not shown) and plant maturity were similar among treatments. Seed yield, test weight, seed count, and seed oil and protein content were similar among treatments.

Table.											
Treatment			Plant				Seed				
			Nodules								
		Application method/	Stand	40.1	05.1.1	Phy.	,,,,,	Test	Number		
Number	Inoculant	timing	(June 12)	18-Jun	25-Jul	mat	Yield	weight	/lb	Oil	Protein
			plt/A	no./plt		Jday	bu/A	lb/bu		%	%
1	untreated check	Х	192,565	10	45	246	41.7	56.3	3680	19.4	35.1
2	Dyna-Start liquid	seed	193,515	10	47	246	42.7	56.5	3815	19.2	35.5
	Dyna-Start liquid	seed	210,105	9	48	247	45.4	56.3	3930	19.5	34.9
	LPI 6658 nodule enhancer										
3	Liberate	foliar									
	LPI 6658 nodule enhancer	-	193,515	10	52	246	43.6	56.0	3710	19.5	34.8
4	Liberate	foliar									
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mean			195,175	10	48	246	43.3	56.3	3785	19.4	35.1
CV (%)			21.4	26.4	22.5	0.2	6.8	0.8	10.3	1.5	1.6
LSD (0.05)			NS	NS	NS	NS	NS	NS	NS	NS	NS