

Soybean Response to Selected Plant Establishment Strategies, Wishek

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A field trial was conducted by the NDSU Carrington Research Extension Center at the Tri-county off-station trial site near Wishek to examine the performance of soybean with inoculated seed, in-furrow applied fertilizer, and special foliar inputs. Experimental design was a randomized complete block with four replications. Fall 2013 soil test indicated 17 ppm P (Olsen), 44 lb/A sulfur (0-24" depth), 3.5% organic matter and 5.6% pH (0-6" depth). Previous crops were small grain in 2013 and soybean in 2012. Dairyland Seed 'DSR0404' Roundup Ready soybean was planted in 14-inch rows on May 22. Treatments included in-furrow applied MES15 fertilizer (Mosaic) and Avail P fertilizer additive (Specialty Fertilizer Products); and foliar applied Ascend growth promoter (Winfield) and Priaxor fungicide (BASF). Seed was harvested with a plot combine on October 20.

Using the average plant stand of 175,015 plants/acre with the two untreated checks, in-furrow applied 11-52-0 reduced the stand 35-41% and in-furrow applied MES15 reduced the stand 48% (Table). Seed yield tended to increase with all treatments except in-furrow applied MES15 compared to the average yield of the untreated checks (30.6 bu/acre). Yield and seed size increased with Priaxor compared to the untreated checks.

Table.

Number	Treatment			Plant Stand (June 30) plt/A	Seed				
	Product	Product rate/acre	Timing		Test		Number/lb	Oil	Protein
				Yield bu/A	Weight lb/bu	----%----			
1	untreated check	no	x	150,825	29.3	56.4	3137	15.4	34.7
2	inoculated	x	in-furrow	167,190	36.6	56.4	3160	15.2	34.7
3	11-52-0	50 lb	in-furrow	103,160	34.1	56.7	3218	14.6	35.2
4	0-0-60	15 lb	in-furrow	157,940	30.7	56.5	3152	15.0	35.3
5	MES15	80 lb	in-furrow	90,355	22.9	56.6	3504	15.0	34.4
6	11-52-0 + Avail	50 lb + 1.6 fl oz	in-furrow	113,830	33.6	56.4	3247	14.9	34.7
7	Ascend	4.5 fl oz	R2-3	193,515	34.1	56.5	3035	15.1	34.8
8	Priaxor + NIS	4 fl oz + 0.25%	R2-3	183,555	41.0	56.7	2800	14.5	35.2
9	inoculated seed + MES15 + Ascend + Priaxor + NIS	80 lb/4.5 fl oz + 4 fl oz + 0.25%	in-furrow/ R2-3	91,775	31.8	56.5	3075	14.6	34.6
10	untreated check	no	x	199,205	31.9	56.4	3145	15.0	35.2
Mean				145,135	32.6	56.5	3145	14.9	34.9
C.V. %				21.1	20.3	0.5	4.2	1.8	1.5
LSD (0.10)				36,885	8.0	NS	160	0.3	NS