Soybean Cyst Nematode

Trial 18. Evaluation of seed treatments for controlling soybean cyst nematode in Colfax, ND - 2025

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Soybeans were planted on May 30, 2025, in Colfax, North Dakota, at a rate of 140,000 seeds/a in bedded single rows spaced 30 inches apart and a planting depth of 1.5 inches. Experiment plots were four rows (10 feet) wide by 18 feet long. Treatment evaluations were replicated four times and designed in a randomized complete block, and blocks were separated by 7-foot alleys. The soil type was Wyndmere fine sandy loam. Standard practices were used to manage weeds and nutrition. This trial was conducted in a field with a history of soybean cyst nematode (SCN). Samples of SCN were taken from the center two rows of each plot at the beginning (June 3, 2025) and the end of the season (Oct. 2, 2025). Yield was collected from the center two rows on Oct. 11, 2025. The weather over the course of the growing season was conducive to disease development. This trial received a total of 13.3 inches of rainfall over the course of the growing season. Analysis was conducted using SAS 9.4 PROC GLIMMIX to determine the effects of treatments on disease and yield. Means separations followed Fisher's Protected LSD at α=0.05.

To assess levels of SCN, the number of eggs was counted per 100cc of soil. The number of SCN eggs in this experiment was very low (1-200) to low (201-2,000). There were no significant differences among treatments in SCN egg counts at the beginning of the season. However, there were statistically significant differences among treatments for the number of SCN egg counts at the end of the season. A combination treatment of Evergol Energy at 1 fl oz/cwt, Allegiance FL at 0.533 fl oz/cwt, Gaucho at 2 fl oz/cwt and Ilevo 1.08 fl oz/cwt resulted in the highest egg count at the end of the season at 1075. However, SCN egg counts of under 2,000 are generally not associated with any yield loss, and when comparing the mean yield of this treatment to that of no seed treatment was used, there was less than a bu/a difference, which was not statistically significant. Across the whole experiment, there were no significant differences among treatments for yield. The treatment with the highest yield was a combination treatment of Cruiser Maxx APX at 3.22 fl oz/cwt and BioST Nematicide 3 fl oz/cwt, which resulted in a mean yield of 63.1 bu/a (2.9 bu/a higher than if no seed treatment was used). The results from this experiment provide support for findings indicating yield loss associated with SCN will likely not reach significant levels when egg counts are under 2,000 eggs + J2/100 cc.

Table 18. Effect of seed treatments on soybean cyst nematode counts and yield in a field with history of SCN.

Treatment[a]	Rate	SCN1[b]	SCN2[c]	Yield (bu/a)[d]
Non-Treated	-	825	425 b[e]	60.2
Zeltera Suite Soybeans	3.5 fl oz/cwt	300	113 b	62.6
Cruiser Maxx APX	3.22 fl oz/cwt			
Saltro	1.53 fl oz/cwt	225	225 b	60.7
Evergol Energy	1 fl oz/cwt			
Allegiance FL	0.533 fl oz/cwt			
Gaucho	2 fl oz/cwt			
Ilevo	1.08 fl oz/cwt	225	1075 a	59.6
Zeltera Suite Soybeans	3.5 fl oz/cwt			
Aveo EZ	0.2 fl oz/cwt	363	275 b	62.5
Cruiser Maxx APX	3.22 fl oz/cwt			
BioST Nematicide	3 fl oz/cwt	75	400 b	63.1
P-Value		0.4643	0.0057	0.8474

[a] Treatments were applied as standard seed treatments in conjunction with colorant.
[b] SCN1 = soybean cyst nematode egg count per 100cc of soil at the beginning of the season (June 3, 2025).
[c] SCN2 = soybean cyst nematode egg count per 100cc of soil sample at the end of the season (Oct. 2, 2025).
[d] Yield was adjusted to 13% moisture and calculated in bushels per acre (bu/a) and collected on Oct. 11, 2025.
[e] Treatments with different letter groupings differ significantly ($\alpha = 0.05$).