Trial 19. Evaluation of seed treatments for controlling soybean cyst nematode in Colfax, ND - 2025

SOYBEAN (*Glycine max*)

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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. Soybean cyst nematode (SCN) egg counts were collected on July 14, 2025 (~45 days after planting), and on Oct. 2, 2025 (end of the season), from only plots that received a sole application of Cruiser Maxx APX. Stand counts were taken on June 17, 2025, and June 30, 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=0.1.

To assess levels of SCN, the number of eggs were counted per 100cc of soil. The number of SCN eggs in this experiment were very low (1-200) to low (201-2,000). Stand counts were recorded by counting the number of emerged soybeans in the center two rows (100 sq feet) and converting to plants per acre. There were no significant differences among treatments detected for stand counts collected at either date. There were significant differences among treatments for phytotoxicity percentage where a combination of treatment of Cruiser Maxx APX and Ilevo at 0.15 mg ai/seed had significantly higher phytotoxicity than all other treatments. However, the phytotoxicity levels observed in this treatment were still very low at less than 5%. There were no significant differences among treatments for mean yield. A sole application of Cruiser Maxx APX had the highest reported mean yield at 66.4 bu/a.

Table 19. Effect of seed treatments on stand counts, phytotoxicity, and yield in a field with a history of SCN.

Treatment[a]	Rate	Stand Count VC (plants /a)[b]	Stand Count V2 (plants/a)[c]	Phytotoxicity (%)[d]	Yield (bu/a)[e]
Cruiser Maxx APX	0.098 mg ai/seed	81,675	99,946	0.0 b[f]	66.4
Cruiser Maxx APX Saltro	0.098 mg ai/seed 0.075 mg ai/seed	77,440	94,743	0.0 b	62.0
Cruiser Maxx APX Tymirium	0.098 mg ai/seed 0.075 mg ai/seed	71,269	96,195	1.5 b	60.1
Cruiser Maxx APX Ilevo	0.098 mg ai/seed 0.15 mg ai/seed	75,746	94,501	4.5 a	65.5
P-Value		0.5595	0.3191	0.0589	0.3458

[a] Treatments were applied as standard seed treatments in conjunction with colorant.
[b] VC stand counts were taken on June 17, 2025. This trial was planted at 140,000 seeds per acre.
[c] V2 stand counts were taken on June 30, 2025.
[d] Phytotoxicity was measured on a percentage scale ranging from 0-100.
[e] Yield was adjusted to 13% moisture and calculated in bushels per acre (bu/a) and collected on Oct. 11, 2025.
[f] Treatments with different letter groupings differ significantly (α = 0.1).