Sudden Death Syndrome

Trial 20. Evaluation of fungicide seed treatments for controlling sudden death syndrome in Fargo, ND - 2025

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The soybean variety DSR-0920E was planted on May 6, 2025, in Fargo, 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 20 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 silty clay. Standard practices were used to manage weeds and nutrition. All seed treatments evaluated in this study were paired with a "Base" seed treatment that included Allegiance FL at 0.194 fl oz/cwt, Stamina at 0.575 fl oz/cwt, Systiva XS 0.237 fl oz/cwt, Poncho 600 at 1.736 fl oz/cwt and Flo Rite 1706 at 1 fl oz/cwt. This trial was planted in a field where sudden death syndrome (SDS) has never been detected. Stand counts were taken on June 6, 2025, and June 24, 2025. Observations for SDS were conducted on Aug. 14, 2025, and Aug. 26, 2025. Yield was collected from the center two rows on Oct. 6, 2025. The weather over the course of the growing season was conducive to disease development. This trial received a total of 16.24 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.

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. No symptoms or signs of SDS were observed in this trial throughout the course of the year. This was expected as there is no history of this field having SDS. There were no statistically significant differences detected for stand counts or yield. A treatment including only the Base resulted in the highest mean yield of 47.4 bu/a, which was 0.6 bu/a and 11.9 bu/a higher than the two treatments that did not have a seed treatment.

Table 20. Effect of seed treatments on stand counts and yield.

Treatment[a]	Rate	Stand Count VC (plants/a)[b]	Stand Count V2 (plants/a)[c]	Yield (bu/a)[d]
Non-Treated	-	67,518	78,517	46.8
Base[e]		77,319	90,279	47.4
Base Ilevo	1.18 fl oz	76,013	86,249	35.4
Base Saltro	1.45 fl oz/cwt	75,141	84,507	39.3
Base Zeltera	1.0 fl oz/cwt	74,161	84,398	40.9
Non-Treated	NA	71,221	85,814	35.5
Base Saltro Ilevo	1.45 fl oz/cwt 1.18 fl oz	75,359	89,734	41.1
Base Ilevo	1.98 fl oz	72,310	79,606	33.4
P-Value		0.7056	0.4013	0.4466

[a] Treatments were applied as standard seed treatments in conjunction with colorant.
[b] VC stand counts were taken on June 6, 2025. This trial was planted at 140,000 seeds per acre.
[c] V2 stand counts were taken on June 24, 2025.
[d] Yield was adjusted to 13% moisture and calculated in bushels per acre (bu/a) and collected on Oct. 6, 2025.
[e]Treatments that included a "Base" treatment included Allegiance FL at 0.194 fl oz/cwt, Stamina at 0.575 fl oz/cwt, Systiva XS 0.237 fl oz/cwt, Poncho 600 at 1.736 fl oz/cwt and Flo Rite 1706 at 1 fl oz/cwt.