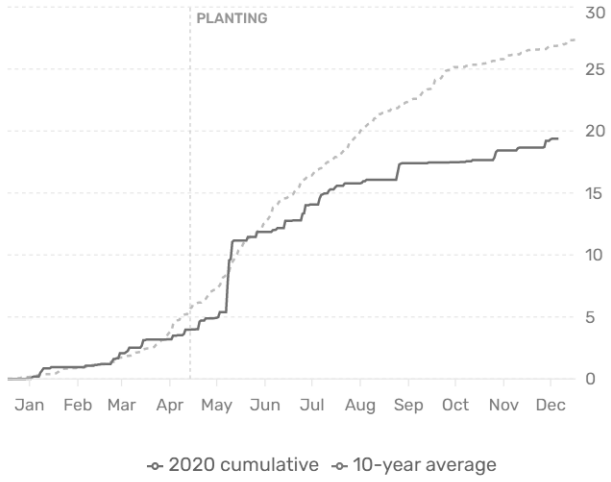
Evaluating Soybean Seed Treatments for Sudden Death Syndrome in Soybeans

Study ID: 1120019202002
County: Buffalo
Soil Type: Hall silt loam; Hord silt loam
Planting Date: 4/28/20
Harvest Date: 9/21/20
Population: 160,000
Row Spacing (in): 30
Hybrid: Pioneer® P25A54X
Reps: 7
Previous Crop: Corn
Tillage: Strip-Till, Ridge-Till
Herbicides: ***Pre:*** 3 oz/ac Fierce®DG, 4 oz/ac metribuzin 75DF, 32 oz/ac Roundup PowerMAX®, 8.5 lb AMS per 100 gal water ***Post:*** 22 oz/ac XtendiMax®, 1.9 qt/ac Warrant®, 32 oz/ac Roundup PowerMAX® with an approved drift control agent and water conditioner

Foliar Insecticides: None
Foliar Fungicides: None
Fertilizer: 5 gal/ac 10-34-0 strip-till in fall
Irrigation: Pivot
Rainfall (in):



Soil Tests (October 2019):

pH	Soluble Salts	Excess Lime	% OM	Nitrate	Nitrate	P	K	S	Zn	Fe	Mn	Cu
				ppm	lb/ac	----------	----------	----------	ppm	----------	----------	----------
7.5	0.32	None	3	4.3	13	33	488	25.9	2.47	12.7	4	0.6

Introduction: Sudden death syndrome (SDS) is caused by the soil—borne fungus *Fusarium solani f. sp. glycines*. In fields where SDS is present and soybean cyst nematode is also present the disease can be more severe. There are not clear guidelines to determine at what point treatment is justified; therefore, on-farm research projects like this one are needed. Additionally, as new seed treatment products become available, evaluations such as this one are needed to help producers evaluate the impact of various treatments. The field in this study has not historically had high levels of SDS present. This study evaluated three seed treatment packages. The field was scouted for foliar disease symptoms of SDS; however, very few symptoms were seen.

A: Hefty Complete Seed Treatment contains Intego® Suite (1.91 lb/gal clothianidin neonicotinoid insecticide) applied at 3.37 lb fl oz/100 lb seed, 0.282 lb/gal ethaboxam group 22 fungicide, 0.094 lb/gal ipconazole group 3 fungicide, 0.075 lb/gal metalaxyl group 4 fungicide, systemic insecticide, Nutri-Cycle ST biological, and ROOTastic inoculant and extender.

B: Pioneer® Lumisena™ (fungicide) and BASF ILeVO® contains EverGol® metalaxyl group 4 fungicide, penflufen group 7 fungicide, prothioconazole group 3 fungicide at 0.5 fluid oz/140K seeds, Lumisena™ oxathiapiprolin U15 fungicide at 0.284 fl oz/140K seeds, oxathiapiprolin U15 fungicide, 1 fl oz L-2030 G biological fungicide and growth stimulant, imidacloprid neonicotinoid insecticide at 0.8 fl oz/140K seeds, ILeVO® at 1.18 fl oz/140K seeds, and inoculant

C: Bayer® Acceleron® Standard (fungicide and insecticide) and Syngenta® Saltro® contains Acceleron® pyraclostrobin group 11 fungicide at 0.3 fl oz/140K seeds, metalaxyl group 4 fungicide at 0.19 fl oz/140K seeds, fluxapyroxad group 7 fungicide at 0.12 fl oz/140K seeds, imidacloprid neonicotinoid insecticide at 1 fl oz/140K seeds, Saltro® at 0.71 oz/140K seeds, and Exceed inoculant.

Results:

	Early Season Stand Count	Moisture (%)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Hefty Complete Seed Treatment	153,476 A*	9.3 A	60 A	551.15 A
Pioneer® Lumisena™ + BASF ILeVO®	154,381 A	9.1 A	61 A	547.76 A
Bayer® Acceleron® Standard + Syngenta® Saltro®	152,667 A	9.3 A	58 A	528.97 A
P-Value	0.456	0.135	0.314	0.250

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 13% moisture.
‡Marginal net return based on $9.50/bu soybean, $18.85/ac for Hefty Complete Seed Treatment, $26.85/ac for Pioneer® Lumisena™ with BASF ILeVO®, and $25.02/ac for Bayer® Acceleron® Standard with Syngenta® Saltro®.

Summary: The three seed treatment packages evaluated did not result in differences in stand count, grain moisture, yield, or net return.

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