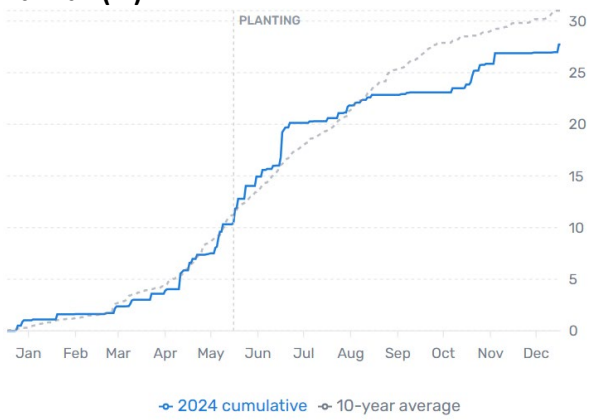
Comparing Standard Soybean Seed Treatment to a Biological Seed Treatment

Study ID: 1099185202401
County: Seward
Soil Type: Butler silt loam terrace 0-1% slopes, Lamo silty clay loam occasionally flooded, Muir silt loam 0-1% slopes and 1-3% slopes and rarely flooded, Hastings silty clay loam 3-7% slopes severely eroded
Planting Date: 5/30/24
Harvest Date: 9/30/24
Seeding Rate: 140,000
Row Spacing (in): 30”
Variety: Connect™ CT2323E
Reps: 3
Previous Crop: Corn
Tillage: No-till
Herbicides: ***Pre:*** None ***Post:*** 5 oz/ac Verdict® + 12 oz/ac Outlook® applied 6/3/24. 32 oz/ac Liberty® + 32 oz/ac Enlist® + 1.3 pt/ac Dual II Magnum® applied 6/28/24. 32 oz/ac Enlist® + 32 oz/ac glyphosate applied 7/13/24.

Seed Treatment: Variable
Foliar Insecticides: None
Foliar Fungicides: None
Fertilizer: None
Irrigation: Pivot, 8”
Rainfall (in):



Introduction: Some growers are interested in alternative methods of protecting seeds and emerging crops from insects and plant disease beyond the typical seed treatments provided by traditional seed companies. Consideration of alternative methods may be due to treatment costs, implications to beneficial insects, impacts on the local environment, or human safety along with interests in disease incidence from white mold and sudden death syndrome. This study compared an untreated check against biological seed treatments in areas of a field with history of plant disease. The seed treatments were as follows:

Untreated Seed: No seed treatment.
Biological Seed Treatment: Blend of 2 oz PhycoTerra® ST, 1 oz Heads Up®, 1 oz N-Gage Ultra ST, 0.75 oz Bio ST VPH in 100 gal solution. In a second tank, 2 oz of Exceed Soybean Inoculant was used per 100 gal. Biological seed treatment was applied to the seed by a nearby on-farm research cooperator.

White mold and sudden death syndrome were not observed in this field in 2024. Thus, no plant disease ratings were taken and only yield and economics were assessed.

Results:

	Harvest Stand Counts (plants/ac) (2 reps)	Yield (bu/ac) †	Marginal Net Return‡ ($/ac)
Check	103,000	70 A*	768 A
Biological Seed Treatment	107,000	70 A	761 A
P-Value	--	0.98	0.42

*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 $11/bu soybean, $6.75/ac biological seed treatment cost.

Summary:

- There were no significant differences in soybean yield and marginal net return between the untreated check and biological seed treatment.
- Soybeans were planted at the end of May in this study, which may negate the need for a soybean seed treatment due to warmer environmental conditions.