# Trial 26. Evaluation of foliar biological fungicides for controlling white mold of soybean in Fargo, ND - 2025

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The soybean variety PFS 2414E 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 previous crop was oat, and the soil type was silty clay. Standard practices were used to manage weeds and fertility. Fungicides were applied at 20 gal/A at 40 psi using four XR TeeJet 8002VS flat-fan nozzles spaced at 20 inches apart. Mixing compatibility issues and phytotoxicity were not observed during the trial. White mold incidence and severity ratings were taken on Sept. 2, 2025. Yield was collected from the center two rows on Oct. 4, 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, and the yield data were modeled according to a negative binomial distribution. Means separations followed Fisher's Protected LSD at $\alpha$=0.1.

White mold disease index percentages (WM DIX%) are calculated using disease incidence, which is recorded as a percentage of diseased soybeans in a plot, and disease severity, which is rated on a scale that considers the number of diseased soybeans and severity of disease on each soybean. Although conducive conditions were present, this trial had low levels of disease development, with the highest level observed on a single treatment being 0.5%. No significant differences were observed among treatments for WM DIX% (*P*=0.4294) or yield (*P*=0.7432). Yield values ranged from 59.7 bu/a at the highest to 55.9 bu/a at the lowest, or a 3.8 bu/a difference. The yield range observed is likely due to environmental conditions, as the disease levels observed are unlikely to cause any yield loss.

**Table 26.** Effect of foliar biological fungicides on white mold disease values and yield.

| Treatment[a] | Rate | Growth Stage | WM DIX (%)[b] | Yield (bu/a)[c] |
|---|---|---|---|---|
| Non-Treated | - | - | 0.0 | 57.2 |
| Double Nickel 55 | 1 lb/a | R2 | 0.0 | 59.7 |
| LifeGard WG | 4.5 oz wt/100 gal | R2 | 0.5 | 56.6 |
| Serenade OPTI | 14 oz/a | R2 | 0.5 | 56.4 |
| Howler EVO | 2.5 lb/a | R2 | 0.3 | 56.1 |
| RootShield | 16 oz/a | R2 | 0.0 | 55.9 |
| Botrystop | 2 lb/a | R2 | 0.1 | 56.4 |
| Endura | 8 oz/a | R2 | 0.0 | 57.2 |
| **P-Value** | | | 0.4294 | 0.7432 |

[a] Treatments were applied on July 28, 2025.
[d] WM DIX (%) = disease index percentage collected on Sept. 2, 2025.
[c] Yield was adjusted to 13% moisture and represented in bushels an acre (bu/a) and collected on Oct. 4, 2025.