Trial 30. Evaluation of foliar fungicides for controlling frogeye leaf spot in Oakes, ND - 2025

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The soybean variety XO 1095E was planted May 9, 2025, in Oakes, North Dakota, at a rate of 140,000 seeds/a and depth of 1.5 inches in bedded single rows spaced 30 inches apart. Plots were four rows by 20 feet. Treatments were replicated four times and designed in a randomized complete block. Blocks were separated by 7-foot alleys. The field was irrigated and grown to soybean the previous year. Soil type was an Embden fine sandy loam with a 0%-2% slope. 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. Frogeye incidence and severity ratings were taken on Aug. 13, 2025, and Aug. 28, 2025. Yield was collected from the center two rows on Oct. 3, 2025. Rainfall during the period totaled 17.2 inches, and overall, weather conditions were conducive to disease development. 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=0.05.

Significant differences were observed for the FLS disease index among treatments (P<0.01). The non-treated check has significantly greater disease compared to the treated plots. Treatments containing azoxyprop had significantly greater control of FLS than the check and treatments containing an application of Experimental 1 or Experimental 2 alone. There were also significant differences observed among yields (P=0.01), with azoxyprop + Experimental 1 having the greatest yield. Again, the programs with a standalone application of Experimental 1 or Experimental 2 had similar yields to the NTC.

Table 30. Effect of foliar fungicides on frogeye leaf spot disease index and yield.

Treatment	Rate	Timing[a]	FLS disease index (%)[b]	Yield (bu/a)[c]
Non-Treated	-	-	41.8 a[d]	60.1 bc
Azoxyprop	18 fl oz/a	R3	0.1 c	60.8 bc
Azoxyprop Experimental #1	18 fl oz/a 2 fl oz/a	R3 R3	0.1 c	64.1 a
Experimental #1	4 fl oz/a	R3	29.1 ab	59.5 bc
ExperTimental #2	1 fl oz/a	R3	10.2 bc	58.2 c
Azoxyprop Experimental #2	18 fl oz/a 0.5 fl oz/a	R3 R3	0.5 c	62.0 ab
P-Value			0.002	0.01

[a] Growth stage or timing at which the fungicide application was applied.
[b] Calculated by dividing FLS incidence by FLS severity and multiplying by 10.
[c] Yield was adjusted to 13% moisture and calculated in bushels per acre (bu/a) and collected on Oct. 3, 2025.
[d] Means with differing letters are significantly different at an α=0.05.