

SOYBEAN (*Glycine max* ‘Merschman Miami 949LL’)  
Aerial web blight; *Rhizoctonia solani*

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**Evaluation of foliar fungicide applications to prevent yield loss from aerial web blight in Mississippi, 2011b.**

A foliar fungicide efficacy trial was conducted in Clay County, Mississippi in a continuous soybean production field. The trial was planted in a Mathiston silt loam soil on 9 May to the soybean variety Merschman Miami 949LL. Plots consisted of nine rows spaced 15-in. apart and were 25 ft long. Treatments were replicated three times in a randomized complete block design. Plots were not irrigated. Fungicide treatments were applied on 23 Jul (approximately R5) to each plot using a CO<sub>2</sub>-pressurized, Bowman MudMaster sprayer fitted with TeeJet 11001VS nozzles spaced 20 in apart and delivering 15 gal/A at 62 psi. A non-ionic surfactant was added to all treatments at a rate of 0.25% v/v. Disease severity was visually assessed by parting back a 4 foot section of the soybean canopy and rating for the disease based on presence of symptoms and disease severity. Plots were rated six days (29 Jul), 23 days (15 Aug) and 41 days (2 Sep) post-treatment. Assessments were made based on a scale of 0 to 9 where 0 = no disease present and 9 = a dead plant, from 10 randomly selected areas within each plot. Plots were harvested with a plot combine on 10 Oct and yields were adjusted to 13% moisture. The Area Under the Disease Progress Curve (AUDPC) was determined using trapezoidal integration. Data were subjected to analysis of variance and means were compared at the 0.05 significance level using Fisher’s protected least significant difference (LSD) test.

Aerial web blight was the predominant foliar disease in this particular soybean field. Six days post-treatment treatment with Quilt Xcel significantly reduced observable disease symptoms compared to the non-treated check and treatment with Headline. Ratings conducted 23 days post-application determined that treatment with Gem, Quadris, Quilt Xcel, and Stratego YLD significantly reduced observable symptoms of aerial blight compared to the non-treated check. However, only treatment with Stratego YLD significantly reduced observable foliar symptoms of disease compared to the other fungicides 23 days post-treatment. Only application with Quadris resulted in a significant yield difference compared to the non-treated check. Ratings conducted 41 days post-treatment determined that treatment with Gem, Quadris, Quilt Xcel, and Stratego YLD significantly reduced observable disease symptoms but treatments were not significantly different from one another. The AUDPC regardless of treatment was not significantly different from the non-treated check. No phytotoxicity was observed as a result of foliar fungicide application.

Treatment <sup>w</sup> , rate (fl oz/A)	Severity rating (0-9)			AUDPC <sup>x</sup>	Yield (bu/A) <sup>y</sup>
	29 Jul	15 Aug	2 Sep		
Non-treated check.....	3.2 ab <sup>z</sup>	4.5 a	4.7 a	51.0 a	59.2 b
Gem 500SC, 3.5 oz.....	3.3 ab	2.7 bcd	3.5 b	36.7 a	63.6 ab
Headline 2.09SC, 6 oz.....	3.5 a	3.6 ab	4.4 a	45.3 a	62.0 ab
Quadris 2.08SC, 6 oz.....	3.3 ab	2.1 cd	3.0 b	31.4 a	66.5 a
Quilt Xcel 2.20SC, 10.5 oz.....	2.6 c	2.9 bc	3.6 b	36.0 a	61.6 ab
Stratego YLD 4.18SC, 3.2 oz.....	3.0 bc	1.9 d	3.3 b	29.9 a	64.9 ab
LSD (0.05)	0.517	0.976	0.652	28.8	7.14
CV (%)	32.2	64.8	34.2	41.2	6.37
R <sup>2</sup>	0.183	0.235	0.223	0.365	0.342
P-value for F-statistic	< 0.0001	< 0.0001	< 0.0001	0.589	0.346

<sup>w</sup>All fungicide treatments included a non-ionic surfactant at 0.25% v/v.

<sup>x</sup>Area Under the Disease Progress Curve

<sup>y</sup>Yields are weight of soybean with moisture content adjusted for 13%.

<sup>z</sup>Means followed by the same letter(s) in a column are not significantly different according to Fisher’s Protected LSD (P=0.05).