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, 2011a.

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 Miama 949LL. Plots consisted of nine rows spaced 15-in. apart and were 25 ft long. Treatments were replicated four 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_2-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 ft 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 disease throughout this particular production field in the latter part of the growing season. Fungicide application did not significantly affect disease severity six days post-treatment. However, when ratings were conducted 23 days post-treatment observable symptoms were significantly reduced compared to the non-treated check by all fungicides applied except for the 4 fl oz application of Headline. Ratings conducted 41 days post-treatment determined that fungicides had lost their residual capability as they no longer significantly reduced observable symptoms of the disease except where BASF 700 was applied. The overall AUDPC values were significantly different than the non-treated check when soybean was treated with BASF 700, Priaxor and Quilt Xcel. Fungicide treatment, regardless of product, significantly increased yield when compared to the non-treated check. No phytotoxicity was observed with any foliar fungicide treatment.

	Severity rating (0-9)				
Treatment[w], rate/A	**29 Jul**	**15 Aug**	**2 Sep**	**AUDPC[x]**	**Yield (bu/A)[y]**
Non-treated check.....	2.4 a[z]	5.4 a	5.1 a	55.0 a	38.9 b
BASF experimental 700, 4.6 fl oz	2.0 a	2.5 b	3.3 b	30.9 b	52.2 a
Headline 2.09SC, 4 fl oz.....	2.5 a	3.4 ab	4.5 ab	40.7 ab	48.7 a
Headline 2.09SC, 6 fl oz.....	2.6 a	3.0 b	3.6 ab	36.9 ab	52.7 a
Priaxor 4.17SC, 4 fl oz.....	2.4 a	1.9 b	3.8 ab	30.2 b	53.6 a
Quilt Xcel 2.20SC, 10.5 fl oz.....	2.4 a	2.4 b	3.5 ab	32.5 b	53.3 a
LSD (0.05)	1.24	2.13	1.62	18.4	7.75
CV (%)	35.1	45.4	26.9	32.4	10.13
R^2	0.234	0.549	0.401	0.462	0.597
P-value for F-statistic	0.783	0.079	0.333	0.203	0.005

[w] All fungicide treatments included a non-ionic surfactant at 0.25% v/v.
[x] Area Under the Disease Progress Curve
[y] Yields are weight of soybean with moisture content adjusted for 13%.
[z] Means followed by the same letter(s) in a column are not significantly different according to Fisher's Protected LSD (P=0.05).