

SOYBEAN (*Glycine max* ‘Asgrow 5606’)
Aerial web blight; *Rhizoctonia solani*

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Evaluation of foliar fungicide applications to prevent yield loss from aerial web blight in Mississippi, 2010a.

A foliar fungicide efficacy trial was conducted in Noxubee County, Mississippi in a continuous soybean production field. The trial was planted in a Freest fine sandy loam soil on 1 May to the soybean variety Asgrow 5606. Plots consisted of six rows spaced 15-in. apart and were 45 ft long. Treatments were replicated four times in a randomized complete block design. Plots were not irrigated. Fungicide treatments were applied on 21 Jul (approximately R5) to each plot using a CO₂-pressurized, Bowman MudMaster sprayer fitted with TeeJet 8002 flat-fan nozzles spaced 20 in apart and delivering 16.5 gal/A at 58 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 14 days (5 Aug) and 28 days (19 Aug) 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 11 Oct and yields were adjusted to 13% moisture. 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 entire growing season. Fungicide application significantly reduced disease severity 14-days post-treatment. BASF experimental 1 at 4.11 fl oz, the three rates of BASF experimental 2, and Headline, all significantly reduced observable disease compared to the non-treated check. However, 28-days post treatment all fungicides, regardless of product or rate, significantly reduced disease progression based on observable symptoms compared to the non-treated check. Fungicide treatment with BASF experimental 2 resulted in a significant increase in yield when compared to the non-treated check regardless of rate applied. No phytotoxicity was observed with any foliar fungicide treatment.

Treatment ^z , rate/A	Disease severity 14-days post application	Disease severity 28-days post application	Yield (bu/A) ^y
Non-treated check.....	4.7 a	5.4 a	29.3 b ^x
BASF experimental 1, 2.74 fl oz	4.3 ab	3.2 b	33.9 ab
BASF experimental 1, 4.57 fl oz	2.6 de	2.0 e	35.1 ab
BASF experimental 2, 4.11 fl oz	3.2 b-e	2.8 bc	36.2 a
BASF experimental 2, 4.93 fl oz	3.0 cde	2.5 cd	37.5 a
BASF experimental 2, 6.17 fl oz	3.6 cde	2.7 bc	36.4 a
Headline 2.09EC, 6 fl oz	2.4 e	2.2 de	33.9 ab
Quilt Xcel 2.2SE, 10.5 fl oz	3.8 abc	2.5 cde	31.6 ab
Quadris 2.08F, 6 fl oz.....	3.6 a-e	2.6 cd	34.0 ab
LSD (0.05)	0.130	0.465	6.31
CV (%)	22.54	36.76	12.70
P-value for F-statistic	0.0042	< 0.0001	0.250

^zAll fungicide treatments included a non-ionic surfactant at 0.25% v/v.

^yYields are weight of soybean with moisture content adjusted for 13%.

^xMeans followed by the same letter(s) in a column are not significantly different according to Fisher’s Protected LSD (P=0.05).