

SOYBEAN (*Glycine max* 'Armor DK 4744')  
 Cercospora leaf blight; *Cercospora kikuchii*  
 Frogeye leaf spot; *Cercospora sojina*

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### Evaluation of the Marrone foliar fungicide protocol on soybean in western Mississippi, 2014.

Foliar fungicides were evaluated at the Delta Research and Extension Center (DREC) in Washington County, Mississippi. The previous crop was soybean. The trial was planted on a Sharkey clay on 6 May to the soybean variety Armor DK 4744 a frogeye leaf spot susceptible variety. Plots consisted of four rows spaced 40-in apart and 30 ft in length. Replicates were separated by a 10 ft. alley. Treatments were replicated four times in a randomized complete block design. Plots were furrow irrigated throughout the season as needed. Fungicide treatments were applied on 25 Jul (R5) to each plot using a CO<sub>2</sub> sprayer with a multi-boom system fitted with TeeJet 8003VS nozzles spaced 20 in. apart and delivering 15 gal/A at 38 psi. A second fungicide application was made 21 Aug (R6) using the same spray application. A non-ionic surfactant was added to each treatment at a rate of 0.25% v/v. Disease severity ratings were visually assessed on the presence of disease symptoms from the two center rows of the soybean plot canopy. Plots were rated 2 days following application (27 Jul), 21 days post-application (15 Aug), and 42 days following the R5 application (5 Sep). Disease assessments were made based on a scale of 0 to 9 where 0 = no disease present and 9 = severe disease characterized by approximately 90% leaf coverage. Green stem (30 Sep) was assessed immediately prior to harvest (soybean growth stage R8; physiological maturity) based on three counts of the total number of plants within a 36-in. area in the center two rows of each plot. The total number of plants exhibiting green stem were then counted from within each area and a percentage of green stem was created for each plot based on an average of the three counts. Plots were harvested with a plot combine on 1 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. Prior to statistical analysis green stem values were transformed using a square root transformation. Data presented in the table below were back-transformed to percentages for the purposes of presentation.

Frogeye leaf spot, *Cercospora* blight and % green stem were evaluated during the growing season. Even though substantial frogeye leaf spot was observed in plots, regardless of treatment there were no significant differences between fungicide treatment and the nontreated check. There were no significant differences between fungicide treatment and the nontreated check observed for *Cercospora* blight. Green stem (%) and yield showed significant difference between the nontreated check and the Priaxor treatment.

Treatment <sup>z</sup> , rate (fl oz/A) @ Soybean growth stage	Frogeye leaf spot (0-9)			Cercospora blight (0-9)	Green Stem (%)	Yield (bu/A) <sup>x</sup>
	27 Jul	15 Aug	5 Sep	5 Sep	30 Sep	
Nontreated check	1.3	5.3	9.0	7.0	0.5	66.7
Headline 2.09 SC, 4 oz @ R5	1.5	5.3	8.5	7.0	4.2	69.8
Headline 2.09 SC, 6 oz @ R5	1.3	5.8	9.0	7.0	4.1	69.3
MBI-10605 5%, 16 oz @ R5 fb 16 oz @ R6	1.3	5.5	8.5	7.0	9.0	70.4
MBI-10605 5%, 16 oz + Quadris 2.08 SC, 4 oz @ R5 fb R6	1.0	5.3	8.5	7.0	4.4	70.2
Priaxor 4.17 SC, 6 oz @ R5	1.3	5.3	8.0	7.0	20.2	73.4
Quadris 2.08 SC, 4 oz @ R5	1.0	5.0	7.8	7.0	2.9	69.7
Quadris 2.08 SC, 6 oz @ R5	1.5	4.5	7.8	7.0	3.0	70.4
Quadris 2.08 SC, 6 oz @ R5 fb 6 oz @ R6	1.3	4.8	8.3	7.0	10.5	70.9
LSD ( <i>P</i> =0.05)	NS	NS	NS	NS	NS	NS
CV (%)	-	-	-	-	-	-

<sup>z</sup> All fungicide treatments included a non-ionic surfactant at 0.25% v/v. fb = followed by

<sup>y</sup> Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD test.

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