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

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Efficacy of foliar fungicides for management of *Cersopora sojina* on soybean in east Mississippi, 2013.

Foliar fungicides were evaluated on soybean at the North Farm Starkville, Mississippi. The previous crop was soybean. The trial was planted on a Marietta fine sandy loam on 15 May to the soybean variety Armor DK 4744, a frogeye leaf spot susceptible soybean variety. Plots consisted of four rows spaced 38-in apart and 40 ft in length. Treatments were replicated four times in a randomized complete block design. Plots were not irrigated. Fungicide treatments were applied on 2 Aug (approximately R5) to each plot using a CO_2-pressurized, Bowman MudMaster sprayer fitted with TeeJet 110015AIXR nozzles spaced 20 in. apart and delivering 15 gal/A at 40 psi. A non-ionic surfactant (Induce) was added to each treatment at 0.25% v/v. Disease severity ratings were visually assessed based on the presence of disease symptoms from the two center rows of the soybean plant canopy. Plots were rated pre-application (2 Aug), 19 days (21 Sep) and 27 days (29 Sep) post-treatment. Visual assessments of disease were made based on a scale of 0 to 9 where 0 = no disease present and 9 = approximately 90% of the leaf surface covered with lesions. Visual assessments of phytotoxicity present in each plot post-application were made on a scale of 0 to 100% based on the percentage of foliar tissue affected in each plot. Plots were harvested with a plot combine on 10 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 assessments of phytotoxicity 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 was the predominant disease. All fungicide applications significantly reduced disease severity compared to the non-treated check 19 and 27 days post-treatment except an application of Quadris alone and an application of Priaxor 27 days post-treatment. Fungicide treatments significantly increased yield when compared to the non-treated check with the exception of Priaxor and Quadris alone. Significant phytotoxicity was observed at both evaluation timings with applications of Proline and Stratego YLD, both of which contain prothioconazole; however, harvested yield was not significantly reduced when compared to the non-treated.

	FLS Severity rating (0-9)			**Phytotoxicity (0-100%)**		
Treatment[z], rate (fl oz/A)	**1 Aug**	**21 Sep[y]**	**29 Sep**	**21 Sep**	**29 Sep**	**Yield (bu/A)[x]**
Non-treated check	4.0	7.5 a	8.0 a	0 c	0 c	46.8 c
Domark 230 ME, 4	4.5	5.5 de	5.8 de	0 c	0 c	57.8 a
Priaxor 4.17SC, 6	4.5	6.5 bc	7.8 ab	0 c	0 c	50.7 bc
Proline 480 SC, 3	3.5	4.5 f	5.0 f	62.5 a	46.2 a	55.4 ab
Quadris 2.08 SC, 6	4.0	7.0 ab	8.0 a	0 c	0 c	46.4 c
Quadris 2.08 SC, 4 + Domark 230 ME, 4	4.3	5.0 ef	5.3 ef	0 c	0 c	57.7 a
Quadris Top 2.72 SC, 8	4.5	6.3 bcd	6.0 d	0 c	0 c	55.6 ab
Stratego YLD 4.18 SC, 4	3.8	5.3 e	6.8 c	7.2 b	8.0 b	54.6 ab
Tilt 3.6 SC, 4	4.8	6.3 bc	7.3 bc	0 c	0 c	54.8 ab
Topguard 1.04 SC, 7	4.3	6.0 dc	5.8 de	0.5 c	0 c	57.2 ab
LSD (0.05)	1.05	0.7	0.68	0.33	0.29	6.49
CV (%)	15.56	6.94	7.19	8.26	11.04	8.38
R^2	0.3733	0.8779	0.8887	0.9964	0.9923	0.5196
P-value for F-statistic	0.3765	<0.0001	<0.0001	<0.0001	<0.0001	0.0038

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