

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

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Efficacy of foliar fungicides for management of *Cercospora soja* on soybean in east Mississippi I, 2014.

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 22 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 30 Jun (R3) to each plot using a CO₂-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 (30 Jun), 16 days (16 Jul) and 50 days (19 Aug) 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 16 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 ease of presentation.

Frogeye leaf spot was the predominant disease. Significant differences in frogeye leaf spot were observed between treatments on all three rating dates. Even though phytotoxicity was observed as a result of some fungicide treatments, the resulting observations were not significantly different between treatments. *Cercospora* ratings were significantly different between treatments. All fungicides significantly increased yield compared to the nontreated check except Aproach, Headline at either 4 or 6 fl oz, and 6 oz of Quadris.

Treatment ^z , rate (fl oz or lb/A) @ Soybean growth stage	Frogeye leaf spot (0-9)			Phytotoxicity (0-100%)		Cercospora blight (0-9)	Yield (bu/A) ^x
	30 Jun ^y	16 Jul	19 Aug	16 Jul	19 Aug	19 Aug	
Nontreated check	0.8	1.3	7.5	0.0	0.0	5.0	45.3 k
Alto 100 SL, 4 oz @ R3	1.0	1.0	7.5	0.0	0.0	5.3	57.2 b-g
Aproach 250 SC, 6 oz @ R3	1.0	2.3	8.0	0.0	0.0	5.0	48.5 ijk
CuproFix Ultra 40 D, 2 lb @ R3	1.0	1.3	6.5	1.8	3.8	5.8	53.1 d-j
Dimilin 2 L, 2 oz @ R3	1.0	2.0	7.5	0.3	0.0	5.0	51.8 e-j
Domark 230 ME, 4 oz @ R3	1.0	1.8	8.3	0.0	0.0	5.0	59.1 a-d
Evito 4.0 SC, 4 oz @ R3	1.3	1.8	6.8	3.5	0.0	5.3	54.4 c-i
Headline 2.09 SC, 4 oz @ R3	1.0	1.0	6.5	0.0	0.0	5.3	50.8 h-k
Headline 2.09 SC, 6 oz @ R3	0.8	2.3	7.8	0.0	0.0	5.3	51.0 h-k
Muscle ADV 3.84 SC, 16 oz @ R3	1.0	1.0	7.5	3.0	3.0	5.3	59.1 a-d
Priaxor 4.17 SC, 6 oz @ R3	1.5	1.0	8.3	2.5	5.0	5.0	54.1 c-j
Proline 480 SC, 3 oz @ R3	0.8	1.0	7.0	0.8	1.5	4.8	55.4 b-h
Quadris 2.08 SC, 4 oz @ R3	1.0	1.0	7.0	0.0	0.0	5.0	54.8 b-h
Quadris 2.08 SC, 4 oz + Domark 230 ME, 3 oz @ R3	1.0	1.5	6.8	0.0	0.0	5.8	54.4 c-j
Quadris 2.08 SC, 6 oz @ R3	1.3	1.3	6.8	2.0	3.8	4.8	48.2 jk
Quadris 2.08 SC, 6 oz + Dimilin 2 L, 2 oz @ R3	1.0	1.8	7.5	3.8	10.5	5.3	51.8 e-j
Quadris TOP 2.72 SC, 8 oz @ R3	1.0	1.0	8.0	2.3	0.0	5.0	60.8 ab
Quilt Xcel 2.20 SC, 14 oz @ R3	1.0	1.5	7.3	2.5	3.0	5.0	53.5 g-j
Stratego YLD 4.18 SC, 4 oz @ R3	1.0	1.3	7.5	3.8	8.8	5.3	59.3 a-d
Tilt 3.6 EC, 4 oz @ R3	1.0	1.8	7.5	1.3	0.0	5.3	54.5 c-i
Topguard 1.04 SC, 7 oz @ R3	1.0	1.5	6.8	0.0	0.0	5.0	58.0 b-e
Topsin 4.5 FL, 10 oz @ R3	1.0	1.3	7.0	3.5	10.5	5.5	57.9 b-f
Topsin 4.5 FL, 20 oz @ R3	1.0	1.3	6.8	1.5	0.0	5.8	64.5 a
Topsin XTR 4.3 F, 20 oz @ R3	1.0	1.5	7.0	0.0	0.0	5.5	59.9 abc
LSD (0.05)	NS	NS	NS	NS	NS	NS	2.0
CV (%)	-	-	-	-	-	-	6.1

^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%.