LIBERTY LINK® COTTON – AN ALTERNATIVE FOR MANAGEMENT OF GLYPHOSATE-RESISTANT PALMER AMARANTH

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Abstract

In 2008, glyphosate-resistant Palmer amaranth was confirmed in 16 counties in Arkansas and is suspected in several more. An alternative program that excludes the use of glyphosate is a production system using Liberty Link® cotton. The purpose of this research was to evaluate control of glyphosate-resistant Palmer amaranth in Liberty Link® cotton with Ignite herbicide programs.

A research trial was established in 2008 in Lee County, AR. The trial was in a field with a confirmed glyphosate-resistant Palmer amaranth population. FiberMax® 1735 cotton was planted in plots 4 rows wide and 50 ft long. Treatments were arranged in a randomized complete block design with four replications. Applications were made using a CO_2 pressurized backpack sprayer calibrated to deliver 12 GPA. Visual control was evaluated 7, 14, and 21 days after each application, and data were subjected to ANOVA and means separated using Fisher's Protected LSD (P=0.05).

Cotoran at 1 lb ai/a, Reflex at 0.187 lb ai/a, or Direx at 1 lb ai/a applied preemergence followed by two sequential applications of Ignite at 0.51 lb ai/a alone provided greater control than three sequential applications of Ignite at 0.51 lb ai/a alone and Ignite at 0.51 lb ai/a plus Dual Magnum at 0.95 lb ai/a applied early-post followed by two sequential applications of Ignite at 0.51 lb ai/a alone, which provided similar control. This research shows the importance of a preemergence residual herbicide for control of glyphosate-resistant Palmer amaranth in a Liberty Link® cotton production system.