ADDITION OF FLURIDONE IN BOLLGARD II XTENDFLEX COTTON HERBICIDE PROGRAMS

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Abstract

Herbicide resistance has led to difficult to control Palmer amaranth in many cotton-producing areas. In 2013, a survey of crop consultants in the Midsouth listed the weed as the most problematic in cotton. SePro has recently the labeling of fluridone, a group 12 phytoene desaturase inhibitor, in cotton for preemergence (PRE) control of weeds, such as Palmer amaranth. A study was conducted in 2017 at the Lon Mann Cotton Research Station near Marianna, AR and the Rohwer Agricultural Research Station near Rohwer, AR to determine the level of control and length of residual activity of fluridone on Palmer amaranth. The test was designed as a randomized complete block with six PRE herbicide treatments, where fluridone was either applied alone (0.206 lb. ai/A) or in combination (0.15 lb. ai/A) with fluometuron (0.75 lb. ai/A), fomesafen (0.188 lb. ai/A), diuron (0.5 lb. ai/A), or dicamba (0.5 lb. ae/A) and compared back to a standard of fluometuron (0.5 lb. ai/A) + prometryn (0.5 lb. ai/A). A visual weed control assessment was taken, along with an application of glufosinate (0.53 lb. ai/a) 18 days after the PRE application to control any weeds emerged prior to activation of the fluridone. At 18 days after treatment, the only significant reduction in the level of control observed was with fluridone alone and the fluometuron + prometryn standard, which provided 93% and 90% control of Palmer amaranth respectively. All other treatments provided nearly 99% control. At 42 days after the PRE application, another visual weed control assessment was taken. At this time any treatment containing fluridone provided 93% or greater control with the only significant difference in control being observed with the standard of fluometuron + prometryn, which only provided 60% control. Generally, no visible injury was observed demonstrating that cotton's tolerance to fluridone could offer a promising new alternative for weed control in cotton.