OPTIMIZING SEQUENTIAL APPLICATIONS OF DICAMBA AND GLUFOSINATE FOR THE XTENDFLEX SYSTEM

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Abstract

Due to current label restrictions producers are not able to mix dicamba and glufosinate for over-the-top applications on cotton. Because of this, other application methods must be used to fully utilize both of these herbicides for weed control in XtendFlex™ crops. To evaluate sequential applications of dicamba and glufosinate a total of six field trials were conducted in Fayetteville, Keiser, Crawfordsville, and Mariana, AR. Four of these trials evaluated Palmer amaranth four to ten inches tall and in the other two trials it was less than four inches tall. Treatments included multiple timings of dicamba followed by (fb) glufosinate, glufosinate fb dicamba, dicamba fb dicamba, and glufosinate fb glufosinate. A mixture of dicamba and glufosinate as well as dicamba and glufosinate alone were also evaluated. Overall, dicamba fb glufosinate 14 days later had the highest level of Palmer amaranth control and was the only treatment to reach 100 percent control at the labeled weed size. Single applications of dicamba, glufosinate, and dicamba plus glufosinate did not result in Palmer amaranth control greater than 80 percent regardless of weed size. The implementation of sequential applications of dicamba and glufosinate, two effective sites of action for POST control of Palmer amaranth, will also help to mitigate the evolution of herbicide resistance and aid in preserving currently available technologies.