

HAS GLYPHOSATE-RESISTANT PALMER AMARANTH CREATED A FIT FOR FLURIDONE IN COTTON?**C. E. Starkey****J. K. Norsworthy****D. B. Johnson****University of Arkansas****Fayetteville, AR****Abstract**

Glyphosate-resistant Palmer amaranth (*Amaranthus palmeri*) has become a major problem in cotton (*Gossypium hirsutum*) production. This study was conducted to determine whether fluridone can be applied PRE or POST to control Palmer amaranth effectively and not injure cotton. PhytoGen 375 cotton and Palmer amaranth seed were sown into a silt loam soil in the greenhouse. Fluridone was applied both PRE and POST (2-lf cotton) at 0.2, 0.3, 0.4, and 0.5 lbs ai/A. Visual control ratings were conducted 30 days after treatment (DAT). All fluridone treatments applied PRE provided 100% control of Palmer amaranth 30 DAT with minimal cotton injury (< 8%) at 0.2, 0.3, and 0.4 lbs ai/A rates. POST-applied fluridone was ineffective in controlling Palmer amaranth and severely injurious to cotton. In an additional trial, fluridone at all evaluated rates (0.2 to 0.5 lbs ai/A) provided 100% control of Palmer amaranth in the field for 6 weeks after treatment in the absence of cotton. Fluridone appears to be an effective PRE herbicide to control Palmer amaranth, but cannot be used as a POST option without substantial injury to the cotton.