

TOLERANCE OF TRANSFORMED COTTON TO ISOXAFLUTOLE-BASED HERBICIDE PROGRAMS**J.W. Beesinger****J.K. Norsworthy****R.B. Farr****G.L. Priess****M.C. Castner****University of Arkansas****Fayetteville, AR****Abstract**

BASF is developing cotton tolerant to HPPD (4-hydroxyphenylpyruvate dioxygenase) herbicides to help producers battle resistance. Commonly used as a preemergence herbicide in corn, isoxaflutole is one of the options available to use on the new transformed cotton, adding a new mode of action. An experiment was designed and conducted in Marianna, Arkansas to test tolerance of transformed cotton to isoxaflutole. The experiment was a single factor, randomized complete block design and isoxaflutole was used in preemergence and postemergence applications. Injury was rated every 7 days following application, stand counts were taken at emergence, and yield data were recorded and analyzed for significance. Isoxaflutole used as a preemergence herbicide resulted in no significant injury at 14 days after application. However, when used as a postemergence herbicide, isoxaflutole caused a slight increase in injury. Stand counts and yield data produced no significant differences between treatments. This experiment shows that isoxaflutole can be integrated as a part of a transformed herbicide program safely, without influencing yield or emergence.