

YIELD RESPONSE TO GLUFOSINATE APPLICATIONS IN LIBERTY LINK COTTON**B.A. McClelland****L.T. Barber****J.W. Chapman****University of Arkansas****Little Rock, AR****D.L. Dodds****Mississippi State University****Mississippi State, MS****C.L. Main****The University of Tennessee****Jackson, TN****Abstract**

Glyphosate resistant weeds have changed many aspects of today's farms. Crop, variety and weed control selection now depends on the existent and severity of glyphosate resistant weeds on a given farm. A new weed control technology has been developed that uses glufosinate instead of glyphosate as an over-the-top herbicide. During a tolerance study in the 2010 growing season it was noticed that the Liberty Link variety in the study had an increased yield over the treatment that was not sprayed with glufosinate. The objective of this research was to determine if Liberty Link varieties that were sprayed with glufosinate actually had an increased yield over the same varieties that were not sprayed. The test was conducted on four locations in four states. Varieties and treatment levels were tested to determine if there was any interaction between treatment and variety. Significant yield differences were noticed between varieties; however, no significant yield differences were noticed between the different treatment levels. Although there was no significant interaction between the glufosinate treatment and the varieties, numerical differences in yield were noticed in each variety that was treated with the different treatment levels. More research is needed to determine exactly how the glufosinate is causing the yield increase, as well as, the correct amount of glufosinate that is needed to cause a yield increase at an economical level.