

IS REPLANTING CRUCIAL FOLLOWING AN OFF-TARGET APPLICATION OF 2,4-D IN COTTON?**Donnie K. Miller****LSU AgCenter, Northeast Research Station****St. Joseph, LA****Derek M. Scroggs****LSU AgCenter, Dean Lee Research Station****Alexandria, LA****M. S. Mathews****LSU AgCenter, Northeast Research Station****St. Joseph, LA****Abstract**

Field studies were conducted in 2007 at the Northeast Research Station near St. Joseph, La, the Dean Lee Research Station near Alexandria, La, and the Delta Research and Extension Center near Stoneville, Ms to determine the necessity of replanting following an off-target or misapplication of 2,4-D to cotton. Treatments evaluated included Salvo at 0, 1/4, 1/8, 1/16, 1/32, or 1/64 x rate of a 1x rate of 12.8 oz/A applied to cotton at the 2 to 3 leaf growth stage. Varieties evaluated included DP 164 B2RF at St. Joseph and Stoneville and DP 143 B2RF at Alexandria. Application dates were May 24 at St. Joseph, May 22 at Stoneville, and May 31 at Alexandria. Cotton was replanted in adjacent plots on June 21 at St. Joseph (delayed due to lack of adequate moisture), May 29 at Stoneville, and June 11 at Alexandria. Parameters measured included visual crop injury and height 14 and 28 d after treatment (DAT), node above white flower (NAWF) (St. Joseph and Alexandria only), and seedcotton yield.

At 14 DAT, cotton height was reduced with 2,4-D applied at all rates at Stoneville, at 1/4 and 1/8 x rates at St. Joseph, and at 1/4 x rate at Alexandria when compared to when no herbicide was applied. At 28 DAT, height reduction was observed with 2,4-D at all rates at Stoneville, 1/4 x rate at St. Joseph, and at the 1/4 and 1/8 x rates at Alexandria. Injury 14 and 28 DAT following application of 2,4-D was 20% or greater with all rates applied at each location. A delay in cotton maturity as determined by an increase in NAWF number was observed only at St. Joseph at the 1/4 x rate when compared to when no herbicide was applied. Early-season injury and height reduction following 2,4-D application resulted in yield reduction at the 1/4 to 1/32 x rates at Stoneville and the 1/8 x rate at Alexandria. Yield comparison indicated no advantage to replanting cotton as in the vast majority of instances cotton recovered from initial injury and yielded greater than replanted cotton and in no instance did replanting result in a yield advantage.

Application of 2,4-D resulted in significant injury and height reduction at higher rates evaluated. In these studies, replanting of cotton was not the best option following reduced rate application of 2,4-D.