RESPONSE OF ROUNDUP READY COTTON TO POST-CUTOUT ROUNDUP APPLICATIONS A. M. Stewart Louisiana State University AgCenter Alexandria, LA A. C. York North Carolina State University Raleigh, NC A. S. Culpepper University of Georgia Tifton, GA

Abstract

In situations where late-season weed control is less than adequate, cotton growers may wish to make an over-the-top Roundup application prior to harvest to increase harvester efficiency. The label for Roundup (glyphosate) currently does not permit a late-season application over-thetop until the 20% cracked boll stage. An experiment was initiated in 2000 to determine the effect of Roundup applications made prior to the 20% cracked boll stage on fruit set and retention of Roundup-Ready cotton. The trial was conducted in five locations; Clayton, Rocky Mount, and Lewiston, North Carolina, Tifton, Georgia, and Alexandria, Louisiana. Roundup was applied at 2 pt acre⁻¹ 7 days prior to an arbitrarily determined last effective bloom date, on the last effective bloom date, and 7, 14 and 21 days after the last effective bloom date. The final treatment roughly corresponded to the 20% cracked boll stage. A non-treated control was included at all locations. Treatments at all locations were arranged in a randomized complete block design with four replications. Cotton plants were mapped at the time of the initial treatment and harvested by position prior to final machine harvest according to the box mapping procedure. Overall seed cotton yield, weight per boll, seed cotton by position, and total bolls by position were not affected by Roundup applications. All of the test locations could be described as having set the vast majority of the crop prior to application. These data suggest that in situations in which the majority of the yield that will be harvested is already set, Roundup applications can be safely made prior to the 20% cracked boll. However, these data do not suggest that Roundup can be safely applied prior to the 20% cracked boll stage to cotton that is dependent on good fall growing conditions for a significant portion of its yield. Further research is needed to determine the effect of late season Roundup applications on cotton with light boll loads.