

**EFFECT OF POSTEMERGENCE TOPICAL  
APPLICATIONS OF ROUNDUP  
ON ROUNDUP READY COTTON**

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**Abstract**

The use of Roundup for weed control in Roundup Ready Cotton is of particular interest to producers throughout the cotton growing regions of the United States. However, there is concern over potential yield losses due to late post topical applications.

Experiments were established in 1997 and 1998 in North Texas and in 1997 in Southeast Arkansas to evaluate the effect of applications made post topical outside of the current label window (4 true leaves). Treatments included an untreated control, a Roundup Program (POST + 1 or 2 applications post directed), a standard herbicide program, and Roundup applied post topical at the 4 node cotton growth stage followed by either a 6, 9, or 12 node growth stage application over-the-top. In addition the 6, 9, and 12 node applications were applied at 16, 24, or 32 fl oz/A. Trials were kept weed-free season long for the entire growing season at all locations. Visual injury and yield were recorded at all locations, and at the 1997 North Texas location fiber property information was also collected.

Cotton injury of greater than 20% was observed with the 4 node application in Arkansas. However, by late season visual injury was less than 10% with all treatments. The 12 node applications, regardless of rate, were the only treatments that reduced yields when compared to the untreated control at this location. The standard program was the only treatment that resulted in visual injury greater than 10% in 1997 at the North Texas location. This was due mainly to leaf chlorosis and necrosis from the post-directed application of Caparol + MSMA. There were no differences in final plant height, height to node ratio, micronaire, fiber length, or fiber strength at this location. Cotton lint yields were reduced with the 9 and 12 node applications, regardless of the rate of Roundup applied in North Texas in 1997. In 1998, two locations were established in North Texas. No visual injury was observed at either location throughout the growing season. At one location, cotton lint yields were not reduced with any of the herbicide treatments when compared to the untreated control. At the second location, cotton lint yields were

reduced with the 12 node application and all rates applied and with one of the 9 node applications.

This preliminary information indicates that yield losses can occur when Roundup is applied outside the label window, especially with applications at or after the 9 node growth stage. However, other factors are occurring which affect when this yield loss occurs and needs to be investigated to better predict when yield losses can be expected.