

TWO YEAR EVALUATION OF COTTON TOLERANCE TO POST CO-APPLICATION OF PROWL H₂O AND INSECTICIDES**Donnie K. Miller****LSU AgCenter, Northeast Research Station****St. Joseph, LA****D. R. Lee****LSU AgCenter****Lake Providence, LA****M. S. Mathews****LSU AgCenter, Northeast Research Station****St. Joseph, LA****Abstract**

Field studies were conducted at the Northeast Research Station in St. Joseph, La in 2006 and 2007 to evaluate the tolerance of Roundup Ready Flex cotton to postemergence co-application of Prowl H₂O with Roundup Weathermax and insecticides. Treatments evaluated included Prowl H₂O (pendimethalin) at 32 oz/A co-applied with Roundup Weathermax (glyphosate) at 22 oz/A alone or in combination with one of the following insecticides: Acephate at 0.55 lb/A, Baythroid (cyfluthrin) at 2.1 oz/A, Bidrin (dicotophos) at 6.4 oz/A, Centric (thiamethoxam) at 1.88 oz/A, Dimethoate at 8 oz/A, Karate Z (*lambda* cyhalothrin) at 2 oz/A, Mustang Max (zeta cypermethrin) at 3.5 oz/A, Trimax (imidacloprid) at 1.5 oz/A, or Vydate C-LV (oxamyl) at 13.6 oz/A. Roundup Weathermax alone at 22 oz/A was also included. Applications were made to ST 4554 B2RF cotton in 2006 and DP 164 B2RF cotton in 2007 at the 4 node growth stage. Treatments were evaluated in a randomized complete block experimental design with four replications. Treatments were applied to each 6.67' by 25' plot with a backpack sprayer at 15 GPA. Visual crop injury observations were made 5, 14, and 28 d after treatment (DAT). Crop height 7 and 21 DAT and seedcotton yield were also determined.

In 2006, visual injury was not observed 5 DAT. In 2007, co-application of the insecticide Dimethoate resulted in 20% visual injury while all other treatments resulted in injury no greater than 6%. At 14 DAT, equivalent injury ranging from 14 to 23% was observed for Roundup Weathermax plus Prowl H₂O applied alone or co-applied with insecticides in 2006. In 2007, co-application with insecticides Bidrin, Centric, Dimethoate, Karate Z, and Trimax resulted in similar injury ranging from 9 to 11%. By 28 DAT, no greater than 5% injury was observed for any treatment in both years. At 7 and 21 DAT, cotton height ranged from 17 to 19 and 34 to 41 cm, respectively, in 2006 and 16 to 19 and 33 to 36 cm, respectively, in 2007 and was equal for all treatments. Seedcotton yield ranged from 3349 to 4039 lb/A in 2006 and 2462 to 2763 lb/A in 2007 with no differences noted among treatments.

In Roundup Ready Flex cotton, glyphosate co-application with Prowl H₂O and insecticides can offer producers the ability to integrate pest management strategies and reduce application costs with no long term effect on the crop.