

LOW RATES OF ROUNDUP® FOR WEED CONTROL IN ROUNDUP READY® COTTON

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Abstract

The following three experiments are summarized. 1.) A one-year field experiment with Roundup Ultra Max® applied OT weekly 5-9 times at 0.25 lb a.i./A each time alone or tank-mixed with common cotton insecticides to DP 451 B/R cotton. Treatments with or without insecticides did not result in differences for ivyleaf morningglory control or seed cotton yield. Insecticides used were Bidrin, Centric, Denim, Provado, Steward, Orthene, Karate Z, Malathion, and Vydate applied at normal use rates. 2.) A two-year field experiment was conducted to measure the response of johnsongrass, pigweed, and DP 5415 RR cotton to banded, multiple (5 or 6) OT applications of Roundup Ultra Max at 0.25, 0.5, 0.75, and 1.0 lb a.i./A to the row area plus cultivation between rows. These treatments were compared to a no-Roundup treatment using PPI, PRE, PODIR, OT, and Layby herbicides. Johnsongrass and pigweed control in August with all Roundup treatments was equal to or greater than the no-Roundup treatment. Seed cotton yield was also equal or greater than the no-Roundup treatment with all Roundup treatments in 2001 (6 applications) and with all except one treatment each of Roundup at 0.25 lb a.i./A and 0.5 lb a.i./A in 2002 (5 applications). 3.) A three-year field experiment was conducted comparing sequential broadcast applications of Roundup Ultra or Ultra Max at 0.5 and 1.0 lb a.i./A OT vs. PODIR to DP 451 B/R cotton. A no-Roundup treatment similar to 2.) above and a sequential OT Roundup treatment at 0.25 lb a.i./A (6 weekly applications each year) were included for comparison. The predominant weed was ivyleaf morningglory. Multiple low rate Roundup (0.5 lb a.i./A) applications (OT or PODIR) were equal to or more effective for ivyleaf morningglory control than single applications of the high Roundup rate (1.0 lb a.i./A). Seed cotton yields were not different or were greater with multiple applications of Roundup OT at 0.25 lb a.i./A (3-yr average 3199 lb/A) and 0.5 lb a.i./A (3-yr average 3043 lb/A) when compared with the no-Roundup treatment (3-yr average 2524 lb/A). The number of newly emerged ivyleaf morningglory plants was very low (almost none) after July 6, 2000 and July 3, 2002, but did not drop until July 25, 2001.