

**EFFECTS OF AT-CRACKING AND EARLY POST
APPLICATIONS OF PROWL (PENDIMETHALIN)
ON COTTON**

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Abstract

Weed science research literature and infrequent field observation indicate that Prowl (pendimethalin), though it is a residual, soil-applied herbicide, has some postemergence activity. A field experiment was conducted on a sand soil at Tifton, GA, to evaluate the potential for cotton injury associated with applications of Prowl at crop emergence. 'DP 5415 RR' and 'Sure Grow 125 B/RR' cotton was planted on June 3 and 8, 1999, respectively. Prowl was applied at 0, 2, 4, 6, and 8 days after planting (dap) at a rate of 1.2 qt./A (1.0 lb AI/A). Each plot included three rows, two of which were treated with Prowl and one not treated. Plot length was 25 to 30 feet. Within 4 hours after planting, irrigation was applied by hand at an approximate rate of 0.2 inch/A in a 6-inch band over the row. Non irrigated controls were also included. In these trials, cotton emergence occurred 4 to 5 days after planting. Data collected 2.5 weeks after planting included seedling height, stand counts, and visual injury rating. There was no treatment by planting date interaction, and data were pooled over planting date. As indicated by height measurement and visual rating, injury ranking (greatest to least) was 6 dap \geq 8 dap > 4 dap \gg 0, 2 dap and untreated. Compared to the untreated control, Prowl applied 6 dap significantly reduced cotton height (1.6 vs 3.7 inches) and resulted in greater than 50 percent visual damage. Application timing of Prowl had no effect on cotton stand counts. Risk of cotton injury to Prowl appears to be the greatest for applications at emergence and in the few days immediately afterwards.