

WEED MANAGEMENT WITH ENVOKE AND SUPREND

Barry J. Brecke
University of Florida
Jay, FL

Abstract

Studies were conducted from 1998 through 2003 at the University of Florida, West Florida Research and Education Center, Jay, FL to evaluate Envoke (trifloxysulfuron) and Suprend (trifloxysulfuron plus prometryn) for postemergence weed control in cotton. Cotton (DP 5414RR, DP 458RR, DP 541 BG/RR DP 451BG/RR or DP 555 BG/RR) was planted in mid-May in areas naturally infested with a broadspectrum of broadleaf weeds. Treatments were applied postemergence with a tractor mounted compressed air sprayer operated at 20 psi to deliver 20 gpa spray volume. Plots were 4 rows wide by 25 ft long. Crop damage and weed control were visually rated during the growing season using a scale of 0 to 100 (0 = no control or crop damage and 100 = complete control or crop death).

Envoke applied at rates of 0.0045 to 0.014 lb a.i./A caused little crop damage and the cotton rapidly recovered from any injury observed when applied to five-leaf or larger cotton. Envoke provided good to excellent control of sicklepod (*Senna obtusifolia* (L.) Irwin and Barnaby), redweed (*Melochia corchorifolia* L.), purple nutsedge (*Cyperus rotundus* L.), Florida beggarweed (*Desmodium tortuosum* (Sw.) DC.) and common cocklebur (*Xanthium strumarium* L.). Control of pitted morningglory (*Ipomoea lacunosa* L.) ranged from fair to excellent depending on timing and rate of application. Generally the earlier timing and higher rates were required for effective control of this species. Smallflower morningglory (*Jacquemontia tamnifolia* (L.) Griseb.) and tropical spiderwort (*Commelina benghalensis* L.) were not controlled at any rate or timing of Envoke application. A sequential application of Suprend (0.8 lb a.i./A) directed postemergence following an earlier treatment of Envoke improved control of pitted morningglory, smallflower morningglory and tropical spiderwort.

Tolerance of selected cotton cultivars to Envoke was also evaluated. Delta and Pineland (DP) 458, DP 5415, Delta Pearl, Stoneville 4892, Fiber Max 989 and BXN 47 were treated with Envoke (0.0045, 0.007 and 0.009 lb/A) at the two-leaf stage (earlier than is listed on the label). Response varied over the two years of the study. Stoneville 4892, Fiber Max 989 and BXN 47 showed more stunting in response to Envoke than the other cultivars while Delta Pearl was the only variety with a greater than 10% yield loss from Envoke in 2001. In 2002, stunting injury was greater with all cultivars and all varieties took longer to recover in 2002 than in 2001. The greater crop damage translated to higher yield losses in 2002 (10 to 20%) for DP 458, DP 5415 and Delta Pearl.