

WEED MANAGEMENT IN COTTON WITH TOUCHDOWN, ENVOKE AND SUPREND
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Abstract

Two field studies were conducted in 2003 to evaluate the efficacy of several new products and combinations for weed management in cotton. Both studies were established on a Ships clay soil at the Texas Agricultural Experiment Station farm near College Station, Texas. Experimental plot sizes were four rows by 30 or 40 ft. long and treatments were arranged in a Randomized Complete Block Design. Three treatment replications were employed in one experiment and four in the other. Herbicides included in the study were Envoke (trifloxysulfuron sodium) at 0.1 and 0.15 oz./acre, Suprend (trifloxysulfuron sodium plus prometryn) at 20 oz./acre, Sequence (glyphosate plus s-metolachlor) at 42.6 oz./acre, Touchdown IQ (3# ae/gal. glyphosate) at 32 oz./acre, Touchdown Total (5.5# ai/gal. glyphosate) at 23 oz./acre, Treflan (trifluralin) at 1.5 pts./acre, Caparol (prometryn) at 1 and 1.2 pts./acre, Dual Magnum (s-metolachlor) at 1.0 pt./acre, Roundup WeatherMax (5.5 # ai/gal. glyphosate) at 23 oz./acre and MSMA at 42.5 oz./acre.

At one location, ivyleaf morningglory (*Ipomoea hederacea*) was not effectively controlled by Treflan applied preplant incorporated alone or followed by preemergence applications of Dual Magnum and Caparol. Neither Dual Magnum or Caparol in combination or alone provided greater than 60% control of this specie. When Touchdown IQ was applied early post, control exceeded 75%. When soil applications of Dual Magnum or Caparol were followed by postemergence applications of Envoke, control improved substantially to greater than 90%. Where Touchdown IQ was applied early post and was followed by mid post applications of Envoke or post-directed applications of Suprend, control exceeded 85% when evaluated late in the season. Similar results were shown for control of velvetleaf (*Abutilon theophrasti*). When Envoke applications followed preemergence applications of Caparol, control improved to greater than 90%, compared to less than 70% with Caparol alone. Touchdown IQ applied alone or in combination with Envoke, was also highly effective for controlling velvetleaf (>90%). Post-directed applications of Suprend helped to slightly improve and maintain late season velvetleaf control over earlier applications of Caparol, Envoke or Touchdown. Post emergence applications of Envoke were only slightly injurious to the cotton (<12%). Envoke or Suprend did not provide for improved Texas panicum (*Panicum texanum*) or Palmer amaranth (*Amaranthus palmeri*) control. Cotton yields were highly variable, largely due to inadequate control of Texas panicum and Palmer amaranth in some treatments.

At the other location, plots were infested with a mixture of ivyleaf morningglory and pitted morningglory (*Ipomoea lacunosa*). Sequence, applied early post to 1-3" weeds showed good initial control of these species ranging from 67-82% control. Applications of Envoke applied sequentially to these treatments did not improve control but helped to significantly maintain control compared to where Touchdown was applied alone in earlier applications. When Suprend was applied post-directed, following early post and mid-post applications of Sequence and Envoke, respectively, late-season control exceeded 85%. These treatments were significantly more effective than when preemergence applications of Caparol were followed by sequential Touchdown or Roundup WeatherMax applications. Only the Sequence applications caused injury to the cotton, ranging from 8-12%. Cotton yield was responsive to weed control but did not seem adversely affected by applications of Sequence followed by Envoke and Suprend.