

COTTON WEED CONTROL PROGRAMS WITH SUPREND (PROMETRYN + TRIFLOXYSULFURON)

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Abstract

Suprend is a soon-to-be registered, postemergence-directed herbicide based on prometryn (Caparol) and trifloxysulfuron (Envoke). Caparol can be slightly weak for control of morningglory, nutsedge and sicklepod, which are weeds controlled strongly with Envoke. Conversely Caparol provides generally good Palmer amaranth control, which can be a weakness with Envoke. Postemergence directed herbicides all require the establishment of a good weed-to-cotton height differential where directed sprays will cover the majority of weed foliage, with relatively little contact with cotton foliage. When there is an adequate cotton:weed height differential, most directed herbicides will provide excellent weed control. When height differentials are not adequate, post directed herbicides generally fail, regardless of the product.

Because Suprend is based largely on Caparol, experiments were conducted to compare these herbicides in several equivalent weed control programs. Treatments were a factorial arrangement of two preemergence (PRE) treatments; three early POST, over-the-top treatments (EPOST) and Caparol versus Suprend, post directed (DIR). Preemergence treatments were no herbicide or Prowl (pendimethalin) at 1 lb ai/A. Postemergence over-the-top treatments were Touchdown IQ (diammonium glyphosate with surfactant) at 0.75 lb ae/A, Touchdown plus + Dual II Magnum (s-metolachlor) at 0.96 lb ai/A and Touchdown plus Staple (pyrithiobac) at 0.031 lb ai/A. Suprend and Caparol were applied in tank mixture with 2 lb ai/A of MSMA in surfactant-containing formulation. No surfactant was added to the EPOST treatments.

The experiment was conducted using standard weed science methodology. 'Suregrow 501BR' cotton was planted in 30" rows and Prowl treatments were applied on June 15, 2003. After unusually cool and wet weather, plots were treated with Gramoxone (paraquat) and cotton was replanted on May 27. Early postemergence treatments were applied June 24, and directed treatments were applied July 11. Treatments were applied to 3 rows (in 4-row plots with a running check) using CO₂-pressurized sprayers. Hand-held equipment was used for PRE and EPOST treatments and a tractor mounted-directed sprayer was used for DIR treatments. All treatments were broadcast.

There were no differences in late season control between Suprend and Caparol for control of goosegrass (*Eleusine indica*) and Palmer amaranth (*Amaranthus palmeri*). Ivyleaf and entireleaf morningglory (*Ipomoea hederacea*) control was 5% better with Suprend versus Caparol. Early season control (before directed applications) of Palmer amaranth and Ivyleaf and Entireleaf morningglory were not affected by the Prowl treatment. However, Touchdown plus Dual Magnum provided the best Palmer amaranth and goosegrass control, while Touchdown plus Staple provided the best morningglory control.

Sicklepod, and nutsedge was not present in these tests; however, glyphosate typically provides excellent sicklepod control alone and MSMA provides good nutsedge control. Differences between Caparol and Suprend may be minor, especially when there is a good cotton:weed height differential.