

**SICKLEPOD MANAGEMENT
WITH STAPLE SYSTEMS**
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resulted in weed control and cotton yield similar to Cotoran plus Zorial PRE, when followed by pyrithiobac EPOST.

Abstract

A field experiment was conducted in 1995 at an on farm location in Bertie County, North Carolina, to evaluate sicklepod (*Senna obtusifolia*) management with Staple (pyrithiobac) systems. All treatments included Treflan at 0.75 lb ai/A preplant incorporated (PPI). Preemergence (PRE) treatments included Staple at 0.053 or 0.063 lb ai/A alone, Cotoran at 1.5 lb ai/A or Karmex at 1.0 lb ai/A alone or in combination with Staple, and Cotoran plus Zorial at 1.5 lb ai/A. Early postemergence (EPOST) treatments were applied three weeks after PRE treatments and included Staple at 0.053 or 0.063 lb ai/A alone or combined with MSMA 0.75 lb ai/A, and Cotoran at 1.0 lb ai/A plus MSMA. All EPOST applications included a nonionic surfactant at 0.25% (v/v). Weed species evaluated included sicklepod, common cocklebur (*Xanthium strumarium*), and morningglory species (*Ipomoea* spp.).

Visual crop injury significantly increased with PRE treatments that included pyrithiobac. Injury ranged from 22-31% and 12-14% at 3 and 6 weeks after treatment (WAT), respectively. No crop injury was evident from Staple EPOST treatments. Sicklepod and morningglory control with Staple alone 3 WAT was 71% and 90%, respectively. Common cocklebur control 6 WAT was 79, 48, and 73% with PRE treatments of Staple plus Cotoran, Staple plus Karmex, and Cotoran plus Zorial, respectively. Sicklepod control 6 WAT was 81, 85, and 80% with PRE treatments of Staple plus Cotoran, Staple plus Karmex, and Cotoran plus Zorial, respectively. Sicklepod, morningglory, and common cocklebur control at 3-14 WAT was enhanced when Staple was added to Karmex or Cotoran.

The addition of EPOST treatment improved weed control and cotton yield compared to PRE treatment alone. Sicklepod control was 88-95% and 94-100% with Staple EPOST systems at 3 and 6 WAT, respectively. Common cocklebur and morningglory control was excellent ($\geq 95\%$) at 3 WAT with Staple systems and common cocklebur control was 86-100% 6 WAT. Late-season control of sicklepod at 14 WAT remained good ($\geq 87\%$) with Staple systems that included Staple in the PRE treatment.

In general, PRE followed by EPOST Staple alone systems provided weed control as effective as PRE followed by EPOST Staple mixtures systems. Staple plus Cotoran PRE