

**WEED MANAGEMENT IN BXN COTTON WITH
SOIL AND POSTEMERGENCE HERBICIDES IN
NORTH CAROLINA**

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Abstract

Field studies were conducted in 1995 at the Upper Coastal Plain Research Station in Rocky Mount, North Carolina to evaluate preplant incorporated (PPI), preplant (PRE) and postemergence (POST) herbicide treatments applied alone or in a system with other herbicides for weed control, lint yield and stand reduction in cotton. 'BXN 57' cotton was planted with Di-Syston at 0.75 lb ai/a in-furrow on beds spaced 36" apart. Herbicide systems evaluated consisted of a factorial arrangement of two PPI, four PRE, and two POST options. The PPI treatments were Zorial at 0.6 lb ai/a and Treflan at 1.2 lb ai/a. Zorial at 0.6 lb SPLIT (.3lb PPI fb .3 lb PRE), Cotoran at 1.2 lb, Command at 0.75 lb, and Staple at 1.0 oz ai/a were the PRE options. The two POST options were Staple at 1.0 oz + 0.25% v/v NIS and Buctril at 0.5 lb ai/a. All treatments were applied with a CO₂ backpack sprayer equipped with 11002VS tips calibrated to deliver 16.7 GPA at 29 PSI. Weeds evaluated were: common lambsquarters (Chenopodium album L.), Pennsylvania smartweed (Polygonum pensylvanicum L.), morningglory species (Ipomoea ssp L.), large crabgrass [Digitaria sanguinalis (L.) Scopoli], prickly sida (Sida spinosa L.) and redroot pigweed (Amaranthus retroflexus L.). The experimental design was a randomized complete block with three replications.

Cotoran alone controlled all species evaluated at least 86%, with the exception of prickly sida (0% control). The addition of Buctril POST to Cotoran controlled all weed species at least 83%. Cotoran PRE followed by (fb) Staple POST controlled all weeds species at least 91%. Zorial Split only treatments controlled common lambsquarters, prickly sida, pigweed, and crabgrass at least 81% while failing to give adequate control of smartweed and morningglories. Any Zorial Split treatment PRE with any PRE + POST combination, controlled all weed species at least 92%. Treflan PPI fb Buctril or Staple POST controlled all weeds at least 67%, with the exception of prickly sida. Treflan PPI fb all PRE and POST options failed to control prickly sida. Treflan PPI + PRE fb POST options increased weed control to at least 81% across all species. Command PRE fb POST systems controlled with at least 91%.

The highest numerical cotton lint yield (950 lb/a) was afforded by Zorial PPI fb Cotoran PRE fb Buctril POST. Equivalent yields were produced in plots treated with Zorial Split + Cotoran fb all POST, Zorial + Cotoran PRE fb Buctril, and Treflan PPI fb Cotoran PRE fb all POST. All other herbicide treatments had yields that were significantly lower.

A 33 and 16% cotton stand reduction was observed with Command + Cotoran PRE and Command + Cotoran PRE fb Buctril POST. Cotton stand was not reduced in other treatments.