

**WEED MANAGEMENT IN CONVENTIONAL
TILLAGE BXN COTTON IN NORTH CAROLINA
AND GEORGIA**

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Abstract

Three field trials, two in Bertie County, NC and one at Tifton, Georgia were conducted in 1994 - 1995 to evaluate Cotoran and Buctril systems for weed control, cotton injury and yield using cotton variety BXN 57. All plots received a blanket treatment of Treflan at 0.75 lb ai / A applied preplant incorporated. Herbicide systems evaluated consisted of a factorial arrangement of PRE, EPOST, POST and LAYBY herbicide treatments. PRE herbicide options consisted of 1) none or 2) Cotoran at 1.5 lb ai / A. EPOST options were 1) none or 2) Buctril at 0.375 lb ai / A or 3) Buctril at 0.375 lb ai / A + MSMA at 0.75 lb ai / A with a NIS at 0.25% v/v. POST options were 1) none or 2) Buctril alone at 0.375 lb ai / A. LAYBY options were 1) none or 2) Bladex at 0.80 lb ai / A plus MSMA at 0.75 lb ai / A with a NIS 0.25% v/v. Treflan PPI alone was considered the broadleaf weed check. Weed control of sicklepod [*Senna obtusifolia* (L.) Irwin and Barneby], coffee senna (*Cassia occidentalis* L.), common lambsquarters (*Chenopodium album* L.), pitted morningglory (*Ipomoea lacunosa* L.), prickly sida (*Sida spinosa* L.), bristly starbur (*Acanthospermum hispidum* DC.), Florida beggarweed [*Desmodium tortuosum* (Sw.) DC.], and spurred anoda [*Anoda cristata* (L.) Schlecht.] were visually assessed 85 - 113 days after treatment depending on the treatment timing and results were averaged across locations.

Greater than 95% control of pitted morningglory and common lambsquarters were observed in the treatments containing Buctril applied EPOST or POST. When Buctril was applied EPOST and POST, bristly starbur control was >96% without Cotoran. Control of spurred anoda and Florida beggarweed with single applications of Buctril EPOST were improved from 4-19% with a PRE Cotoran application. The EPOST application of Buctril with Cotoran gave superior control of spurred anoda (97%), coffee senna (100%), and prickly sida (100%) to Buctril applied Postemergence (74%, 70% & 65% respectively) indicating the importance of controlling these species with Buctril while they are in the cotyledon to 4-5 leaf stage. Without Cotoran, a LAYBY application of Bladex+MSMA following Buctril EPOST gave 100% control of prickly sida and coffee senna, and greater than 92% control of spurred anoda and Florida beggarweed. Sicklepod control was

consistently improved with the application of Cotoran PRE. Sicklepod was controlled 97% with Cotoran PRE fb Buctril+MSMA EPOST fb Bladex+MSMA LAYBY. The LAYBY of Bladex+MSMA was necessary for season long control of sicklepod. Cotoran PRE fb Buctril+MSMA EPOST fb Bladex+MSMA LAYBY was statistically the highest yielding treatment in the locations that had sicklepod. Most applications containing MSMA had some phytotoxicity injury ranging up to 24% but the cotton grew out the symptoms rapidly and it did not adversely affect yield.

The highest yielding treatments across all locations were 1) Cotoran PRE fb Buctril+MSMA EPOST fb Bladex+MSMA LAYBY, average yield was 1440 lbs of lint / A or 2) Cotoran PRE fb Buctril EPOST fb Bladex+MSMA LAYBY, average yield was 1386 lbs of lint / A or 3) Cotoran PRE fb Buctril EPOST, Buctril POST fb Bladex+MSMA LAYBY, average yield was 1290 lbs of lint / A. These tests indicate that the BXN system can provide excellent control of sicklepod when used in conjunction the Cotoran PRE and Bladex+MSMA LAYBY and offers broad spectrum control of common and troublesome weeds in Southeastern cotton production.