

**WEED MANAGEMENT IN REDUCED
AND NO-TILL BXN COTTON
IN NORTH CAROLINA AND GEORGIA
WITH BUCTRIL AND COTORAN**

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Abstract

Field studies at four locations in North Carolina and Georgia evaluated Buctril and Cotoran systems for weed control, cotton injury, and yield in reduced and no-till BXN cotton. The herbicide systems evaluated consisted of a factorial arrangement (all possible combinations) of two PRE options, two EPOST options, two POST options, and two LAYBY options. The PRE treatment options consisted of a) Gramoxone Extra at 0.25 lb ai/ac, and b) Gramoxone + Cotoran at 1.5 lb ai/ac. The EPOST treatment options consisted of a) Buctril at 0.375 lb ai/ac, and b) Buctril + MSMA at 1.0 lb ai/ac. The POST treatment options consisted of a) no POST application, and b) Buctril at 0.375 lb/ac. The LAYBY treatment options consisted of a) no LAYBY application, and b) Bladex at 0.8 lb ai/ac + MSMA at 1.0 lb/ac. Additional treatments consisted of Gramoxone Extra or Gramoxone Extra + Cotoran PRE alone or fb Cotoran at 1.0 lb/ac + MSMA at 1.0 lb/ac post-directed (PDS) or fb Cotoran + MSMA PDS fb a Bladex + MSMA LAYBY. A weedy check was also included. All PRE treatments were applied with a NIS at 0.25% (v/v). All treatments were applied with a CO₂ backpack sprayer at 17-20 GPA. Weeds evaluated include redroot pigweed (*Amaranthus retroflexus* L.), sicklepod [*Senna obtusifolia* (L.) Irwin and Barneby], and *Ipomoea* morningglory species (*Ipomoea* spp. L.). Studies were conducted at Tifton and Calhoun, GA in 1994 and at Clayton and Richfield, NC in 1995. Data represents averages over four locations.

Gramoxone Extra + Cotoran PRE controlled redroot pigweed 63%, while the addition of Buctril applied EPOST and POST improved control to 99%. Without Cotoran, two Buctril applications controlled redroot pigweed 83%, and the addition of a Bladex + MSMA LAYBY application to this system improved redroot pigweed control to 97%. Gramoxone + Cotoran PRE fb a standard cotton PDS application (Cotoran + MSMA) controlled redroot pigweed 86%. Gramoxone Extra PRE fb Buctril EPOST and a LAYBY controlled sicklepod 27%, while control was 96% with Gramoxone Extra + Cotoran PRE fb Buctril + MSMA EPOST fb Bladex + MSMA LAYBY. Gramoxone Extra + Cotoran PRE fb Cotoran + MSMA PDS controlled sicklepod 72% and control was improved to 88% with the addition of Bladex + MSMA LAYBY. Gramoxone +

Cotoran PRE controlled morningglory spp. 77%. All Buctril containing systems controlled morningglory spp. at least 85%. Cotoran PRE and Buctril containing systems controlled morningglory spp. at least 94%. Standard systems utilizing PRE, PDS, and LAYBY treatments controlled morningglory spp. 91%. Without a LAYBY in this standard system, morningglory spp. control was 73%.

All herbicide treatments yielded more than the nontreated check (20 lb of lint/ac). Gramoxone + Cotoran PRE yielded 380 lint lb/ac, indicating the importance of postemergence options. Buctril + MSMA EPOST systems yielded more than systems containing only Buctril EPOST. Systems that included Gramoxone + Cotoran PRE, Buctril + MSMA EPOST, and Bladex + MSMA LAYBY yielded the highest at 1010 lint lb/ac. Equivalent yields were provided by the standard PDS and LAYBY system at 950 lint lb/ac. However, all other Buctril containing treatments did statistically yield more than their non-Buctril containing counterparts; for example, Gramoxone PRE fb Buctril postemergence fb a LAYBY yielded 790 lint lb/ac, while a Gramoxone PRE, PDS, and LAYBY system yielded 400 lint lb/ac.