

**WEED MANAGEMENT IN BXN COTTON WITH
BUCTRIL AND REDUCED RATES OF STAPLE**

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had excellent tolerance to all POST herbicide treatments in weed free trials conducted with all of the aforementioned treatments at the same locations, cotton yields herbicide systems.

Abstract

Two sets of experiments were conducted at four locations each in North Carolina in 1996 and 1997 to evaluate weed control, cotton tolerance, and cotton yield response to postemergence applications of Buctril, Staple, and tank mixtures of Buctril plus Staple. Weed management systems evaluated included a factorial arrangement (all possible combinations) of Buctril postemergence (POST) at 0, 0.25, 0.375, and 0.5 lb ai/ac and Staple at 0, 0.016, 0.032, and 0.064 lb ai/ac which corresponds to 0, 1/4X, 1/2X, and 1X the registered use rate. These treatments were followed with a post-directed (PDS) treatment of Cotoran at 1.0 lb ai/ac plus MSMA at 2.0 lb ai/ac. Additional treatments evaluated included Cotoran plus MSMA PDS, a weedy check, and Treflan at 0.75 lb ai/ac preplant incorporated (PPI) followed by (fb) Cotoran preemergence (PRE) at 1.25 lb ai/ac fb a PDS of Cotoran plus MSMA. The Buctril, Staple, Buctril plus Staple, and PDS systems also received two POST treatments of Select for annual grass control. By not using soil applied herbicides with the Buctril and Staple systems, we were able to evaluate control of all annual broadleaf weeds without the masking effect of soil applied herbicides. BXN 57 cotton was planted in the 1996 studies and BXN 47 was planted in the 1997 studies.

Buctril at 0.375 lb/ac fb the PDS treatment controlled common lambsquarters, common ragweed, eclipta, prickly sida, redroot pigweed, spurred anoda, and entireleaf, ivyleaf, pitted, and tall morningglory at least 93% while smooth pigweed and volunteer peanut were controlled 73 and 86%, respectively. Staple at 0.032 lb/ac (1/2X) fb the PDS of Cotoran plus MSMA controlled eclipta, common ragweed, prickly sida, redroot and smooth pigweed, and spurred anoda at least 94%. Volunteer peanut was controlled 84% while pitted, ivyleaf, and entireleaf morningglory were controlled 63, 78, and 83%, respectively. Staple at the 0.063 lb/ac (1X rate) fb the PDS of Cotoran plus MSMA controlled common lambsquarters 48%. Tank mixtures of Buctril plus Staple fb the PDS of Cotoran plus MSMA controlled more weeds than either Buctril or Staple fb the PDS. Cotton yield with Buctril plus Staple mixtures fb the PDS provided yields equivalent to the standard soil applied and PDS system at three locations and better yields at the fourth location. BXN 57 and 47 cotton