

**WEED CONTROL IN BXN™ COTTON -
PERFORMANCE IN 1995 APPLIED RESEARCH
AND GROWERS FIELDS**

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Abstract

Excellent ($\geq 90\%$) control of common cocklebur, jimsonweed, morningglory spp., and coffee senna was achieved with Buctril. However, Buctril provided poor to fair control of Palmer amaranth and no control of sicklepod. Preemergence (PRE) applications of Cotoran and postemergence-directed treatments were needed to achieve satisfactory season-long control of Palmer amaranth and sicklepod. Eighty-seven percent of the growers in South Carolina, North Carolina, and Virginia who used Buctril reported acceptable control of broadleaf weeds including morningglory spp., common cocklebur, smartweed spp., common lambsquarters, jimsonweed, and ragweed. However, these growers reported unacceptable control of sicklepod and Palmer amaranth. The majority of the growers who planted BXN™ cotton were not satisfied with boll opening, lint yield, and grade.

Introduction

The lack of selective postemergence (POST) herbicides for broadleaf weed control in cotton has led to substantial interest in the development of genetically-engineered herbicide-resistant cotton varieties. Development of such varieties offers the potential for cotton producers to use broad-spectrum, environmentally safe herbicides for selective POST control of broadleaf weeds in cotton.

Materials and Methods

Broadleaf weed control in BXN™ cotton with Buctril was examined in five experiments at three locations in South Carolina in 1995. Plots were 4 rows, 30 ft long, and were arranged in a randomized complete block design with three or four replications. Crop injury and weed control were evaluated 2 to 3 and 4 to 5 weeks after application of POST treatments. One or two rows were harvested from the center of each plot to obtain cotton yields.

All growers (125) who planted BXN™ cotton were surveyed in late November, 1995, to determine their level of satisfaction with weed control achieved with Buctril and the performance of the BXN™ cotton.

Results and Discussion

Applied research. Buctril provided $\geq 90\%$ control of common cocklebur, jimsonweed, morningglory spp., and coffee senna. Control of Palmer amaranth was generally poor, but 70 to 80% control was achieved when Buctril was applied to Palmer amaranth that was 1 inch or less in height. Buctril provided no control of sicklepod. In all studies Cotoran PRE and postemergence-directed applications of Cotoran + MSMA or Bladex + MSMA were needed to achieve adequate season-long control of Palmer amaranth and sicklepod.

Survey results. Eighty-four percent of the surveyed growers used Cotoran or Meturon PRE, and 51% of the growers applied Buctril twice. The most common target weeds were morningglory spp. (69%), common cocklebur (54%), smartweed spp. (36%), pigweed spp. (33%), and common lambsquarters (28%). Other target weeds were jimsonweed, common ragweed, and sicklepod. Eighty-seven percent of the growers were satisfied with the weed control provided by Buctril, but control of sicklepod and pigweed spp. was poor. Seventy-four percent of the growers substituted Buctril for their normal POST-directed treatments. Seventy-three, 78, 17, 11, and 37% of the growers were satisfied with seedling vigor, growth habits, boll opening, yield, and grade of the BXN™ cotton, respectively. Only 34% of the growers indicated they would plant BXN™ cotton in 1996.