

**WEED MANAGEMENT IN
NO-TILL BXN COTTON**
A. S. Culpepper, A. C. York, and J. W. Wilcut
Grad. Res. Asst., Prof., and Assoc. Prof.,
Department of Crop Science
North Carolina State University,
Raleigh, NC

Abstract

Weed management systems utilizing early POST (EPOST) treatments of bromoxynil and pyriithiobac sodium applied POST over-the-top were compared with the standard treatment of fluometuron plus MSMA applied EPOST-directed; all were in combination with standard preemergence (PRE) and late POST-directed (LPD) treatments. Field experiments were conducted at Rocky Mount, NC in 1994 and 1995 and at Clayton, NC in 1995. Weed infestations consisted of common lambsquarters, common ragweed, goosegrass, palmer amaranth, pitted morningglory, prickly sida, redroot pigweed, and tall morningglory.

The cotton cultivars BXN 58 and BXN 57 were planted in 1994 and 1995, respectively, into a no-till production system. The experimental design was a randomized complete block with a factorial arrangement of four EPOST and three PRE/LPD treatments with four replications. EPOST treatments were 1) no herbicide, 2) bromoxynil at 0.5 lb ai/A, 3) pyriithiobac sodium at 1.0 oz ae/A, or 4) fluometuron at 1.0 lb ai/A plus MSMA at 2 lb ae/A. PRE/LPD treatments were 1) pendimethalin at 1.0 lb ai/A applied PRE, 2) pendimethalin plus fluometuron at 1.0 plus 1.5 lb ai/A applied PRE, or 3) pendimethalin plus fluometuron followed by cyanazine at 1.0 lb ai/A plus MSMA at 2 lb/A. EPOST and LPD treatments were applied when cotton was 3 to 5 inches and 8 to 12 inches tall, respectively. A nonionic surfactant at 0.25% (v/v) was included with all POST herbicide treatments except bromoxynil.

Herbicide systems containing bromoxynil or fluometuron plus MSMA controlled common lambsquarters and common ragweed 99%. Pyriithiobac sodium controlled both species poorly. Amaranthus species were controlled at least 86% with herbicide systems containing pyriithiobac sodium or fluometuron plus MSMA. Bromoxynil was less effective in controlling Amaranthus species. Fluometuron plus MSMA was the most effective EPOST treatment in controlling goosegrass and tall morningglory, while bromoxynil was more effective than pyriithiobac sodium in controlling tall morningglory. All herbicide systems containing early POST herbicides controlled prickly sida and pitted morningglory similarly at 88 to 99%. Yields

were greater in herbicide systems containing bromoxynil or fluometuron plus MSMA at Rocky Mount in 1994; plots containing pyriithiobac sodium could not be harvested due to weed infestations. Herbicide systems containing fluometuron plus MSMA compared with bromoxynil or pyriithiobac sodium produced higher yields at both locations in 1995 primarily due to the inability of bromoxynil and pyriithiobac sodium to control goosegrass.

