

**WEED MANAGEMENT CHALLENGES
IN UNR COTTON**

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and/or for proper labeling to allow for reduced rates for late-season weed control.

Abstract

The primary weed control challenge in UNR cotton is to economically eliminate weed interference. Unlike wide-row cotton, cultivation, directed or hooded herbicide application, and band-over-the-row application of PRE herbicides are not practical in UNR. However, earlier canopy closure affords greater crop competition in UNR. The key weed problems encountered have been similar in the two systems. However, there are fewer late-season options to control weeds that escape early-season control. Pigweeds (*Amaranth* sp.), common cocklebur (*Xanthium strumarium*), and sicklepod (*Senna obtusifolia*), spurges (*Euphorbia* sp.), prickly sida (*Sida spinosa*), redvine (*Brunnichia ovata*), morningglories (*Ipomoea* sp), and honeyvine milkweed (*Ampelamus albidus*) have been serious late-season problems in Tennessee. The latter three species with their viney growth habit are not highly competitive, but pose special harvesting problems by entangling with finger-stripper parts. Species with branching growth habit (cocklebur, sicklepod) are both competitive and contribute to foreign matter, including bark, in the harvested lint. For early-season control of both monocot and dicot species, Roundup Ultra (glyphosate) has been the most efficacious, but can only be applied on Roundup Ready cotton. Buctril (bromoxynil) has been highly effective on cocklebur and morningglory, but pigweeds, sicklepod, and prickly sida are usually not controlled completely. Buctril use is restricted to BXN varieties and it does not control monocots. Staple (pyrithiobac) controls small pigweeds, cocklebur, and morningglories, but control of sicklepod, pitted morningglory, and prickly sida, is often incomplete, and monocots are seldom controlled adequately. Staple can be used on any upland variety. The most consistent program over the past three years of our research has been Roundup Ready cotton treated with Prowl (pendimethalin) and/or Cotoran/Meturon (fluometuron) prior to emergence followed by Roundup Ultra overtop at 1-to 2-leaf stage and again at the 3-to 4-leaf stage. Even salvage treatment beyond the 4-leaf stage had positive benefits where the damage from weed interference was greater than any adverse effects from the Roundup treatment itself. The trend was for low rates (≤ 1 pint) to be the most efficient outside the recommended application timing. There is still need for greater tolerance to Roundup after the 4-leaf stage