

**WEED MANAGEMENT IN CONVENTIONAL-
AND STRIP-TILLAGE ROUNDUP
READY™ COTTON**

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Abstract

Weed control programs in strip-tillage and conventional-tillage cotton production systems were compared in 1997 and 1998 at the Edisto Research and Education Center, Blackville, SC. Treatments were pendimethalin + fluometuron (0.75 + 1.75 lb ai/ac, respectively) and pendimethalin + fomesafen (0.75 + 0.375 lb ai/ac, respectively) applied preemergence (PRE) followed by a postemergence (POST) application of glyphosate @ 0.75 ae/ac, and glyphosate @ 0.75 ae/ac applied POST with no soil-applied herbicide. PRE treatments were applied broadcast and in an 18-inch band. Paraquat + prometryn (0.47 + 1.2 lb ai/ac) was applied with a hooded sprayer to the entire test area 6 weeks after planting (WAP). Glyphosate (0.75 lb ae/ac) was applied to strip-tillage plots 2 weeks before planting and paraquat (0.47 ai/ac) + surfactant was applied at planting. With residual herbicides, Palmer amaranth (*Amaranthus palmeri*) was controlled 95 to 100% 6 WAP. Glyphosate applied POST with no PRE herbicide controlled Palmer amaranth 88 to 90% 6 WAP. Southern crabgrass (*Digitaria ciliaris*) was controlled 98 to 100% 6 WAP when residual herbicides were used. Glyphosate alone controlled southern crabgrass 95 to 99% 6 WAP. Palmer amaranth and southern crabgrass control was similar with broadcast and banded applications. When pendimethalin + fluometuron was broadcast, sicklepod was controlled 92% 6 WAP. Pendimethalin + fluometuron banded controlled sicklepod 95 and 90% in strip- and conventional-tillage respectively. Pendimethalin + fomesafen did not control sicklepod. Glyphosate applied POST without residual herbicides controlled sicklepod 85 and 91% with strip- and conventional-tillage, respectively. Weed control was generally similar with conventional-tillage compared to strip-tillage. Lint yields in 1998 (excluding the untreated check) averaged 531 and 385 lb/ac with strip- and conventional-tillage, respectively. However, lint yields with strip- and conventional-tillage were statistically similar for each herbicide treatment. Net income above weed management costs in 1998 averaged \$391 and \$269 /ac with strip- and conventional-tillage, respectively.