

WEED CONTROL IN GLUFOSINATE-TOLERANT COTTON
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Abstract

Crop tolerance and weed control in glufosinate-tolerant cotton were evaluated in four field trials established at the Pee Dee Research and Education Center, Florence, SC, and at an on-farm site in Horry County, SC. No crop injury was observed with up to three applications of Liberty. In Horry County, one application of Liberty at 24- to 40-oz/ac applied postemergence (POST) to 4-leaf cotton and weeds that were 2- to 4-inches tall controlled entireleaf morningglory, sicklepod, Florida beggarweed, and common lambsquarters 90 to 100% nine weeks after planting (WAP). Two POST applications of Liberty with and without a preemergence herbicide (Prowl, Cotoran, Prowl + Cotoran) provided 99 to 100% control of the broadleaf weeds present. The use of a PRE herbicide was not necessary to attain complete weed control.

In Florence, Liberty was applied POST to 4-leaf cotton and to weeds that were 2- to 3-inches (southern crabgrass, sicklepod, entireleaf morningglory) and 4- to 6-inches (Palmer amaranth) tall. When evaluated 1 week after application, southern crabgrass control was 85 to 96% with a single application of Liberty at 24- to 40-oz/ac. However, most of the southern crabgrass exhibited rapid recovery and regrowth, and poor control (7 to 15%) was observed 16 WAP. Two POST applications of Liberty at 32 oz/ac controlled southern crabgrass 99% 8 WAP, but control dropped to 72% 16 WAP. However, PRE applications of Prowl (2.4 pt/ac), Cotoran (1.25 qt/ac), or Prowl + Cotoran (2.4 pt + 1.25 qt/ac) followed by two POST applications of Liberty controlled southern crabgrass 100%.

Palmer amaranth control with a single POST application of Liberty at 24- to 40-oz/ac was generally inadequate and ranged from 47 to 77% 13 WAP. However, when Liberty was applied early, POST followed by mid-POST and a PRE herbicide was used, Palmer amaranth control was excellent (96 to 100%).

One POST application of Liberty controlled sicklepod and entireleaf morningglory 83 to 97% and 67 to 97%, respectively. Two POST applications of Liberty with and without a PRE herbicide controlled sicklepod 93 to 100% and entireleaf morningglory 97 to 100% 16 WAP.

NOTE: South Carolina was declared in an extreme-to-severe drought throughout most of the 2002 growing season. Subsequently, there was little or no weed emergence following the early-POST herbicide applications.