

WEED MANAGEMENT IN CENTRAL AND SOUTH TEXAS LIBERTY LINK® COTTON SYSTEMS
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Abstract

Weed management in today's farming industry continues to be an integral part of crop production. Herbicides that control annual and perennial grass and broadleaf weeds are valuable tools in cotton weed control. Liberty® (glufosinate-ammonium) is a non-selective herbicide that provides effective control against many annual grass and broadleaf weeds. Biotechnology has aided weed control through the development of genetically engineered crops such as cotton, corn, soybeans and rice which are tolerant to Liberty herbicide.

Test results from Liberty Link® cotton studies in Central and South Texas have shown that postemergence applications of Liberty provided effective control of grass and broadleaf weeds with little or no crop injury. Weeds evaluated included Johnsongrass (*Sorghum halapense*), Texas panicum (*Panicum ntexanum*), Palmer amaranth (*Amaranthus palmeri*), hophornbeam copperleaf (*Acalypha ostryifolia*) and sharppod morningglory (*Ipomoea trichocarpa*).

At the Corpus Christi site in South Texas, mid-post treatments of Liberty at 32 to 40 oz. of product per acre provided control in excess of 92% and 96% for Palmer amaranth and Texas panicum, respectively. The Stiles Farm experiment located in Central Texas employed mid-post applications of Liberty at 32 oz. product per acre which provided 88% or greater control of both Johnsongrass and Palmer amaranth. At the IMPACT Center site in the Burleson County, early-post treatments of Liberty at 32 oz. product per acre effectively controlled hophornbeam copperleaf at 100%, and provided sharppod morningglory control of 99%.

Weed control programs utilizing typical preemergence treatments in combination with postemergence treatments of Liberty were evaluated the Corpus Christi and Stiles Farm locations. Study results at Corpus Christi show that either multiple applications of Liberty or Liberty+soil applied herbicides were required for season-long control of Palmer amaranth and Texas panicum. Similarly, the Stiles Farm site required either multiple applications of Liberty or Liberty+soil applied herbicides for excellent control of Johnsongrass and Palmer amaranth.

The use of a non-selective herbicide such as Liberty aids in the management of weeds that have developed resistance to currently used herbicides, and in prevention of herbicide resistance development. Liberty tolerant cotton will provide cotton producers with an effective method for controlling grass and broadleaf weeds.