MIDSOUTH WEED MANAGEMENT SURVEY WITH EMPHASIS ON PALMER AMARANTH

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Abstract

A written weed management survey was sent to cotton consultants in Arkansas, Louisiana, Mississippi, and Tennessee in the fall of 2011. The survey contained four sections: 1) cotton weed control focus, 2) general weed management questions, 3) herbicide resistance, and 4) glyphosate-resistant Palmer amaranth. There were 56 valid responses to the survey, accounting for 559,150 of the 1,990,000 acres of cotton present in the four states. When asked to provide specific areas of weed management research that would aid cotton production, most respondents (33%) emphasized the need for additional research on residual herbicides. Specific comments generally centered around ways to improve activity or consistency of residual herbicides, especially on Palmer amaranth and reducing cotton injury caused by residual herbicides. Roundup Ready Flex cotton comprised 96% of the planted acres in 2011, with the remaining 4% planted to Liberty Link cotton. Of the acres planted to Roundup Ready Flex cotton, glyphosate alone was applied to 9.4% of this acreage. Eighty-three percent of the total cotton acreage received a residual herbicide at planting followed by in crop use of glyphosate. Cotton varieties containing the Widestrike trait were planted on approximately 500,000 acres in the four states; however, Tennessee was the predominant state to grow Widestrike cotton, with 76% of the state's acreage planted to these varieties. Widestrike cotton was planted on no more than 12% of the acreage in Arkansas, Louisiana, and Mississippi. Glufosinate was applied to 81% of the cotton acreage in the Midsouth containing the Widestrike trait. Averaged across the four states, Palmer amaranth was the most problematic weed of cotton. All of the responding consultants in Arkansas, Mississippi, and Tennessee had herbicide-resistant weeds on the cotton farms they scout. When specifically asked about concern with glyphosate-resistant Palmer amaranth, 87% of the consultants rated their concern as 'high' while the remainder deemed their concern to be 'moderate'. The percentage of the cotton acres infested with glyphosate-resistant Palmer amaranth was 87% in Arkansas, 13% in Louisiana, 63% in Mississippi, and 77% in Tennessee, for a total of 1.3 million acres infested in these four states. Most consultants (>50%) in Arkansas, Mississippi, and Tennessee reported that tillage had increased in their respective states as a result of glyphosate-resistant Palmer amaranth. In Arkansas, 52% of the cotton acres were hand weeded for Palmer amaranth in 2011 at an average cost of $29.43/acre, which equates to $9.9 million spent on hand removal of this weed. Several consultants in Arkansas had growers that spent an average of $150/acre to hand remove Palmer amaranth, a testament to the impact of this one weed on cotton production in the Mid-South.