EVALUATION OF DUAL MAGNUM, WARRANT, AND ZIDUA PREEMERGENCE IN ARKANSAS COTTON

R. Doherty
T. Barber
L. Collie
J. Meier
University of Arkansas
Rohwer, AR

Abstract

One trial was established in Rohwer, AR, on the Southeast Research and Extension Center in a Hebert silt loam soil in 2012 and 2013 to evaluate crop response, Palmer amaranth, and barnyardgrass control in cotton. The trial was arranged in a randomized complete block design with four replications. Parameters evaluated were visual ratings of crop injury, Palmer amaranth, and barnyardgrass control and cotton yield. The objective was to evaluate Dual Magnum, Warrant, and Zidua preemergence in Arkansas cotton for crop response and weed control. Each herbicide was evaluated at the ½, ¾, 1, and 2x use rate.

In 2012, visual cotton injury was not caused by any treatment. In 2013 no occurrence of cotton chlorosis or necrosis was recorded, but stunting did occur. Zidua was the only herbicide that caused visual stunting. Zidua at 4 oz/A or 2x rate caused the most injury at 16% plant height reduction.

In 2012, twenty-five days after treatment (DAT) barnyardgrass control was above 76% with all herbicides and rates. Warrant provided less barnyardgrass control than Dual Magnum or Zidua at all rates. In 2013 20 DAT the same trend occurred with Warrant being the weaker product on barnyardgrass control.

Palmer amaranth control 25 DAT in 2012 was above 81% with all herbicides and rates. In 2013, twenty DAT Warrant at 48 oz/a, Dual Magnum at 16 oz/A, and Zidua at 2 oz/A provided 55, 68, and 98% control of Palmer amaranth respectively. Zidua provide the most consistent Palmer amaranth control across rates and across years.

In 2012 all treatments provided equal yields to that of the weed-free check except for Zidua at 2 oz/A which provided less. In 2013 all treatments provided cotton yield greater than the untreated check and equal to the weed-free check. In 2012 the highest yield numerically (3086 lb/A) was provided by Warrant at 96 oz/A. In 2013 the highest yield numerically (4134 lb/A) was provided by Dual Magnum at 32 oz/A.