EVALUATION OF SEQUENCE CS IN XTEND COTTON
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Abstract

Sequence is a premix of glyphosate and *S*-metolachlor, which provides both foliar systemic activity as well as residual activity. Sequence is only labeled for use in glyphosate-resistant crops. Currently, Sequence is labeled as an emulsion-in-water (EW) formulation; however, a capsuled suspension (CS) is under development. An experiment was conducted at the Northeast Research and Extension Center near Keiser, Arkansas in the summer of 2017 to compare the two formulations of Sequence and evaluation tank-mix options with Sequence in XtendFlex cotton. XtendFlex cotton was planted into conventionally tilled, raised beds at 55,000 seeds/A. Treatments of Sequence EW at 2.5 pt/A, Sequence CS at 3.1 pt/A, Sequence CS at 3.1 pt/A + XtendiMax at 22 fl oz/A, Sequence CS at 3.1 pt/A + Engenia at 12.8 fl oz/A, Sequence CS at 3.1 pt/A + Roundup PowerMax at 10 fl oz/A, and Sequence CS at 3.7 pt/A were applied three weeks after planting. Cotoran at 1 qt/A was applied to the test site at planting. Injury and Palmer amaranth control were assessed at 7, 14, 28, and 42 days after application (DAA). Treatments containing XtendiMax and Engenia showed the highest injury 7 DAA (12% and 8%, respectively). By 14 DAA no treatment had observable injury. The CS and EW formulations had similar control at 14 DAA (88% and 85%, respectively). By 28 DAA the CS formulation provided higher residual control than the EW formulation (68% and 40%, respectively). Treatments containing dicamba showed both higher initial control and residual control (>90%) up to 63 DAA. The improved control is likely due to dicamba activity on glyphosate-resistant Palmer amaranth. Overall, the CS formulation of Sequence has the potential to reduce the total number of passes needed for adequate weed control in a cotton herbicide program. Further research should focus on other tank-mix options for glyphosate-resistant Palmer amaranth control.