## CROP RESPONSE AND CONTROL OF PALMER AMARANTH IN HPPD-TOLERANT COTTON

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## Abstract

Palmer amaranth (*Amaranthus palmeri* S. Wats) is one of the most common troublesome weeds on the High Plains of Texas. Herbicide resistant Palmer amaranth leads to limited options to control this weed. New HPPD-tolerant cotton technologies from BASF could offer additional options to control weeds in cotton. The objective of this study was to evaluate Palmer amaranth control and crop response in HPPD-tolerant cotton systems using the herbicide isoxaflutole. In 2021, a field study was conducted at the Texas Tech University New Deal Research Farm to evaluate control of Palmer amaranth and crop response after preemergence and early postemergence applications of herbicide programs utilizing isoxaflutole. These isoxaflutole based programs were compared to locally appropriate cotton herbicide programs. Palmer amaranth control was greater than or equal to 92% 29 days after the preemergence application for all treatments that included isoxaflutole in the preemergence application. Palmer amaranth control was greater than or equal to 88% 28 days after the early postemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in the preemergence application for all treatments that included isoxaflutole in cotton production systems will aid in the management of troublesome weeds and provide a novel mode of action for herbicide-resistance management.