WEED MANAGEMENT IN CONVENTIONAL AND CONSERVATION TILLAGE SYSTEMS WITH BOLLGARD II XTENDFLEX COTTON

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Abstract

The registration of XtendiMax® with VaporGrip® Technology herbicide for use in Bollgard II® XtendFlex® cotton provides a new option for control of troublesome weeds including glyphosate-resistant Palmer amaranth (*Amaranthus palmeri*). XtendiMax can be applied as an early preplant burndown (EPP), preemergence (PRE), or postemergence treatment (EPOST, MPOST). Information is needed to determine most effective uses of XtendiMax as part of an overall weed management system, in both conventional and conservation tillage. A field study was conducted in 2017 at Lubbock to evaluate residual herbicides and XtendiMax for both preplant and in-season weed control. Control of Russian thistle (*Salsola tragus*), kochia (*Kochia scoparia*), and Palmer amaranth was evaluated. The objective of the study was to determine effective herbicide programs using XtendiMax with VaporGrip Technology in both conventional and conservation tillage systems in Bollgard II XtendFlex cotton. Applications were made using a CO_2-pressurized backpack sprayer at a volume of 15 gallons per acre. Dicamba treatments were sprayed with Turbo TeeJet Induction 11002 nozzles with an appropriate drift reducing agent. The non-dicamba treatments were applied using Turbo TeeJet 11002 nozzles. Trifluralin preplant incorporated (PPI) controlled all weeds greater than 90% at planting. At 14 days after planting (DAP), trifluralin PPI fb Caparol PRE was more effective than either herbicide alone. Roundup + XtendiMax + Rowel controlled all weeds greater than 88% at planting in conservation tillage. Gramoxone and Caparol PRE following this EPP treatment controlled all weeds greater than 99% at 14 DAP. With conventional tillage, PPI fb PRE treatments fb Roundup + XtendiMax fb Roundup + XtendiMax + Warrant controlled Palmer amaranth 95% season-long. With conservation tillage, the same in-season treatments controlled Palmer amaranth 98%, and these herbicide systems resulted in highest lint yields in both tillage systems.