

**PALMER AMARANTH MANAGEMENT WITH PRE HERBICIDES ALONE OR IN COMBINATION
WITH DICAMBA****C. D. R. White****J. W. Keeling****Texas A&M Agrilife Research****Lubbock, TX****P.A. Dotray****Texas A&M Agrilife Research and Extension****Lubbock, TX****J. Bell****K. Heflin****Texas A&M Agrilife Extension****Amarillo, TX****Abstract**

Dicamba-tolerant cotton varieties have been widely planted across the Texas High Plains. Using soil active, preemergent herbicides at planting is an important part of integrated weed management systems, especially when managing glyphosate-resistant Palmer amaranth (*Amaranthus palmeri* S. Wats). Dicamba is effective as a postemergence herbicide and could have value when combined with traditional preemergence (PRE) herbicides. Three trials were conducting in 2021 at Lubbock, Halfway, and Bushland, Texas to compare standard PRE treatments alone or in combination with dicamba. Applications were made using a CO₂-pressurized backpack sprayer calibrated to deliver 140 L ha⁻¹ with TurboTeeJet 11002 nozzles. Palmer amaranth control 21 days after planting (DAP) was >70% using all PRE herbicides alone and was similar across all treatments at both Lubbock and Bushland. At Halfway, Caparol alone was less effective than the other three herbicides. At 35 DAP, similar control was achieved at both Lubbock and Bushland, while Cotoran had the greatest control at Halfway. When tank-mixing XtendiMax herbicide with PRE herbicides, control was not improved at 21 or 35 DAP at Lubbock or Bushland. At Halfway, tank-mixing dicamba with Caparol improved control of Palmer amaranth when compared to Caparol alone. These results indicate that XtendiMax is an extremely effective postemergence herbicide for Palmer amaranth control, but no consistent improvement in control was observed when tank-mixed with traditional PRE herbicides in cotton.