

**EFFECTS OF SOIL TEXTURE ON COTTON RESPONSE TO PREEMERGENCE APPLICATIONS OF
OUTLOOK HERBICIDE****J. L. Spradley****C. D. R. White****K. R. Russell****J. W. Keeling****P. A. Dotray****Texas A&M Agrilife Research****Lubbock, TX****Abstract**

The increasing problems with glyphosate-resistant Palmer amaranth (*Amaranthus palmeri*) have renewed interest in preemergence (PRE) herbicides as part of an overall weed management system. Concerns about crop response to PRE applications exist, especially on coarse-textured soils. Outlook (dimethenamid-P) herbicide is now registered for postemergence (POST) applications in cotton. Field studies were conducted in 2017 to evaluate PRE use of Outlook in cotton under weed-free conditions. The objective of these studies was to determine cotton response to Outlook herbicide applied PRE at varying rates, alone or in combination with Prowl H₂O at four locations in the Texas High Plains with varying soil textures and irrigation methods. The Lamesa location was an Amarillo fine sandy loam soil and irrigated by center pivot, while the Lubbock location was an Acuff loam soil and furrow irrigated. Both the New Deal and Halfway locations were Pullman clay loam soils and irrigated by subsurface drip and center pivot, respectively. Treatments included Warrant at 48 and 96 oz./A, Outlook at 10, 20, and 30 oz./A, and a tank-mix of Outlook + Prowl H₂O at 10 + 32 oz./A. Treatments were applied at planting at a volume of 15 gallons per acre with Turbo TeeJet 11002 nozzles. At Lamesa, Outlook at rates above 10 oz./A injured cotton 20-30% (stand loss, stunting) at 21 days after planting (DAP). This injury declined as the season progressed, but was still evident at 42 DAP. At Lubbock, no treatment affected plant stand, but some stunting was observed with Outlook at 30 oz./A and Warrant at 96 oz./A (2X rate). At the New Deal and Halfway locations, no stand loss or visual injury was observed with any rate of Outlook or Warrant. Cotton lint yield was not reduced by any treatment at any location. Although injury was not seen at all locations, other trials would suggest that because of crop response concerns, Outlook can more effectively and safely be used POST in combination with glyphosate, glufosinate, or approved dicamba or 2,4-D formulations.