## **INTEGRATING ALITE 27 WITH VARIOUS RESIDUAL COTTON HERBICIDES**

Jennifer L. Dudak Zachary R. Treadway Todd A. Baughman **Oklahoma State University** Ardmore, OK L. Tom Barber University of Arkansas-Extension Lonoke, AR Charlie W. Cahoon North Carolina State University Raleigh, NC Justin S. Calhoun J. Conner Ferguson **Mississippi State University** Starkville, MS A. Stanley Culpepper University of Georgia Tifton, GA Peter A. Dotrav Maxwell E. Smith **Texas Tech University** Lubbock, TX J. Wayne Keeling **Texas A&M AgriLife Research** Lubbock, TX Michael W. Marshall **Clemson University – Edisto REC** Blackville, SC **Reagan L. Noland** Texas A&M AgriLife Extension San Angelo, TX Scott A. Nolte **Texas A&M AgriLife Extension College Station, TX** Larry E. Steckel **University of Tennessee** Jackson, TN **Daniel O. Stephenson IV** Louisiana State University Alexandria, LA Adam C. Hixson BASF Lubbock, TX

## <u>Abstract</u>

The application of preemergence (PRE) herbicides is a critical tool for early season weed management. The persistence of herbicide resistant weeds, including Palmer amaranth, make it challenging to achieve this goal. The introduction of new herbicide tolerance genes provides another option to overcome these issues. This research was conducted to evaluate PRE combinations of Alite 27 (isoxaflutole) with Sinister/Reflex/Brake, Direx/Cotoran/Caparol, Prowl H20, or Warrant as a potential weed management tool in cotton. Trials were established across the cotton belt during the 2021 growing season. Locations included Altus, Bixby, and Fort Cobb, OK; Ideal and TyTy, GA; Clayton and Rocky Mount, NC; San Angelo and Lubbock, TX; Tillar, AR, Alexandria, LA, Starkville, MS, Blackville, SC, and Jackson, TN. All treatments were applied PRE to bare ground. Weed control ratings were collected at approximately 2 and 4-8 weeks after application (WAA). Broadleaf signalgrass control was less than 90% with all treatments at Starkville,

MS. Palmer amaranth control was evaluated at all locations except Starkville. Treatments included Alite 27 (2 fl oz/A) and Alite 27 (3 fl oz/A) applied alone and in 2-way combinations with Prowl H2O (32 fl oz/A), Warrant (32-48 fl oz/A), Sinister/Reflex/Brake(11.2/16-17/16 fl oz/A), or Direx/Cotoran/Caparol (16-24/24-32/32 fl oz/A). At 2 weeks after treatment, Palmer amaranth control was similar with Alite 27 at 2 or 3 fl oz /A except at South Carolina and Ideal, GA (13 of 15 locations). Alite 27 2 fl oz/A tank mixes were among the top treatments, except at South Carolina (+ Direx) and Tennessee (+ Prowl H2O).