

RESIDUAL HERBICIDES AND ENGENIA™ EFFICACY IN BOLLGARD II XTENDFLEX™ COTTON**J. W. Keeling****J. D. Reed****J. L. Spradley****C. J. Webb****M. R. Sutherland****Texas A&M Agrilife Research****Lubbock, TX****Abstract**

Engenia™, a new dicamba formulation (BAMPA) is under development by BASF for use in Bollgard II Xtendflex™ cotton. Engenia™ applied in Bollgard II Xtendflex™ cotton could improve control of Palmer amaranth, morningglory, Russian thistle, kochia, field bindweed, woollyleaf bursage, and Texas blueweed compared to Roundup PowerMax (RUPM) applied alone. Emerging glyphosate-resistant Palmer amaranth populations could also be effectively managed. Field studies were conducted in 2013 at three locations on the Texas High Plains to evaluate Palmer amaranth, devil's-claw, and Russian thistle control with Engenia™ and residual herbicides including Prowl H2O and Outlook.

The objectives of this study were to evaluate Palmer amaranth, Russian thistle, and devil's-claw control with Engenia™ applied pre- or postemergence in Bollgard II Xtendflex™ cotton. Efficacy of Prowl H2O applied preplant incorporated (PPI) or preemergence (PRE) and Outlook postemergence (POST) with Engenia™ for residual weed control was determined.

Field trials conducted near Lubbock, Seagraves, and Halfway, TX in 2013 compared Prowl alone and Prowl + Engenia (PRE) fb Roundup Powermax (RUPM) alone, RUPM + Engenia, or RUPM + Engenia + Outlook mid-postemergence (MPOST). POST only treatments include RUPM + Outlook, RUPM + Outlook + Engenia, RUPM + Engenia, or RUPM only. Treatments were applied using a CO₂-pressurized backpack sprayer calibrated to deliver 15 gallons per acre. Weed control was estimated visually 17-21 and 60 DAP at each location.

Due to limited rainfall at Lubbock, early-season Palmer amaranth control 17 days after planting (DAP) was not improved when Engenia™ was applied PRE following Prowl PPI. Palmer amaranth and Russian thistle control was improved 17 DAP when sprinkler irrigation was applied after Engenia™ PRE applications at the other locations. RUPM + Engenia™ treatments, alone or in combination with Prowl or Outlook, controlled all weed species 95 to 100% 60 DAP at Lubbock. RUPM + Engenia™ POST, when used in combination with either Prowl or Outlook, controlled Palmer amaranth 100% 60 DAP at Halfway. All RUPM + Engenia™ treatments controlled Russian thistle 100% 60 DAP at Seagraves.