

PRE- AND POSTEMERGENCE WEED MANAGEMENT IN COTTON WITH REFLEX**J.W. Keeling****J.D. Reed****D.M. Petty****Texas AgriLife Research****Lubbock, TX****Abstract**

Reflex (fomasafer) was registered in cotton in 2006. Due to rotational crop concerns, Reflex was not registered for pre- or postemergence use in West Texas Cotton. However, Reflex is registered as a fall or spring applied spot treatment for suppression of woollyleaf bursage (*Ambrosia grayi*). Three field trials were conducted in 2007 and 2008 near Lubbock, Texas to 1) compare Reflex preemergence (PRE) alone or in combination with Caparol for Palmer amaranth (*Amaranthus palmeri*) control; 2) evaluate Reflex and Prefix applied alone or tank-mixed with glyphosate for Palmer amaranth control; and 3) to determine woollyleaf bursage control with spring and fall applications of Reflex. PRE treatments included Caparol (1.2 lb ai/A), Reflex (0.125, 0.188 and 0.25 lb ai/A), and Caparol + Reflex (1.2 + 0.125, 1.2 + 0.18 and 1.2 + 0.25 lb ai/A) and were applied at planting (May 7, 2007 and May 21, 2008). Control was evaluated at 36 and 66 days after planting (DAP) in 2007 and at 14 and 59 DAP in 2008. Reflex and Prefix (Reflex and Dual) were applied PDIR alone or in combination with glyphosate to 1-2" tall Palmer amaranth in 12-14 node cotton on July 23, 2008. Reflex was applied at 0.25 and 0.38 lb/A while Prefix was applied at 1.32 and 1.76 lb/A. Treatments were applied with a PDIR backpack system at a rate of 10 gallons per acre. Control was evaluated 7, 14, and 42 days after treatment (DAT). To determine woollyleaf bursage control, Reflex was applied PRE at planting at 0.38 and 0.75 lb ai/A and 0.38 + glyphosate as needed during the growing season. The Reflex treatments were compared to a glyphosate only system. Another treatment included a fall application of Reflex (0.38 lb ai/A) on October 23, 2007 followed by a spring application of Reflex (0.38 lb ai/A) on June 3, 2008. Treatments were applied with a tractor or backpack at a rate of 10 gallons per acre. Control was evaluated on June 22 and August 17, 2007 and June 23 and July 23, 2008.

Reflex alone or tank-mixed with Caparol PRE improved Palmer amaranth control compared to Caparol alone in 2007. In 2008, Caparol + Reflex was more effective than either herbicide alone. When tank-mixed with Touchdown, similar Palmer amaranth control was achieved with Reflex or Prefix applied PDIR. When applied alone, more effective control was achieved with Prefix. Reflex controlled woollyleaf bursage greater than 85% when applied PRE in 2007, with improved control at the 0.75 lb ai/A rate. When these treatments were evaluated in 2008, woollyleaf bursage control exceeded 90% compared to 50-70% with Touchdown alone. No crop injury was observed with Reflex PRE or PDIR at rates up to 0.25 lb/a. Higher rates (0.38 – 0.75 lb/a) applied for woollyleaf bursage control did cause slight (5-10%) cotton injury, but did not affect yields.