

UTILITY OF COTORAN, DUAL MAGNUM, AND WARRANT IN TWO-PASS ENLIST WEED MANAGEMENT PROGRAMS WITH ENLIST ONE AND LIBERTY**D. K. Miller****M. S. Mathews****LSU AgCenter Northeast Research Station****St. Joseph, LA****Abstract**

Field studies were conducted in 2020 at the LSU AgCenter Northeast Research Station near St. Joseph, La to evaluate weed management and cotton yield following low herbicide input in Enlist cotton with Enlist One and Liberty. The study was conducted in a randomized complete block design with treatments replicated four times. Treatments include Cotoran (1.5 pt/A) or Dual Magnum (1.3 pt/A) applied preemergence (PRE) followed by (fb) Enlist One (32 oz/A0 plus Liberty (22 oz/A) at 3 to 4 or 6 to 8 leaf (lf) cotton, Dual Magnum or Warrant (48 oz/A) plus Liberty at 2 to 3 lf fb Enlist one plus Liberty at 6 to 8 lf, Enlist One plus Liberty at 3 to 4 lf fb Liberty at 6 to 8 lf, and Dual Magnum plus Cotoran PRE fb Enlist One plus liberty at 3 to 4 lf fb Liberty at 6 to 8 lf fb Liberty at 12 to 14 lf. Parameters measured included visual percent injury at 25 and 35 d after planting (DAP), percent weed control at 63 DAP, and seed-cotton yield.

At 25 d after planting and 2 d after the 3 to 4 lf application, cotton injury ranged from 2 to 10% with only minimal differences between treatments. Injury observed was strictly from EPOST application and not from at planting treatments. Injury range observed from later 6 to 8 lf application was similar to that observed following early POST application. At 35 d after planting and 12 d after the 3 to 4 lf application, cotton was recovering fully from earlier injury and was no greater than 3% for any treatment. Injury recovery from later 6 to 8 lf application again was similar to that observed following early POST application.

At 63 d after planting and 14 d after the 12 to 14 lf application, with the exceptions of browntop millet control with Dual Magnum PRE fb Enlist One plus Liberty applied to 3 to 4 lf cotton (76% control) and Enlist One plus Liberty applied to 2 to 3 lf cotton fb Liberty at 6 to 8 lf (81% control), all treatments provided at least 90% control of weeds evaluated.

Yield differences were not noted among residual components in various programs. The weed management program including a full complement of applications throughout the growing season resulted in a seed-cotton yield of 3605 lb/A. Reduced input 2-pass weed management programs resulted in equal seed-cotton yield ranging from 3204 to 3951 lb/A. Reduced input 2-pass weed management programs applied prior to 9 lf cotton resulted in similar yield to the more intensive program consisting of multiple applications.