

IMPACT OF APPLICATION TIMING OF DUAL MAGNUM, WARRANT, AND OUTLOOK ON WEED MANAGEMENT AND CROP TOLERANCE IN TWO-PASS WEED MANAGEMENT PROGRAMS IN XTEND COTTON

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Abstract

Field studies were conducted in 2020 at the LSU AgCenter Northeast Research Station near St. Joseph, La to evaluate optimum residual herbicide timing in low input two-pass weed management programs in Xtend cotton. A four-replication factorial arrangement of treatments was used and included residual herbicide (Factor A: Dual Magnum @ 1.3 pt/A; Warrant @ 48 oz/A; or Outlook @ 14 oz/A) and residual herbicide application timing (residual herbicide PRE followed by (fb) Roundup Powermax plus Xtendimax both @ 22 oz/A (combo) at 4 to 5 leaf (lf) cotton; residual herbicide postemergence plus Roundup Powermax at 2 to 3 lf fb combo at 6 to 8 lf; or combo at 2 to 3 lf fb Roundup Powermax plus residual herbicide at 6 to 8 lf). Parameters measured included visual % injury 25 d after planting (DAP), % weed control 63 DAP, and seed-cotton yield.

At 25 DAP and 10 d after the 2 to 3 lf application and 3 d after the 6 to 8 lf application, averaged across residual herbicide application timing, crop injury ranged from 11 to 14% with no differences noted between residual herbicides. By 48 DAP, cotton plants had fully recovered from early season injury. Averaged across residual herbicide, crop injury was greatest at the 2 to 3 lf timing (21%) and lowest at the PRE timing (6%). The 6 to 8 lf application timing resulted in 11% injury. By 48 DAP, cotton plants had fully recovered from early season injury.

At 63 DAP, averaged across residual herbicide application timing, all weeds were controlled at least 96% regardless of residual herbicide applied. Averaged across residual herbicide, all weeds were controlled at least 94% regardless of residual herbicide application timing.

Averaged across residual herbicide application timing, seed-cotton yield ranged from 2919 to 3458 lb/A with no differences noted between residual herbicides applied. Averaged across residual herbicide, seed-cotton yield ranged from 2899 to 3155 lb/A with no differences noted between residual herbicide application timing.