

GLYPHOSATE EFFICACY AS AFFECTED BY CO-APPLICATION WITH ZINC PRODUCTS**Derek M. Scroggs****LSU AgCenter, Dean Lee Research Station****Alexandria, LA****Michael M. Kenty****Helena Chemical Company****Collierville, TN****A. B. Curry****Helena Chemical Company****Brandon, MS****Abstract**

Research was conducted in 2007 at the Dean Lee Research and Extension Center in Alexandria, La, to evaluate the response of weeds to co-applications of glyphosate and selected zinc products. Treatments included glyphosate (Roundup WeatherMax[®] = RWM) alone @ 22 oz/A plus the following tank-mix partners: + TraFix[®] Zn (citric acid + glucoheptonate) @ 16 oz/A, + TraFix[®] Zn @ 32 oz/A, + Ele-Max[®] Zn (nutrient concentrate EDTA) @ 32 oz/A, + Liberal Zn (EDTA) @ 0.94 lb/A, + Liberal Zn @ 1.88 lb/A, + TraFix[®] Zn @ 16 oz/A + CoRoN[®] (25-0-0) @ 32 oz/A. A non-treated control (UTC) was also included in the study. Treatments were applied with a tractor mounted compressed air sprayer at 15 GPA. Experimental design was a randomized complete block replicated three times. Visual assessment of weed control was estimated at 7, 14, and 28 days after treatment (DAT). Additionally, cotton plant height was recorded at 35 DAT and plots were harvested using a spindle picker with weighing system and yield was determined as lb seed cotton/A. Data were subjected to analysis of variance and means were separated using Tukey's HSD at the 0.05 level of probability.

At 7 DAT, weed control from glyphosate alone for all weeds evaluated ranged from 95 to 96%. Weed control from all other treatments were similar to glyphosate alone, except for glyphosate plus TraFix[®] Zn @ 32 oz/a. This treatment resulted in 85, 88, 88, and 88% control of Palmer amaranth, barnyardgrass, browntop millet, and johnsongrass, respectively.

At 14 DAT, weed control from glyphosate alone resulted in 97, 95, 95, and 97% control of Palmer amaranth, barnyardgrass, browntop millet, and johnsongrass, respectively. All other treatments resulted in similar control compared to glyphosate alone except for glyphosate plus TraFix[®] Zn @ 32 oz/a. This treatment resulted in a reduction of control for Palmer amaranth, barnyardgrass, browntop millet, and johnsongrass of 34, 32, 32, and 29%, respectively.

At 28 DAT, results were very similar to the previous rating intervals (7 and 14 DAT). Glyphosate alone controlled all weeds from 80 to 88%. The only treatment that showed less control was glyphosate plus TraFix[®] Zn @ 32 oz/a which resulted in an average weed control reduction of 21% for all weeds. Cotton plant height was similar for all treatments, and all treatments resulted in cotton plant height greater than the UTC. Seed/cotton yield was also similar for all treatments and all treatments yielded higher than the UTC.

Results indicate that growers should use EDTA chelated zinc products when a need arises to apply with glyphosate. In this study, Trafix[®] Zn @ 32 oz/A compromised the efficacy of glyphosate, which would be expected since it isn't an EDTA chelated product. However, the EDTA chelated zinc products, ENC @ 32 oz/A and Librel Zn @ 0.94 lb/A or 1.88 lb/A, applied with glyphosate did not compromise weed control. Therefore, growers needing to apply a zinc product with glyphosate need to select an EDTA chelated zinc product to eliminate the chance for compromised weed control.