

**COTTON AND WEED RESPONSE TO PROPAZINE/GLYPHOSATE POSTEMERGENCE
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Roundup Ready Flex cultivars were planted on 45% of the cotton acres grown on the Texas Southern High Plains in 2007. Because of the widespread adoption of these cultivars and the continuous use of glyphosate-only herbicide programs, populations of glyphosate-resistant Palmer amaranth have been identified in several states. Previous research conducted on the Texas Southern High Plains has evaluated different residual herbicides for improved Palmer amaranth and ivyleaf morningglory control. Although not currently labeled for use in cotton, propazine in combination with glyphosate would make a valuable tank-mix for cotton producers.

The objectives of this study were to evaluate postemergence (POST) applications of glyphosate alone or in combination with propazine for improved Palmer amaranth and ivyleaf morningglory control, to compare POST application timings and propazine rates in combination with glyphosate in Roundup Ready Flex cotton, and to determine the effects of propazine alone and in combination with glyphosate on cotton growth and yield

All treatments received a base application of trifluralin (preplant incorporated) and this was used as the control. Glyphosate was applied alone at an early and mid POST timing. Glyphosate was applied alone or in combination with three different rates of propazine at an early or mid POST timing. Propazine rates ranged from 0.5 lb ai/A, 0.75 lb ai/A, and 1.0 lb ai/A. Percent weed control and cotton injury was assessed 7, 14, and 28 days after treatment. An end of season rating was also made on both Palmer amaranth and ivyleaf morningglory. There was no difference in Palmer amaranth control between the glyphosate applied alone and any of the propazine rates in combination with glyphosate. All of the Palmer amaranth ratings excluding the trifluralin-only treatment exhibited 100% control. The end of season rating for ivyleaf morningglory indicated no difference between the glyphosate alone and the glyphosate/propazine combinations. All treatments controlled ivyleaf morningglory greater than 85%. Some early-season leaf chlorosis was observed in the cotton tolerance study, but no injury was apparent by 28 days after treatment.

These results indicate that the addition of propazine to glyphosate POST did not improve end-of-season Palmer amaranth or ivyleaf morningglory control. Delaying the initial glyphosate POST application did not affect Palmer amaranth control; however, ivyleaf morningglory control was reduced. Early-season cotton injury (chlorosis) was observed with increased propazine rates, but this injury had no effect on yield.