

CONTROL OF PERENNIAL WEEDS IN REDUCED TILLAGE SYSTEMS IN THE SOUTHERN ROLLING PLAINS**D. R. Drake****Texas A&M AgriLife Extension Service****Dept. of Soil and Crop Science****Texas A&M University****San Angelo, TX****Abstract**

Reduced tillage and the adoption of glyphosate tolerant cotton (*Gossypium hirsutum*) varieties have resulted in a weed shift to certain perennial glyphosate tolerate weeds and with continued reliance on glyphosate alone have the potential to create conditions for further development of glyphosate resistant weeds in the US southern plains. New weed control strategies or the re-adoption of former weed control methods are needed to improve and prolong the benefits of reduced tillage and glyphosate tolerant crops. Emerging and re-emerging problem weeds in the US southern plains include: prickly pear (*Opuntia spp.*), mesquite (*Prosopis spp.*), Guara (*Guara spp.*), various native and introduced perennial grasses including: (*Chloris spp.*, *Tridens albescens*, *Nassella leucotricha*, *Bouteloua dactyloides*, *Schedonnardus paniculatus*) among others. Applied research trials established in 2010-2012 in Central Texas evaluated multiple herbicides and rates for efficacy and development of control recommendations for many of these species. Trials to fallow fields were established in the fall of 2010 to evaluate different rates of glyphosate and glyphosate mixed with broadleaf herbicides for the control of native and introduced perennial grasses and other weeds. A trial established in May 2011; pre-plant to strip-till cotton in a wheat (*Triticum aestivum*)/cotton rotation, compared rates and combinations of glyphosate, clethodim, and saflufenacil. A third trial to a fallow field evaluated rates and combinations of glyphosate, saflufenacil, fluroxypyr, and 2,4-D. High rates of glyphosate, one exceeding twice the normal use rate were included. Over all trials with higher rates of glyphosate and glyphosate mixtures provided reasonable control of many perennial grasses and weeds. However, no single treatment provided complete control and some grasses showed no response to several treatments including prickly pear, mesquite, and bluestem and tridens grasses. It is expected that multiple or additional treatments and/or tillage will be needed to control some of these species.