

EFFICACY OF RIMSULFURON AND ISOXAFLUTOLE MIXTURES FOR WEED CONTROL IN FIELD CORN. Susan K. Rick, Larry H. Hageman and Gregory R. Armel. Field Development Representative, Farm Manager and Product Development Specialist, DuPont Crop Protection. Wilmington, DE 19880.

Field studies were conducted in 2007 to evaluate postemergence control of emerged weeds and residual weed control with a tank mixture of rimsulfuron and isoxaflutole. Various ratios and rates of rimsulfuron plus isoxaflutole were evaluated for early season control of emerged weeds as well as residual control of summer annuals in reduced tillage systems or residual control in conventional tillage systems. The two way mixture was tested with or without atrazine and was compared to various competitive standards. Reduced rates of rimsulfuron, isoxaflutole plus atrazine were also evaluated as a setup program for in season glyphosate or glufosinate applications.

Mixtures of rimsulfuron and isoxaflutole gave excellent control of emerged giant ragweed, fleabane, henbit, deadnettle, Virginia pepperweed, corn gromwell, cressleaf groundsel, chickweed, buttercup and purslane speedwell. Downy brome and volunteer wheat control was greatest at higher rates. Adding atrazine to the tank mix improved control of star-of-Bethlehem, corn speedwell and annual bluegrass. Tank mixing with glyphosate also improved control of grass species and to a limited extent wild garlic, star-of-Bethlehem and corn speedwell. Rimsulfuron and isoxaflutole or atrazine mixtures tended to give quicker postemergence control than observed with rimsulfuron alone or with glyphosate. Residual control in no-till with the rimsulfuron plus isoxaflutole mixture was similar to the commercial mixture of mesotrione, metolachlor and atrazine (Lumax). The addition of atrazine to the tank slightly improved control of several broadleaf species especially nightshade but did not affect residual grass control.

In conventional tillage systems, three way mixtures with rimsulfuron, isoxaflutole and atrazine provided better control of velvetleaf, sandbur, smartweed and cocklebur than commercial formulations of acetochlor. The mix also provided better control of smartweed than Lumax. Control of species such as waterhemp, ragweeds, common lambsquarters and morningglory were similar to the standards. Reduced rates of the rimsulfuron, isoxaflutole plus atrazine used as a planned preemergence treatment prior to in crop applications of glyphosate or glufosinate provided similar control to commercial acetochlor plus atrazine premixtures followed by glyphosate program.