

CHARACTERIZATION AND PERFORMANCE OF AN ALTERNATE SALT FORMULATION OF GLYPHOSATE IN MIDWESTERN ENVIRONMENT. Jeffrey B. Taylor\*, Jeffrey A. Koscelny, Joseph J. Sandbrink, David C. Heering and Paul G. Ratliff, Technology Development Manager, Roundup Technical Manager, Roundup Technical Manager, Roundup Technical Manager, and Research Biologist, Monsanto Company, St. Louis, MO 63167.

The introduction of glyphosate-tolerant crops has led to the increased use of glyphosate herbicides for broad-spectrum weed control. In recent surveys, growers have indicated they have a need for continued innovation in glyphosate formulations. Growers continue to ask for complete formulations that are more concentrated and provide consistency of performance under a broad range of environmental conditions. In response to these needs, a new formulation of glyphosate has been developed. This new product is formulated as a potassium salt of glyphosate. Formulating glyphosate as a potassium salt offers various benefits such as higher glyphosate loading and lower viscosity, tangible benefits for the grower. Extensive research has been conducted in replicated greenhouse, growth chamber and field trials to evaluate the bioefficacy and glyphosate-tolerant crop safety of this new formulation. Bioefficacy has been evaluated in over 400 replicated field trials and over 50 replicated greenhouse/growth chamber trials. Applications made at labeled rates of this new glyphosate formulation provided excellent control (>90%) of the majority of weeds evaluated. Crop tolerance was also evaluated on glyphosate-tolerant canola, corn, cotton, soybeans and sugar beets at labeled and/or overlap rates. In addition to visual crop response evaluations, yield data was obtained for the majority of the trials. This new glyphosate formulation produced minimal or no affect on the foliage of the various crops tested and had no impact on yield.