

PLANT DISEASE CONTROL WITH GLYPHOSATE. Keith A. Kretzmer and Frank C. Kohn, Monsanto Company, 800 N. Lindbergh Blvd., St. Louis, MO 63167.

Field activity of glyphosate against wheat rusts was demonstrated on glyphosate tolerant wheat at University of Minnesota and Washington State University. Additional laboratory and field studies have confirmed glyphosate activity against Asian soybean rust (ASR), caused by *Phakopsora pachyrhizi*, in glyphosate-resistant soybeans. Disease spectrum evaluations have demonstrated glyphosate activity against other plant diseases besides ASR. Studies showed that glyphosate provides both preventive and curative activities against ASR. Application of glyphosate prior to rust inoculation delayed the onset of disease. Glyphosate also displayed curative activity when applied within 6 days after rust inoculation. ASR activity was attributed to systemic glyphosate that required plant absorption and translocation, and little to no activity was observed with the surfactant system in a commercial glyphosate formulation. Field studies with Roundup Agricultural Herbicide formulations have demonstrated reduction in ASR severity and increased yield compared to untreated controls. Our results indicate that glyphosate is active against ASR and could provide incremental disease control benefits in glyphosate-resistant soybeans.