

HERBICIDES FOR THE CONTROL OF GLYPHOSATE RESISTANT RYEGRASS. Marulak Simarmata<sup>\*</sup>, Jan Michael, Donald Penner, Michigan State University, East Lansing, MI 48824.

Management of herbicide resistant weeds management is a subject of current interest. Worldwide, rigid ryegrass has developed resistance to numerous herbicides. Thus far only glyphosate resistance has been observed in rigid ryegrass from California. Rigid ryegrass from this source has a target site basis for resistance to glyphosate. The resistant biotype differs from the sensitive due to nucleotide substitutions that result in amino acid changes in the ESPS sequence. The objective of this study was to determine whether the glyphosate resistant biotype we have studied in the past is also resistant to other herbicides which might be used for control of this species. Greenhouse experiments compared control obtained with quizalofop, rimsulfuron + thifensulfuron, glufosinate, and glyphosate on glyphosate resistant and glyphosate sensitive rigid ryegrass. Control obtained with the quizalofop, rimsulfuron + thifensulfuron, and glufosinate on the glyphosate resistant and sensitive biotypes was similar, indicating that the glyphosate-resistant biotype could be controlled by herbicides with modes of action represented by the herbicides tested.