

INVESTIGATING THE MOLECULAR BASIS FOR GLYPHOSATE RESISTANCE IN RIGID RYEGRASS AND GOOSEGRASS. Scott R. Baerson, Kenneth J. Gruys, Gerald M. Dill and Stephen O. Duke, Research Scientist, USDA-ARS, Oxford, MS 38677 and Monsanto Company, St. Louis, MO 63167.

The spontaneous occurrence of resistance to the herbicide glyphosate in weed species has been an extremely infrequent event, despite over 20 years of extensive use. Nevertheless, in recent years several apparent cases of evolved resistance have emerged, raising new possibilities regarding potential resistance mechanisms in weeds. Glyphosate-resistant rigid ryegrass and goosegrass represent the first two confirmed cases, and have been the most extensively studied at the molecular level. The results of detailed molecular and biochemical studies working with specific resistant biotypes of these species will be presented.