

RESISTANCE TO GLYPHOSATE AND ALS INHIBITORS IN INDIANA HORSEWEED BIOTYPES. Greg R. Kruger, Vince M. Davis, Valerie A. Mock, and William G. Johnson, Graduate Student, Research Associate, Graduate Student, and Associate Professor, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907.

Glyphosate resistant horseweed (GRH) has been found in 14 states including Indiana. In-field surveys conducted from 2003-2005 in Indiana found 26 counties with GRH. GRH was found to be prevalent in the southeastern region of Indiana. Horseweed populations resistant to ALS-inhibiting herbicides have also been reported in multiple states with Ohio reporting biotypes containing multiple glyphosate and ALS resistance. Previous experiments have also detected ALS resistant populations in selected Indiana horseweed populations. The objective of this experiment was to document the distribution of ALS resistance in horseweed biotypes across Indiana. During the in-field survey, horseweed populations were collected from random locations in 60 counties across the state, and screened for tolerance to chlorimuron and cloransulam-methyl with 1 oz ai ac⁻¹ and 0.9 oz ai ac⁻¹ respectively. Plants grown in the greenhouse were sprayed at 2.5 to 4 cm rosette widths and visual ratings on a 0 to 100 scale were collected 28 days after treatment. Resistant plants were defined as plants with visual rating less than 60% visual ratings. Approximately 20% of the populations were resistant to chlorimuron while approximately 10% of the populations were resistant to cloransulam-methyl.