

ABSORPTION AND TRANSLOCATION OF GLYPHOSATE AND CHLORIMURON IN A TANK-MIX. Rachel K. Bethke, Wesley J. Everman, Donald Penner. Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI.

Crops with traits for resistance to multiple herbicides provide the opportunity for farmers to control herbicide resistant weeds through tank-mixing. Past research has shown that unexpected interactions can occur when herbicides of different chemistries are mixed. Combinations of glyphosate and chlorimuron may cause unexpected interactions; a fast acting herbicide may reduce the absorption and translocation of a slow acting herbicide. The objective of this study was to evaluate the absorption and translocation of glyphosate and chlorimuron applied alone, and in combination on two annual weeds prevalent in Michigan, common lambsquarters and giant foxtail. Preliminary studies have shown that a negative interaction (antagonism) occurs when glyphosate and chlorimuron are applied together at a wide range of rates. ^{14}C -chlorimuron and ^{14}C -glyphosate were used to determine the cause of visually observable interaction. The absorption data showed that combining low rates of glyphosate with chlorimuron increased chlorimuron absorption. Similarly, low levels of chlorimuron increased glyphosate absorption. Current research is focused on explaining this anomaly.