

DELAYED WEED EMERGENCE AND ESCAPE FROM CONTROL IN GLYPHOSATE-TOLERANT SOYBEAN. Susan Hennen, Julio Scursoni, Frank Forcella, and Jeff Gunsolus; Teacher, Instructor, Research Agronomist, and Professor; St Mary's School, Morris, MN 56267; University of Buenos Aires, Argentina; USDA-ARS, Morris, MN 56267; and University of Minnesota, St Paul, MN 55108.

Delayed weed emergence may be an important factor governing the type of species and number of individual plants that escape control in cropping systems employing glyphosate-tolerant crops. We examined this possibility in field plots within the state-wide soybean herbicide trials conducted by the University of Minnesota Research and Outreach Centers at Lamberton, Morris, Potsdam, and Waseca (2 sites). Weed emergence was monitored periodically in weedy check plots, and end of season weed populations were assessed in the one-pass and two-pass glyphosate treatments. The number of escaped plants in the two-pass treatment was only a small fraction of those that escaped control in the one-pass treatment. Nevertheless, plants that escaped control typically belonged to species that had low cumulative relative emergence values at the time of glyphosate applications. Common lambsquarters (*Chenopodium album*) was the species that most often escaped control by glyphosate.