

CONTROL OF VOLUNTEER CORN IN HERBICIDE-RESISTANT CORN. Aaron G. Hager, Douglas J. Maxwell, James L. Moody, Loyd M. Wax, Matthew J. Foes, Daniel Zinck, Erica J. Parker, and Terry W. Semmel, Assistant Professor, Research Specialists, and Emeritus Professor, University of Illinois, Urbana, IL 61801 and Market Development Representatives, Monsanto, Rockford, IL 61109.

The number of acres planted with herbicide-resistant corn hybrids, with the concomitant use of glyphosate or glufosinate for weed control, has been increasing in Illinois during the past two years. Expectations are for this trend to continue into the foreseeable future. These herbicide-resistant hybrids may offer new opportunities to control weed species not effectively controlled by other commercially-available herbicides. Previous research has investigated the interference potential of volunteer corn in soybean and has identified herbicide options that control volunteer corn in soybean. However, little is known about the interference potential of volunteer corn growing with field corn or herbicide options for its control. The objective of this research was to determine the interference potential of volunteer corn and evaluate options for its control using a field corn hybrid with resistance to glyphosate and glufosinate. At the Urbana location, all postemergence treatments of either glufosinate or glyphosate provided 87 percent or greater control of volunteer corn regardless of application timing. At the Dekalb location, control of volunteer corn with glufosinate was improved when applications were made to 13- or 24-inch volunteer corn compared with 9-inch volunteer corn. By mid-July, control of volunteer corn with glufosinate was 90 to 92 percent from applications made to 13- or 24-inch volunteer corn, respectively, but only 29 percent when applied to 9-inch volunteer corn. Glyphosate provided complete control of volunteer corn. Corn yield was significantly reduced by interference of volunteer corn. Allowing volunteer corn to interfere the entire season reduced corn yield 42 percent at Urbana and 60 percent at Dekalb compared with the weed-free treatments.