

THE EFFECT OF VARIETY, PLANTING DATE, AND WEED HEIGHT ON WEED CONTROL AND GRAIN YIELD OF GLYPHOSATE-RESISTANT SOYBEAN. Ronald F. Krausz and Bryan G. Young, Researcher and Associate Professor, Department of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale, IL 62901.

Soybean producers routinely delay postemergence herbicide applications in glyphosate-resistant soybean to reduce glyphosate applications. Therefore, the objective of this research was to evaluate the effect of soybean variety, planting date, and weed height on weed control in glyphosate-resistant soybean. None of the herbicides caused soybean injury. Soil herbicides followed by glyphosate or glyphosate alone at 1.12 lb ae/A controlled fall panicum, giant foxtail, yellow nutsedge, common ragweed, common waterhemp, velvetleaf, ivyleaf morningglory, common cocklebur, and Pennsylvania smartweed, 93 to 100%, regardless of planting date or weed height. No sequential applications of glyphosate were required to maintain 90% or greater weed control through out the growing season. Weed competition did not reduce soybean height or maturity, regardless of variety or planting date. Within each planting date, in the hand-weeded plots, there were no differences in grain yield among varieties with yield ranging from 55 to 62 bu/A. Delayed-planting reduced grain yield 1 to 3 bu/A. Postponing the application of glyphosate until weeds were 20 to 25 inches tall consistently reduced soybean grain yield. Despite 90% or greater weed control with a single glyphosate application, grain yield was reduced an average of 7.5 bu/A or 13% across varieties and planting dates.