

EFFECT OF DELAYED GLYPHOSATE APPLICATIONS ON WEED CONTROL AND SOYBEAN YIELD IN LATE-PLANTED SOYBEAN. Ronald F. Krausz and Bryan G. Young, Researcher and Associate Professor, Department of Plant, Soil and General Agriculture, 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 delayed glyphosate applications on weed control and soybean grain yield in late-planted soybean. Sulfentrazone plus cloransulam applied preemergence followed by glyphosate postemergence controlled 98 to 100% of velvetleaf, common waterhemp, ivyleaf morningglory, yellow nutsedge, Palmer amaranth, giant foxtail, and common cocklebur. Glyphosate alone controlled 2- to 8- inch velvetleaf, 72 to 77%. Therefore, a sequential application of glyphosate was required to achieve 90% or greater velvetleaf control. A single glyphosate application provided 90 to 100% control of 8- to 36-inch velvetleaf, common waterhemp, ivyleaf morningglory, yellow nutsedge, Palmer amaranth, giant foxtail, and common cocklebur. Glyphosate controlled Palmer amaranth, giant foxtail, and common cocklebur, 100%, regardless of weed height. Weed competition did not reduce soybean height. Soybean maturity was delayed by seven days in the nontreated. Soybean grain yield ranged from 16 to 47 bu/A. The greatest yield was obtained where sulfentrazone plus cloransulam was applied preemergence followed by glyphosate postemergence. Yields were significantly reduced as the glyphosate application was delayed beyond the 8-inch weed height. Despite 90% or greater weed control with a single glyphosate application, yield reductions ranged from 8 to 26 bu/A.