

RESIDUAL AND NON-RESIDUAL HERBICIDE APPLICATION TIMING EFFECTS ON WEED CONTROL AND CORN YIELD. Wesley J. Everman, Andrew J. Chomas, and James J. Kells, Assistant Professor, Research Technician, and Professor, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824-1325.

Timing of weed control is an important consideration in any weed management program, and with the increased adoption of postemergence only herbicide programs in corn, greater importance is placed on application timing. Studies were established at the Michigan State University Agronomy Farm in East Lansing, MI each year from 2004 to 2008 to investigate the effects of herbicide application timing on weed control and yields in corn. Treatments were arranged in a randomized complete block with POST herbicide application timings based upon weed heights of 3, 6, and 9 inches. Herbicide treatments consisted of POST applications of glyphosate at 0.75 lb a.e./A or glufosinate at 0.42 lb a.e./A applied either alone or in combination with acetochlor at 1.4 lb a.i./A, as well as following PRE applications of acetochlor at 1.4 lb a.i./A. Weed control ratings were taken 2 and 4 weeks after the late POST with yields determined at the end of the season. Weed control was greatest where acetochlor was applied with glyphosate or glufosinate, regardless of timing. Excellent weed control was achieved when POST treatments were applied before weeds reached 9 inches in height. Yields decreased as herbicide application was delayed from a weed height of 3 inches to a weed height of 9 inches. These studies show the importance of timely herbicide applications and residual herbicides in a POST only weed management program to preserve yields.