WEED BEHAVIOR FOLLOWING LOSS OF APICAL DOMINANCE. Hank J. Mager, Bryan G. Young, John E. Preece, and Joseph L. Matthews, Graduate Research Assistant, Associate Professor, Professor, and Researcher, Southern Illinois University, Carbondale, IL 62901.

A possible result of a failed postemergence herbicide application is compensatory shoot growth from previously inhibited axillary buds following the death of the apical shoot. The objective of this research was to determine the efficacy of glyphosate and lactofen on ivyleaf morningglory, common waterhemp, and giant ragweed following the loss of apical dominance. Plants were grown in the greenhouse to a height of 15 cm at which time the apical shoots were removed by cutting just above the cotyledonary node. Clipped plants were allowed to regrow to 15 cm then were treated with lactofen or glyphosate. Herbicide treatments were also applied to intact plants that were 15 cm in height for comparison.

Weed response to herbicides following the loss of apical dominance varied by weed species and herbicide. Ivyleaf morningglory that regrew following the loss of apical dominance was more susceptible to glyphosate than intact plants. Conversely, intact ivyleaf morningglory plants were more susceptible to lactofen than clipped plants. There was little difference in response to glyphosate between clipped and intact common waterhemp plants. However, clipped common waterhemp plants were more sensitive to lactofen than intact plants. Following the loss of apical dominance, giant ragweed was less sensitive to both glyphosate and lactofen.

2003 North Central Weed Science Proceedings 58:83.