

EFFECT OF COMBINING ATRAZINE AND MESOTRIONE ON CARRYOVER INJURY IN VEGETABLES. Darren E. Robinson, Assistant Professor, Department of Plant Agriculture, University of Guelph, Ridgetown Campus, Ridgetown, ON, N0P 2C0.

Trials were established in 2003, 2004 and 2005 in Ontario to determine the effects of residues of mesotrione, atrazine and mesotrione plus atrazine one and two years after application on broccoli, carrot, cucumber, onion and potato. One year after mesotrione application, injury was 43%, 37%, 18%, 24% and 0% in broccoli, carrot, cucumber, onion, and potato, respectively. The addition of atrazine to mesotrione in the year before planting increased injury to 55%, 53%, 30%, 42% and 3% in broccoli, carrot, cucumber, onion and potato, respectively. Plant dry weight and yield were also decreased by mesotrione residues the year after application in all crops except potato. The addition of atrazine to mesotrione accentuated the reduction in dry weight and yield in broccoli, carrot, cucumber and onion. There was no injury, or reductions in dry weight or yield in any crop planted two years after application of mesotrione alone or in tank mix with atrazine. A recropping interval of two years is recommended following applications of mesotrione or mesotrione plus atrazine for broccoli, carrot, cucumber and onion. Potato can be safely planted the year following application of mesotrione plus atrazine.