

PRE AND POST EMERGENT EFFECTS OF HALOSULFURON ON CERTAIN CUCURBIT SPECIES. Carlos D. Mayén and Stephen C. Weller, Graduate Research Assistant and Professor, Horticulture Department, Purdue University, West Lafayette, IN 47906.

Studies were conducted in the field to determine the response of cucumber 'Calypso', muskmelon 'Eclipse', pumpkin 'Jack of All Trades', summer squash 'Revenue', winter squash 'Mesa Queen' and watermelon 'Sangria' to pre-emergent and post-emergent applications of halosulfuron-methyl. There were two pre-emergent rates for halosulfuron, 14 and 28 g/Ha ; two post-emergent rates, 14 and 18 g/Ha ; the combinations of pre and post emergent applications with the respective rates; and a combination of ethalfluralin and clomazone at 5.6 L/Ha as the control. A split-plot design with 3 replications was adopted to allocate the two factors under study.

As a pre-emergent application, the higher rate of halosulfuron-methyl gave excellent weed control for 3 weeks. Crop vigor was similar for the lower rate of halosulfuron and ethalfluralin/clomazone, with a trend towards greater vigor reduction on most crops at the higher rate of halosulfuron. As a post-emergent application at 3 weeks after planting, halosulfuron provided excellent control of ragweed and velvetleaf, similar to the pre and post emergent combination. Post-emergent treatments did result in reduced crop vigor at all rates, yet cucumbers and muskmelons were more tolerant. The injury symptoms were yellowing and crinkling in the new emerging leaves, and had disappeared by 2 weeks after the post-emergent treatment. Only two crops were taken to yield, one representative of low phytotoxicity (cucumber) and one representative of high phytotoxicity (summer squash). For cucumbers, even though there was initial phytotoxicity caused by halosulfuron, the injury did not result in a delayed or reduced yield. For summer squash, there was a delay in the onset of fruit maturity and some reduction in accumulated yield due to post-emergent applications.