

RESPONSE OF TOMATOES, SNAP BEANS AND MUSKMELON TO HALOSULFURON. Carlos D. Mayén and Stephen C. Weller, Graduate Research Assistant and Professor, Department of Horticulture and Landscape Architecture, Purdue University, West Lafayette, IN 47907-2010.

Studies were conducted in the field to determine the response of tomato '611', muskmelon 'Eclipse', and snap beans 'Bromo' to pre-emergent and post-emergent applications of halosulfuron-methyl. Halosulfuron-methyl was applied pre emergent in combination with the standard soil applied herbicide either 2 weeks prior to planting or immediately prior to planting or applied postemergent 4 weeks after the soil applications. The standard was metolachlor in tomatoes and snap beans, and clomazone plus ethalfluralin in muskmelon. There were two pre-emergent rates of halosulfuron-methyl of 14 and 28 g/Ha and three post emergence rates of 14, 18 and 28 g/Ha for tomatoes, and two preemergent and two postemergent rates of 14 and 18 g/Ha for muskmelon and snap beans. A randomized complete block plot design with 4 replications was used. As a 7 day, pre-emergent application, halosulfuron-methyl resulted in loss of vigor of tomatoes for 6 weeks but thereafter the vigor was equal to plants in the control. There was no vigor loss of tomatoes from the pre-plant or postemergent halosulfuron-methyl treatments. Snap beans showed no loss of vigor from any halosulfuron-methyl treatment and muskmelon showed only a short-term injury (2 weeks) from a post emergence application but no injury from preemergent applications. Loss of vigor was observed as smaller plants with no yellowing or leaf curling observed on any crop. Yields of all crops were similar regardless of halosulfuron-methyl treatment. Halosulfuron-methyl applied preemergent in all crops and at all rates gave excellent control of velvetleaf, giant ragweed and common lambsquarters for 6 weeks. Postemergent halosulfuron-methyl treatments did not control common lambsquarters as expected but did control giant ragweed and velvetleaf. Compared to the standard post emergence herbicides, halosulfuron-methyl performed equal to or better than metribuzin in tomatoes and fomesafen in snap beans.