

SAFLUFENACIL TOLERANCE IN VEGETABLES. Darren E. Robinson and Peter H. Sikkema, Assistant and Associate Professors, Department of Plant Agriculture, University of Guelph, Ridgetown Campus, Ridgetown, ON, N0P 2C0.

Trials were established in 2007 and 2008 in Ontario to determine the effect of saflufenacil applied pre-transplant to pepper, tomato, broccoli, cabbage and cauliflower and pre-emergent to potato. Saflufenacil was applied at rates of 25, 50 and 100 g a.i. ha⁻¹, and visual injury, plant dry weight at 42 days after emergence or transplanting, and marketable crop yield were measured under weed-free conditions. Saflufenacil caused commercially unacceptable (>10%) visual injury to broccoli and cauliflower at 100 g a.i. ha⁻¹, but injury was less than 10% at both 25 and 50 g a.i. ha⁻¹. Injury included stunting and leaf necrosis. Saflufenacil did not cause a reduction in dry weight, or head size of broccoli, cabbage or cauliflower, but cauliflower yield was reduced at the 100 g a.i. ha⁻¹ rate. Saflufenacil caused commercially unacceptable (>10%) visual injury, and reductions in dry weight of pepper and tomato at 50 and 100 g a.i. ha⁻¹. Despite these reductions in dry weight of both crops, only pepper yield was less than the untreated check at the 100 g a.i. ha⁻¹ rate of saflufenacil. Visual injury was less than 5% visual injury to potato, even at the 100 g a.i. ha⁻¹ rate of saflufenacil and plant dry weight and yield were not less than the untreated check in any of the herbicide treatments. Saflufenacil tolerance in cole crops may be sufficient to justify further evaluation at the lower rates studied in the trial, however there is limited information on varietal differences and environmental conditions, which may affect cole crop tolerance to the herbicide. Pepper and tomato showed little tolerance to pre-transplant applications of saflufenacil. Potato showed good tolerance at rates of saflufenacil from 25 to 100 g a.i. ha⁻¹, but again further study on different varieties, soil types and environments are needed to establish the crop's full range of tolerance to saflufenacil.