

IMPACT OF LATE HERBICIDE APPLICATIONS IN SOYBEAN. Nader Soltani<sup>1</sup>, Robert E. Nurse<sup>2</sup> and Peter H. Sikkema<sup>1</sup>. <sup>1</sup>Department of Plant Agriculture, University of Guelph Ridgetown Campus, Ridgetown, ON; <sup>2</sup>Greenhouse and Processing Crops Research Centre, Agriculture and Agri-Food Canada, Harrow, ON

Three field trials were conducted between 2007 and 2009 in Ontario to evaluate the response of soybean to various postemergence herbicides applied beyond their recommended application timing (five trifoliolate to early flowering growth stage). The application of glyphosate as a single (1X) and overlap (2X) application caused no injury in soybean. There was no decrease in plant height. Yield was reduced by 3% at the overlap rate. Imazethapyr caused 4 to 15% injury and decreased height and yield up to 11%. Chlorimuron-ethyl caused 3 to 8% injury, reduced height up to 7% and decreased yield up to 5%. Thifensulfuron-methyl caused 20 to 32% injury, reduced height up to 17%, and decreased yield up to 11%. Cloransulam-methyl caused 5 to 7% injury, reduced height up to 5% but had no effect on yield. Fomesafen caused 1 to 3% injury, had no effect on height but decreased yield 3% at both the 1X and 2X rate. Bentazon caused 1 to 2% injury, had no effect on height but decreased yield 3% at the 2X rate. Quizalofop-p-ethyl caused up to 1% injury and had no effect on height or yield of soybean. Based on these results, there is an adequate margin of crop safety in soybean to the late application of glyphosate, chlorimuron-ethyl, cloransulam-methyl, bentazon and quizalofop-p-ethyl when applied at the manufacturer's recommended rate.