

**VOLUNTEER GLYPHOSATE-TOLERANT CORN CONTROL IN GLYPHOSATE-TOLERANT SOYBEAN.** Nader Soltani\*, Christy Shropshire, Peter H. Sikkema. Research Associate, Research Technician, and Assistant Professor. Ridgetown College, University of Guelph, Ridgetown, ON, Canada, N0P 2C0.

Glyphosate-tolerant volunteer corn has become a problem when glyphosate-tolerant soybean follows glyphosate-tolerant corn in a crop rotation. A total of four field trials were conducted at Exeter, Ontario over a two year period (2003 and 2004) to evaluate the control of glyphosate-tolerant volunteer corn in glyphosate-tolerant soybean. Treatments consisted of postemergence applications of glyphosate alone (control) and in tank-mix with three rates of clethodim, fenoxaprop-p-ethyl, fluazifop-p-butyl, quizalofop-p-ethyl or sethoxydim. Glyphosate tank mixed with clethodim, fenoxaprop-p-ethyl, fluazifop-p-butyl, quizalofop-p-ethyl and sethoxydim did not injure the soybean. Volunteer corn control was improved as the rate of clethodim, fenoxaprop-p-ethyl, fluazifop-p-butyl and sethoxydim increased. However, sethoxydim did not provide control of glyphosate-tolerant volunteer corn equivalent to the other herbicides evaluated. There was no rate response with quizalofop-p-ethyl. Glyphosate-tolerant volunteer corn density and dry weight were reduced with clethodim, fenoxaprop-p-ethyl, fluazifop-p-butyl, quizalofop-p-ethyl and sethoxydim. Soybean yields reflected the level of glyphosate-tolerant volunteer corn control achieved. Based on these results, the recommended rate of clethodim, fenoxaprop-p-ethyl, fluazifop-p-butyl or quizalofop-p-ethyl tank mixed with glyphosate can be used to effectively control glyphosate-tolerant volunteer corn in glyphosate-tolerant soybean under Ontario growing conditions.