Peter Sikkema’s research focuses on the development of precision weed management programs in corn, soybean, edible bean and cereals to improve the level of weed control, reduce crop injury, increase crop yield and maximize net returns to Ontario producers. Recent or current projects include crop tolerance and weed management in corn; soybean, edible beans and cereals; benefits of two-pass weed management strategies in Roundup Ready corn and soybean; control of problem weeds in corn, soybean and wheat; surveys on the distribution of glyphosate-resistant (GR) weeds in Ontario; and development of strategies for the control of GR weeds in Ontario.

There are four weed species with confirmed resistance to glyphosate in Ontario, among the 37 globally known GR weeds. These include giant ragweed (seed collected in 2008), Canada fleabane (seed collected in 2010), common ragweed (seed collected in 2011) and waterhemp (seed collected in 2014). Surveys show that over time the number of locations is increasing and GR weeds are found over a wider geographical area. Field trials were established at various sites with GR giant ragweed, Canada fleabane, common ragweed and waterhemp in 2010–2016 to evaluate control options in corn, soybean and wheat.

Sikkema will speak about the importance of implementing weed management practices that limit the selection of additional GR weeds. Long-term approaches to weed management will be presented.