

Title: Enhancing biological control of lygus bugs with an exotic *Peristenus* wasp in the Prairies – will it compete with native species?

Presentation type: Oral Presentation (**Please indicate ‘Oral Presentation’ or ‘Poster Presentation’**):

Authors (**underline presenter and give affiliations**):

Cárcamo, H.A.¹, Eudes, P.J.M.¹, Villiard, A.², Fernandez, C.³, Bouchier, R.¹, Gariepy, T.⁴, Laird, R.⁵, Mason, P.⁶, Haye, T.⁷

1. Agriculture and Agri-Food Canada (AAFC), Lethbridge
2. New Jersey Department of Agriculture, Trenton, NJ, USA
3. Department of Biological Sciences, University of Windsor
4. AAFC, London
5. Department of Biological Sciences, University of Lethbridge
6. AAFC, Ottawa
7. CABI, Delemont, Switzerland

Abstract (less than 250 words)

Lygus bugs (Miridae) are native pests of numerous crops in North America. In the NE USA, a nymphal parasitoid from Europe, *P. digoneutis* has reduced populations and is now adventive in Quebec and Ontario. In the Prairies *P. mellipes* (formerly *P. carcamoï*) is the dominant native parasitoid, but parasitism levels are too low and biocontrol might be enhanced by relocation of *P. digoneutis*. Our objective was to investigate the potential for competition between these two species. Native western *P. mellipes* were reared from nymphs collected in the field near Lethbridge. *Peristenus digoneutis* were sourced from New Jersey. Individual females were allowed to compete for 20 nymphs simultaneously or sequentially. In the sequential test, the nymphs were exposed to one species on day 1 and exposed to the second species after approximately 24 hours. Insects were reared under summer photoperiod conditions to allow the progeny of *P. digoneutis* to emerge as adults, but *P. mellipes* remain in diapause as cocoons. Preliminary results suggest that very few adult *P. digoneutis* emerge when the native species attacked first or in the simultaneous competition test. It appears that the risk for competitive displacement for this native species by *P. digoneutis* might be low.