

Seasonal occurrence of *Lygus* bugs (Hemiptera: Miridae) and their parasitoids on alfalfa fields in Southern Alberta.

Fernández, D. C.^{1,3}, Cárcamo, H¹, Herle, C² and Laird, R³.

¹ Agriculture and Agri-Food Canada, Lethbridge Research Centre, 5403 - 1 Ave South, Lethbridge Alberta, T1J 4B1. Email: catalina.fernandez@agr.gc.ca

² Retired, Lethbridge, Alberta, Canada

³ Department of Biological Sciences, University of Lethbridge, Lethbridge, Alberta, Canada T1K 3M4

Native plant bugs from the genus *Lygus* feed on a wide number of plant species and a few are economically important pests of crops such as seed alfalfa and canola. To mitigate their effect on alfalfa crops, management methods rely mainly on insecticides and few alternative methods have been developed. Biological control with native and exotic *Peristenus* parasitoid wasps (Hymenoptera: Braconidae: Euphorinae) that attack *Lygus* nymphs may provide one such alternative. Given their importance as potential biological control agents, a long term data set was collected from 2003 to 2013 to collect information about their seasonality, species composition, and synchronism with the pest. The dominant *Lygus* species were *L. elisus*, *L. keltoni* and *L. borealis*. Parasitism rate was determined by nymph rearing and dissections, and in some dates and sites it reached up to 80%. Two dominant *Peristenus* species were recognized, and each one is univoltine attacking a different generation of *Lygus* bugs. Predicting emergence and peak activity of adult parasitoids will help growers to time insecticide applications to avoid harming this beneficial wasp.