



International Symposium Ecology and Management of *Lygus* Plant Bugs

30 January to 3 February 2005
Ottawa, Canada

SCIENTIFIC PROGRAM

Sunday, 30 January 2005

15:00 Registration – Penthouse Foyer - Hotel Crowne Plaza

- **Poster Installation**
- **Provision of PowerPoint Oral Presentations on CD**

15:00 Welcome Coffee/Tea – Penthouse Foyer - Hotel Crowne Plaza

16:00 Kick-off Session: Economic Importance of *Lygus* in Crop Commodities

Chairman: Peter Goodell

16:00	GOODELL Peter	Introduction
16:10	ELLSWORTH Peter C., BARKLEY Virginia	Development of economic thresholds for <i>Lygus hesperus</i> in Arizona COTTON
16:30	GILLESPIE Dave R.	Is omnivory the key to understanding <i>Lygus</i> impacts on GREENHOUSE crops?
16:50	VINCENT Charles	The tarnished plant bug and its impact on APPLE ORCHARDS
17:10	MOSTAFA Ayman M., HOLLIDAY Neil J.	Population compositions and yield implications of plant bugs in SEED ALFALFA in Manitoba
17:30	CARCAMO Hector, OTANI Jennifer	Impacts of <i>Lygus</i> plant bugs on CANOLA in western Canada
17:50	MOSTAFA Ayman M., HOLLIDAY Neil J.	Impacts of <i>Lygus</i> plant bugs on yield patterns of BUCKWHEAT in southern Manitoba
18:10	BROADBENT Bruce	Impacts of <i>Lygus</i> plant bugs on VEGETABLES AND BERRY CROPS in North America

18:30 End Kick-off Session

19:00 Welcome Reception - Penthouse Foyer – Hotel Crowne Plaza

19:30 Welcome Dinner – Penthouse Panorama Room

- **Welcome Address: Peter Mason**

Monday, 31 January 2005

08:15 Scientific Session: *Lygus* Community Ecology

Chairman: Dave Gillespie

08:15	GILLESPIE Dave	Introduction
08:20	GOODELL Peter B., LYNN Kris	Approaches to understanding <i>Lygus</i> in an ecological landscape context
08:40	PARAJULEE Megha N., CARROLL Stanley C., ARNOLD Mark D., SHRESTHA Ram B., CRANMER Andy M., BOMMIREDDY Padma L.	Species composition and host-plant sequence of <i>Lygus</i> bugs in the Texas high plains
09:00	FLEURY Dominique, VINCENT Charles, MAUFFETTE Yves.	Seasonal abundance of <i>Lygus lineolaris</i> adults inside and at the periphery of a vineyard
09:20	BANCROFT Jay	Forecasting <i>Lygus</i> pressure in Kern County, California
09:40	BOSTANIAN Noubar J., TRUDEAU Martin, LASNIER Jacques	The population dynamics of the tarnished plant bug in Quebec vineyards

10:00 Coffee/Tea Break

10:30 Scientific Session: *Lygus* Biology & Cultural Controls for *Lygus* Management

Chairman: Bruce Broadbent

10:30	BROADBENT Bruce	Introduction
10:35	COOK Donald R., COSTELLO R.W., BURRIS E., LEONARD B.R., BURNS D.R.	Effects of field margin vegetation management on tarnished plant bug, <i>Lygus lineolaris</i> (Palisot de Beauvois) densities in cotton, <i>Gossypium hirsutum</i> (L.)
10:55	HAGLER James	Potassium chloride reduces the feeding activity of <i>Lygus hesperus</i>
11:15	CARRIERE Yves, ELLSWORTH Peter C., DUTILLEUL, Pierre, ELLERS-KIRK Christa, BARKLEY Virginia, ANTILLA Larry	The scale of <i>Lygus</i> movement between alfalfa and cotton
11:35	WILLIAMS Livy III, RODRIGUEZ-SAONA C., CASTLE S.C., MANRIQUE V., BERNAL J.S., JONES W.A. Jones, Jr.	Utilization of herbivore-induced plant volatiles for conservation biological control of <i>Lygus</i> species - from lab to field
11:55	BLACKMER Jackie, NARANJO Steve E., RODRIQUEZ-SAONA Cesar, WILLIAMS Livy III	Dispersal and host location by <i>Lygus</i> spp.: underlying behavioral and ecological mechanisms

12:15 Lunch Break

13:45 Scientific Session: Host Plant Resistance and Insecticide Efficacy

Chairman: Owen Olfert

13:45	OLFERT, Owen	Introduction
13:50	CELORIO MANCERA Maria de la Paz, AHMADI Hamid, GREVE Carl, SHACKEL Kenneth A. TEUBER Larry R., BACKUS Elaine A., LABAVITCH John M.	Examining the potential utility of polygalacturonase-inhibiting protein interactions for protecting crop plants against <i>Lygus</i> bug
14:10	TEUBER Larry R., CELORIO-MANCERA Maria de la paz, GREVE L. Carl, AHMADI Hamid, SHACKEL Ken A., BACKUS Elaine A., LABAVITCH John M.	Selection for polygalacturonase inhibition as a means of developing resistance to the <i>Lygus</i> bug
14:30	SOROKA, Juliana, GLEDDIE, Steve, GERBER, George	Host plant resistance of genetically modified canola cv Westar to <i>Lygus</i> bugs
14:50	VINCENT Charles, KHANIZADEH Shahrokh	The quest for strawberry cultivars resistant to tarnished plant bug: a behavioural study.
15:10	LEONARD B. Roger, BURRIS E., COOK Donald	Insecticide performance against tarnished plant bug, <i>Lygus lineolaris</i> (Palisot de Beauvois), in southern cotton fields

15:30 Coffee/Tea Break

16:00 Scientific Session: Poster Presentation (all session themes)

Moderator: Charles Vincent

Poster 01	TEAGUE Tina Gray, COY Steven, DANFORTH Diana M.	Interactions of <i>Lygus lineolaris</i> induced injury and water deficit stress in Mid-South cotton: monitoring crop response using COTMAN for pest management decision making
Poster 02	BURANGE Prasad S., Roehrdanz Richard L., BOETEL Mark A.	Intraspecific genetic diversity of the <i>Lygus</i> genus
Poster 03	OTANI Jennifer, CARCAMO Hector	Overwintering survival and female reproductive status of <i>Lygus keltoni</i> in northern Alberta agricultural habitat
Poster 04	SCHRAUFNAGEL Jacinta R., WILLIAMS Livy III, ROANE Timberley M.	Characterization of intestinal microbial flora of <i>Lygus lineolaris</i>
Poster 05	WILLIAMS Livy III, CASTLE Sandra C., RODRIGUEZ- SAONA Cesar, ZHU Su	Electrophysiological responses of <i>Lygus</i> species (Heteroptera: Miridae) and <i>Anaphes iole</i> (Hymenoptera: Mymaridae) to herbivore-induced plant volatiles
Poster 06	LORENZ Gus, GREENE Jeremy, STUDEBAKER Glenn, RODERY Steve, CAPPS Chuck	Area-wide management of tarnished plant bug in Arkansas
Poster 07	RANCOURT Benoit, VINCENT Charles, OLIVEIRA Domingos	Efficacy and persistence of an insect vacuum device against the tarnished plant bug, (Hemiptera: Miridae) in strawberries.

Poster 08	BARKEY Virginia, ELLSWORTH C. Peter	Transitioning <i>Lygus</i> chemical controls to more selective options for Arizona cotton
Poster 09	WILLIAMS Livy III, MANRIQUE Verónica	Toxicity of field-weathered insecticide residues to <i>Anaphes iole</i> (Hymenoptera: Mymaridae), an egg parasitoid of <i>Lygus lineolaris</i> (Heteroptera: Miridae)
Poster 10	WILLIAMS Livy III, LOGARZO Guillermo A., SHAW Scott R., MANRIQUE Verónica	<i>Leiophron argentinensis</i> Shaw (Hymenoptera: Braconidae): a new species from Argentina and Paraguay, with information on life history and potential for controlling <i>Lygus</i> bugs
Poster 11	MOSTAFA Ayman M., HOLLIDAY Neil J.	Management of <i>Lygus</i> bugs in buckwheat using Cyhathrin-Lambda and <i>Beauveria bassiana</i>
Poster 12	MASON Peter G., GOULET Henri, BOSTANIAN Noubar J.	Effect of harvest on parasitism of <i>Lygus lineolaris</i> and <i>Adelphocoris lineolatus</i> (Hemiptera: Miridae) in alfalfa
Poster 13	WILLIAMS Livy III, ZHU Y. C., MANRIQUE Verónica, SNODGRASS George L.	Host plant affects oviposition pattern of <i>Lygus lineolaris</i> and subsequent parasitism by <i>Anaphes iole</i>
Poster 14	COUTINOT Dominique, HOELMER Kim	Explorations in Europe and parasitoid species composition by climatic association
Poster 15	HAYE Tim, KUHLMANN Ulrich	<i>Lygus</i> parasitoid species composition in natural and cultivated habitats
Poster 16	BLODGETT Sue, BARIL Rebecca <i>et al.</i>	Regional assemblages of <i>Lygus</i> species from Montana alfalfa and canola
Poster 17	CARCAMO Héctor, HERLE Carolyn, GOULET Henri, OTANI Jennifer	Seasonal activity of <i>Lygus</i> spp. and nymphal parasitism by native <i>Peristenus</i> wasps in southern Alberta
Poster18	RÄMERT Brigitta HELLQVIST Sven KJOBK PETERSEN Mette	A survey of <i>Lygus</i> parasitoids in Sweden
Poster 19	ACCINELLI Gianumberto, LANZONI, A., RAMILLI F., TAVELLA L., BURGIO G.	Faunistic studies on mirids (Rhynchota, Heteroptera) on field margin areas in northern Italian agroecosystems

17:30 End of Scientific Sessions

19:00 Dinner on your own

Tuesday, 1 February 2005

08:00 Scientific Session: Systematics/Taxonomy of *Lygus* and Biological Control Agents

Chairman: Bob Foottit

08:00	FOOTTIT Bob	Introduction
08:05	SCHWARTZ Michael D.	The systematics of <i>Lygus</i> : generic phylogeny and relationships to other plant bugs
08:25	FOOTTIT Robert G.	Molecular genetic diversity of <i>Lygus</i> spp. in North America
08:45	GOULET Henri	Systematic problems and solutions for the species of <i>Peristenus</i> and <i>Leiophron</i> associated with <i>Lygus</i> in Canada and the Northern United States
09:05	GARIEPY Tara D., KUHLMANN Ulrich, GILLOTT Cedric, ERLANDSON Martin	Detection and identification of European <i>Lygus</i> parasitoids using a single-step multiplex PCR assay
09:25	HUBER John T.	Taxonomic problems in egg parasitoids of <i>Lygus</i> bugs and implications for biological control

09:45 Coffee/Tea Break

10:15 Scientific Session: Biology/Ecology of Biological Control Agents

Chairman: Ulli Kuhlmann

10:15	KUHLMANN Ulli	Introduction
10:20	LELAND Jarrod E., MCGUIRE Michael R.	Development of <i>Beauveria bassiana</i> for control of <i>Lygus</i> spp.
10:40	KAPONGO Jean Pierre, SHIPP Les, KEVAN Peter, BROADBENT Bruce	Optimal concentration of <i>Beauveria bassiana</i> as vectored by bumblebees for control of <i>Lygus lineolaris</i> and <i>Myzus persicae</i> on greenhouse sweet pepper
11:00	HAGLER James	Identifying key predators of <i>Lygus hesperus</i> using protein markers
11:20	WILLIAMS Livy III, BEACH J. Peirce	Nectar and honeydew sugars influence gustatory response and longevity of <i>Anaphes iole</i> , an egg parasitoid of <i>Lygus</i>
11:40	TAVELLA Luciana, GUIDONE Loredana	Distribution and abundance of nymph parasitoids of <i>Lygus rugulipennis</i> Poppius (Heteroptera: Miridae) in northwestern Italy
12:00	KUHLMANN Ulrich, HAYE Tim, BROADBENT Bruce, WHISTLECRAFT Jay	Reproductive biology of <i>Peristenus digoneutis</i> and <i>Peristenus stygicus</i> (Hymenoptera: Braconidae), parasitoids of <i>Lygus</i> species

12:20 Lunch Break

13:30 Social Program: Curling

19:00 Dinner on your own

Wednesday, 2 February 2005

08:15 Scientific Session: Host Specificity of Biological Control Agents

Chairman: Kim Hoelmer

08:15	HOELMER Kim	Introduction
08:20	HAYE Tim, KUHLMANN Ulrich, MASON Peter G., GOULET Henri	Comparison of the physiological and ecological host range of the biological control agents <i>Peristenus stygicus</i> and <i>Peristenus digoneutis</i> (Hymenoptera: Braconidae)
09:00	MASON Peter G., BROADBENT A. Bruce, GILLESPIE Dave R., WHISTLECRAFT Jay	<i>Peristenus digoneutis</i> and <i>Peristenus stygicus</i> host-range testing in Canada
09:20	WATERS Tim, WALSH Doug, BUSH Mike, FERGUSON Holly, WIGHT Ron	Host range of <i>Peristenus</i> spp. attacking <i>Lygus hesperus</i> in Washington State, USA
09:40	GARIEPY Tara D., HAYE Tim, KUHLMANN Ulrich, GILLOTT Cedric, ERLANDSON Martin	Potential for evaluating the ecological host range of <i>Peristenus digoneutis</i> and <i>Peristenus stygicus</i> using a single-step multiplex PCR technique

10:00 Coffee/Tea Break

10:30 Scientific Session: Release, Post-release Evaluation and Monitoring of Biological Control Agents

Chairman: Livy Williams

10:30	WILLIAMS Livy	Introduction
10:35	PICKETT Charles H., RODRIGUEZ R., BROWN J., COUTINOT Dominique, HOELMER Kim A., ERTLE L.	Importation and establishment of <i>Lygus</i> parasitoids in California
10:55	BROADBENT A. Bruce, MASON Peter G., WHISTLECRAFT Jay W., GOULET Henri, GILLESPIE Dave R.	Release of <i>Peristenus digoneutis</i> in Canada for biological control of <i>Lygus lineolaris</i>
11:15	BARBOUR Jim, MOWRY Thomas, SEYMOUR Lorraine	Determination of <i>Lygus</i> spp. parasitism by <i>Peristenus</i> spp. in crop and non-crop hosts using polymerase chain reaction
11:35	MASON Peter G., GOULET Henri, SCHWARTZ Michael D.	Parasitism of Miridae in crop and non-crop habitats in eastern Ontario and southwestern Quebec
11:55	ERLANDSON Martin, ASHFAQ Muhammad, BRAUN Lorraine	Hyperparasitism by <i>Mesochorus curvulus</i> (Hymenoptera : Ichneumonidae) in <i>Peristenus</i> species (Hymenoptera : Braconidae) and development of molecular markers for hyperparasitoid detection

12:15 Lunch Break

13:45 Final Discussion:

Is an IPM approach feasible to control Lygus in crop commodities?

Moderators: Peter Ellsworth & Peter Mason

15:45 Coffee/Tea Break

16.30 End of Meeting

19:00 Farewell Pub Dinner