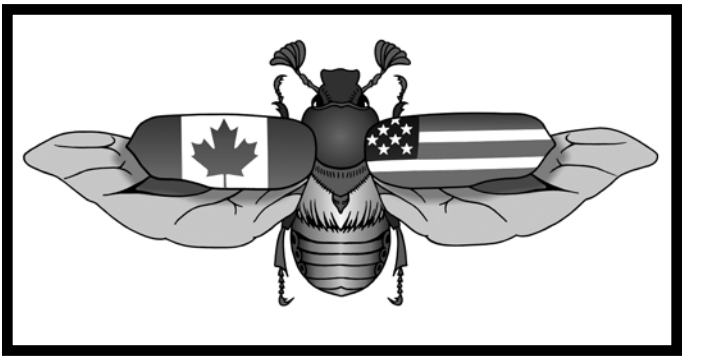
NORTH CENTRAL BRANCH
Entomological Society of America and
ENTOMOLOGICAL SOCIETY
OF MANITOBA
JOINT MEETING

March 25-28, 2007

Gary Hein, NCB President
Blaine Timlick, ESM President



Delta Winnipeg Hotel
350 St. Mary Avenue
Winnipeg, Manitoba R3C 3J2
Canada

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Contents

Registration

All participants must register for the meeting. Registration badges are required for admission to all sessions, mixers, and other functions. The meeting registration desk is located in the Ballroom Foyer area. The registration desk will be open for check-in for those that pre-registered and for on-site registration at the following times:

Sunday	10:00 AM – 6:00 PM
Monday morning	8:00 AM – 12:00 PM
Monday afternoon	12:00 PM – 3:00 PM
Tuesday morning	7:30 AM – 12:00 PM
Wednesday morning	7:30 AM – 9:00 AM

Messages, Program Changes, Lost & Found

A message board and tacks for posting announcements will be available in the poster display room (Campaign). Notices concerning program changes should be submitted to the A/V room (Talbot). Lost and found items may be turned in and retrieved at the registration desk (Ballroom Foyer).

Spouses and Guests

No formal spouse/guest program is planned. Information about the Winnipeg area is available at the registration desk.

Employment Opportunity Center

Employers are invited to post positions, and job seekers are encouraged to post their resumes in folders provided in the poster display room (Campaign).

Audio/Visual Equipment

An audio/visual preview room is available in the Talbot room for speakers to preview presentations. All meeting rooms will be equipped with an LCD projector and

laptop computer. This year we will again exclusively use PowerPoint presentations for talks. All the computers that will be used at the meeting will be PCs, so presenters who use MacIntosh computers are encouraged to test their presentation on a PC prior to the meeting. Presenters should bring their PowerPoint file to the meeting on a USB memory stick/flash drive or CD-ROM. The A/V room will be available the same hours as the registration desk is open (see above) for uploading presentations. PowerPoint presentations brought to the meeting must be on USB memory devices or CD-ROM. We will not be set up to directly connect laptops for file transfer. Timers and pointers are available for moderators at the A/V Room (Talbot), and should be picked up and returned by the moderators. Computers loaded with presentations will be set up by the A/V committee. The A/V committee will also pick up computers after each session.

Guidelines for Speakers and Moderators

Speakers and moderators will follow standard practices for ESA meetings. Moderators are responsible for maintaining the printed schedule by starting presentations at the scheduled time and by not allowing a speaker to exceed the allotted time.

Posters – Setup, Removal, When Authors Should Be Present

Posters will be displayed in Campaign room. Posters for all student competition sections are to be set up Sunday, March 26, between 4:00 PM and 10:00 PM. Posters to be displayed Tuesday (submitted posters) can be set up Monday between 6:00 PM and 8:00 PM. Both student competition and submitted posters will stay up until Tuesday evening. All posters should be removed from 5:30 PM - 7:00 PM. Tuesday. Authors are requested to be present at their poster to answer questions between 3:00 PM - 4:00 PM on Monday, and 4:00 PM - 5:00 PM on Tuesday. Poster presenters should bring their own pins or Velcro to attach posters to the display boards.

2006-2007 ESA NCB
Officers and Committees

President: Gary Hein

President-Elect: Richard Weinzierl

Past President: Mike Culy

Secretary-Treasurer: Ric Bessin

Secretary-Treasurer Elect: David Ragsdale

Governing Board Representative: Larry Charlet

Executive Committee Members-at-Large: Dave Hogg, Mark Boetel**,** Shripat Kamble

Program Planning Committee: Marion Ellis**—**Chair, John VanDyk, Nick Aliano, Brosius Tierney (logo), A. Alves

Local Arrangements Committee: Brent Elliott—Chair, Kate Bergen, Paul Fields, Rheal Lafreniere, Marj Smith, Blaine Timlick, Bob Lamb, Evan Lampbert

Nominating Committee: Mike Catangui—Chair, Paula Davis, Robert O'Neil

Auditing Committee: Mark Boetel—Chair, Ed King, Bob Wright

Resolutions Committee: Dan Herms—Chair, Suresh Prabhakaran, David Boxler

Student Awards Committee: Matt O'Neal—Chair, Luis Canas, Lyric Bartholomay, Catherine Hill, Tom Clark, Jon Babcock, Doug Richmond

C. V. Riley Award Committee: Marc Linit—Chair, Marion Ellis, Chris DiFonzo, Kevin Steffey, Jim Bing, Janet Knodel, Lance Meinke

NCB Award of Merit Committee: Blair Siegfried—Chair, Mike Gray, Billy Fuller, Michelle Smith

National ESA Awards Committee: Ron Seymour—Chair, Bruce Hibbard, Christian Krupke, Erin Hodgson, Michelle Smith

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Photo Salon Committee: Tom Myers—Chair, Ric Bessin, Jerry DeWitt, Jim Mertins, Frank Peairs, Phil Sloder-

beck, Dave Voegtlin

Student Affairs Committee: Marcus McDonough—Chair, Evan Lampbert—Vice-Chair, Laura A. Campbell, Neil Spomer, Annie Ray, Barb Sharonowski

Linnaean Games: Wyatt Hoback—Chair, Mark Boetel, Joel Coats, Gary Hein, Russell Jurenka, Blair Siegfried, Joseph Spencer, Rick Weinzierl, Dan Young, Jeremy J. Heath, Evan Lampert

NCB-ESA Website: (http://esa.ent.iastate.edu) John VanDyk—Webmaster

2006-2007 ESM
Officers and Committee Chairs

Officers

President: Blaine Timlick

President-Elect: Desiree Vanderwel

Past President: Rheal Lafreniere

Secretary: David Ostermann

Treasurer: Ian Wise

Representative to ESC: Patricia MacKay

Member-at-Large: John Gavloski

Proceedings Editor: Terry Galloway

Committee Chairs

Endowment Fund: Marjorie Smith

Finance: Marjorie Smith

Newsletter: Mahmood Iranpour and Patrica MacKay

Youth Encouragement & Public Education: Andrea Patenaude

Social: Brent Elliott and Sheila Wolfe

Archives: Rob Roughley

Scholarship & Awards: Richard Westwood

Fund-raising: Joel Gosselin

Nominating: John Gavloski

Membership: Desiree Vanderwel

Scrutineer: Colin Demianyk

Web Page: Rob Currie

Special Events

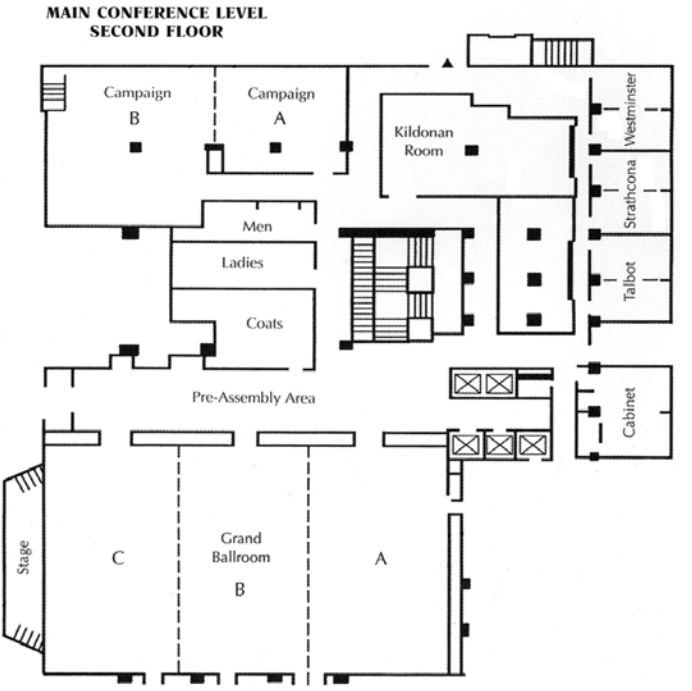
Student Brown Bag Lunch
Tuesday 12:00 PM - 1:15 PM
Ballroom A

Everyone is encouraged to attend a "Student Brown Bag Lunch" on Tuesday at noon. This luncheon is sponsored by several of the entomology departments in the branch, and its purpose is to bring students together and to provide them an opportunity to meet other students and entomologists. The Department Heads from branch schools will be present to discuss opportunities and positions available in their respective departments. We will also present plans for our 2008 NCB-ESA meeting in Columbus, Ohio. While you "munch your lunch," John Acorn, *The Nature Nut*, will show you the path to being a true entomologist.

Awards Mixer and Dinner
Tuesday 6:00 PM - 9:00 PM
Ballroom B & C

For the 2007 NCB-ESA meeting, the traditional Awards Luncheon is being replaced with a Tuesday evening event - combining the NCB Mixer with a Buffet Dinner. The Mixer will begin at 6:00 PM with John Acorn, *The Nature Nut*, celebrating our gathering in verse and song. A buffet dinner will follow. At 7:30, we will seize the opportunity to recognize and celebrate our annual award winners! The evening will conclude with the Linnaean Games Champions challenging the Old-Timers to a spirited and fun-filled match. Please plan to join us for this "new" event in Winnipeg!

Delta Winnipeg Hotel



2007 North Central Branch C.V. Riley Award

ZB Mayo
University of Nebraska

Dr. Z B Mayo, Jr. is Interim Associate Dean and Director, Agricultural Research Division, University of Nebraska–Lincoln. He served as Professor and Head of the Entomology Department at UNL from 1999-2005.

Since 1972 Dr. Mayo has served as advisor for seven Ph.D., eight M.S. students, three Post-Doctoral Research Associates, and on the advisory committees of 32 Ph.D. and 40 M.S. students.

Dr. Mayo's initial research focused on the biology and control of corn rootworms, and other corn insects. Later research addressed biological control interactions with aphid resistant cereal cultivars and genetic and environmental factors associated with the development of aphid biotypes and insecticide resistance. His research has made many significant contributions to our IPM recommendations for these insects.

Dr. Mayo has provided outstanding leadership and service to the Entomological Society of America, both at the North Central Branch and National level, including serving as President of North Central Branch (1988), President of ESA (2003), ESA Governing Board (2002-2003), ESA Program Chair (1999), Section F Chair (1996-1997), President of American Registry of Professional Entomologists (ARPE)/Director of ESA's Certification Board (1992), and on over 90 additional ESA, NCB and other professional society committees. He currently serves on the Board of Directors of CAST. He has also been the recipient of the NCB Award of Merit.

2007 North Central Branch Award of Merit

Mike Culy
Dow AgroSciences

The North Central Branch Award of Merit recognizes outstanding contributions to the Branch based on continued, superior accomplishments in service without reference to other entomological achievements. This year's award winner is Dr. Mike Culy, Dow AgroSciences.

The North Central Branch is privileged to have a volunteer of Dr. Culy's caliber working to make positive contributions to our Society. He has served the Branch as a Member-at-Large on the Executive Committee and on the Nominating Committee. One of the most significant contributions to our Branch has been his service as Linnaean Games Gamesmaster for three years. This is an overwhelming responsibility that requires the organization and preparation of several hundred questions for multiple rounds of competition amongst the university teams. Dr. Culy has orchestrated the games in an equitable, fast-paced, light-spirited competition, which appealed not only to the students from the competing teams but to non-participants in the audience as well. Dr. Culy excelled as Gamesmaster and set the standard for future moderators of these games.

One of the most memorable contributions to our Branch was Dr. Culy's conception of the series Bugs, Lies and Videotape. For three years he produced and moderated this cabaret that provided a humorous exposure to the lighter side of entomology and the people who study insects. If you ask anyone that ever attended a *Bugs, Lies and Videotape* production they will tell you that the event was a memorable riot of surprise and laughter. To this day, many of the "old timers" can reminisce fondly about the experience and as one entomologist wrote, "…(it) clearly demonstrates his creativity and, in my opinion, is the most memorable series of non-programmatic events in NCB history."

And finally, Dr. Culy's service to our branch has been widely recognized as evidenced by his recent election as President. This is a strong acknowledgement by his peers of their respect for his professionalism and contributions to our science and the North Central Branch.

2007 North Central Branch Graduate Student Scholarship Award

Nicholas Aliano
University of Nebraska

Driven and focused are two adjective frequently used to describe Nicholas Aliano, a Ph.D. candidate in the Department of Entomology at the University of Nebraska–Lincoln. Nicholas is advised by Marion Ellis, with whom he studies techniques for managing *Varroa* mites, a parasite in *Apis mellifera* colonies. He has been very active in various aspects of professional service at UNL, serving as a teaching assistant for multiple courses as well a giving guest lecture on apiculture for introductory entomology courses. This last part goes beyond a PowerPoint presentation, as Nicholas employs 10,000 bees to demonstrate swarming behavior. His teaching experience has gone beyond the classroom, to include lectures and workshops for beekeepers in Nebraska and beyond. His expertise at extension has been noticed, and as a graduate student, he has given 13 invited presentations to beekeeping organizations across the U.S. from North Carolina to California. Beyond his award winning presentations, Nicholas has published three peer-reviewed manuscripts that focus on strategies to reduce the impact of *Varroa* mites on honey bee colonies. Throughout his references, Nicholas potential to be a productive entomologist beyond graduate student was recognized. It is this promise that we acknowledge with the 2007 NCB Graduate Student Scholarship.

2007 North Central Branch J.H. Comstock Award

Daniela Takiya University of Illinois

The 2007 NCB Comstock Award winner is Daniela M. Takiya, a Ph.D. candidate from the University of Illinois at Champaign-Urbana. She is advised by Chris Dietrich, Research Leader in the Biodiversity section of the Illinois Natural History Survey. Her dissertation focuses on the phylogeny, evolution and classification of the leafhopper subfamily Cicadellinae (sharpshooters). This large group includes several important vectors of xylem-born plant pathogens, like the invasive glassy-winged sharpshooter a pest of grape production in California.

She has employed morphological and molecular tools to revise a group in need of revision, clearing inconsistencies in classification and providing insight into the evolution of egg-powdering an behavior unique to one lineage of sharpshooters. Her work has also demonstrated that sharpshooters have co-evolved with two unrelated bacterial symbiont lineages. The impact of her research is reflected in a publication record that spans 16 peer-reviewed publications completed before her expected graduation date of May 2007. This is even more remarkable given the variety of journals in which she has published- from Molecular Ecology to Systematic Entomology. Furthermore, her promise as future scientist has been recognized early in her career in her service on the Editorial Board of Systematic Entomology.

ESA-NCB Award of Excellence in Integrated Pest Management

Gerald Wilde
Kansas State University

During his 40 years as a research and teaching entomologist at Kansas State University, Dr. Gerald Wilde has made numerous significant contributions to the integrated management of insects. His research has covered pests in corn, sorghum, wheat, sunflower, dry beans, rice and strawberries. He has worked with a variety of different pests and management options including chemical control, seed treatments, transgenic crops, studies of basic biology, insecticide resistance evaluations and evaluation of areawide insect management. Dr. Wilde has integrated biological, chemical, cultural, and plant resistance tactics extensively in his research projects. He has developed and released greenbug and chinch bug resistant sorghums. He has evaluated transgenic corn efficacy on major corn pests and the risks of this technology to non-target organisms. He has also developed pest management programs for international partners in China, Iraq, and Syria.

Dr. Wilde has helped to further knowledge about pest management through teaching students by offering courses in insect diagnosis and pest management. He has also been a successful mentor of graduate students with approximately 35-40 students graduating with advanced degrees in entomology, often with a research emphasis in integrated pest management. The efforts of Dr. Wilde and his students have resulted in over 100 refereed publications, most in major entomology journals, and dozens of published experiment station reports and extension brochures. Many of these documents find their way into the hands of Midwestern farmers who quickly adopt the methods to solve real-life pest problems in their crops.

Dr. Wilde is the consummate applied entomologist, integrating the spectrum of control techniques to understand and manage a diversity of economically damaging insects in the Midwest. His research is broadly known, widely respected, and frequently consulted. His achievements can truly be described as having had a substantial and continuing impact on integrated pest management.

ESA-NCB Recognition Award in Entomology

Ed Grafius
Michigan State University

During a scientific career spanning thirty years, Dr. Ed Grafius has been an active entomologist working first on aquatic and forest insects and then soon moving into agricultural systems. He has a distinguished record of providing leadership, cutting-edge research, extension and graduate training in vegetable entomology that has international impact. Dr. Grafius has made many important contributions in the management of potato pests. His collaborations with plant breeders have lead to the development and introduction of plant resistance to Colorado potato beetle that was derived from a combination of bioengineered and natural resistance traits. His work with chemical control methods has lead to identification and characterization of resistance to neonicotinoid insecticides in populations of the Colorado potato beetle. The results of these efforts have been multiplied internationally through Dr. Grafius' work with scientists in Egypt, Pakistan, and China who are incorporating his techniques into the production practices of local farmers. In addition to Dr. Grafius' work with potatoes, he has been involved with studies of other pests of vegetables including the management of the suite of insects attacking crucifers, the ecology of onion thrips and insecticide resistance management on onions. Dr. Grafius' experience and insights in these crops make him a world expert.

As an extension specialist, Ed Grafius has been a tireless supporter of the vegetable industry in north central region of the United States and south central Canada. He has worked closely with grower groups and the agrochemical industry to develop and implement product stewardship guidelines for vegetable insecticides while continuing to develop new tools for inclusion in pest management programs. All of his graduate students receive extensive research training and exposure to extension programming equipping them to be professionals who are willing and able to apply their science to solving agricultural challenges of the future.

Dr. Grafius has published extensively in research and extension journals and has mentored a number of students who continue to carry out his vision of sound pest management for vegetables. There is no question that throughout his career he has made significant contributions to agriculture and the science of entomology.

ESA-NCB Recognition Award in Urban Entomology

Michael Dryden
Kansas State University

Dr. Michael Dryden is considered among the top, if not the top, expert on cat flea biology and control in the world. Dr. Dryden has taken progressive approaches to understanding complex host-parasite interactions, some of which are mediated by pathogens. His work in this dynamic environment has provided a better understanding of the life cycles and life histories of fleas and ticks with the ultimate goal of developing better pest management tools and strategies to protect humans and domesticated animals. Every major flea management product in the world has been evaluated in Dr. Dryden's laboratory. His work has made valuable contributions to the science of urban entomology on an international scale. Dr. Dryden's research program has resulted in publication of over 80 peer-reviewed articles and numerous book chapters. His program has continued to evolve. and recent investigations have explored the interactions of urban wildlife with humans and their pets. These efforts have resulted in continued international recognition that has included over 600 invited lectures and seminars concerning the biology and control of fleas and ticks on dogs and cats in 21 different countries. Of these invitations, one of the most prestigious led to a lecture tour of the seven veterinary schools in the United Kingdom and Ireland.

In addition to his outstanding research record, Dr. Dryden is an excellent teacher and mentor. Dr. Dryden's course in veterinary parasitology at Kansas State University is rigorous and comprehensive, but his teaching ability makes the course very popular with students. He motivates and stimulates those who have had good fortune to interact with him. Dr. Dryden is truly a world leader in the understanding and management of fleas and ticks. Dr. Dryden has made and will continue to make a lasting impact in urban entomology.

ESA-NCB Distinguished Achievement Award in Extension

William Hutchison
University of Minnesota

Dr. William Hutchison is a Professor and Extension Entomologist in the Department of Entomology at the University of Minnesota. Dr. Hutchison has devoted the past 17 years to extension and applied research in integrated pest management, primarily in vegetable crops. Throughout his career, Dr. Hutchison has been a leader in developing IPM information that is easily accessible to the academic and farming communities. His efforts have resulted in over 86 Extension publications, 95 refereed journal articles and 17 book chapters. His work as a co-author of the *IPM World Textbook* is an outstanding example of a resource that serves academia and extension audiences. Dr. Hutchison has been innovative in using electronic delivery methods such as his *Veg Edge* Web site and the *Minnesota Fruit and Vegetable News* newsletter. They are very effective in reaching producers and guiding them to quickly implement new techniques. Dr. Hutchison's has shown the ability to accurately identify the needs of IPM practitioners, to work cooperatively with other scientists to solve problems, and to use the most up-to-date methods of communication to deliver information to those who need it.

Dr. Hutchison's program has been very responsive to the needs of vegetable producers in the north central region of the United States. He has recently taken the lead in addressing a very challenging multi-state effort to better understand migratory behavior and insecticide resistance in *Helicoverpa zea*, an effort that combines traditional research efforts with cooperator-supplied data and a real-time delivery system for getting information to growers and IPM practitioners rapidly for on-time decisions.

Dr. Hutchison's extension accomplishments have been complemented with other contributions to entomology. He has supervised 13 graduate students, and the work of many of those students has directly contributed information to extension IPM efforts in Minnesota and throughout the region. In addition, he has contributed greatly to science and served his colleagues as an editor for entomological and agricultural journals.

The great breadth and value of Dr. Hutchison's work, coupled with his innovative approaches to information delivery and his leadership in cooperative projects, clearly document his distinguished achievements and extraordinary contributions to entomology and agriculture. Dr. Hutchison has not only fulfilled the traditional role of an extension entomologist in an exemplary fashion, he has extended the vision of what effective outreach programs can be.

ESA-NCB Distinguished Achievement Award in Teaching

Greg Zolnerowich
Kansas State University

Dr. Greg Zolnerowich or Dr. Z, the name used by many of his students, has been described as a consummate educator by his colleagues in the Department of Entomology at Kansas State University (KSU). One of Dr. Zolnerowich's students commented that "he is a very effective teacher with thorough and polished lectures. He is interested in helping students get the most out of his classes. Students appreciate his teaching style, because he doesn't lecture but presents information in a captivating and conversational manner by adding in interest facts and case histories." Another student commented "with Dr. Z's enthusiasm I haven't had heavy eyelids once this semester, even while we were covering insects and history, my least favorite subject." Dr. Zolnerowich goes beyond the typical to make the classroom experience rewarding. He assigns students the task of raising tobacco hornworm larvae, encourages them to try arthropod-laced baked goods and offers field trips to collect and learn about insects. These hands-on experiences and his level of preparation have made Dr. Zolnerowich's classes very popular resulting in significant increases in enrollment and recruitment of students to entomology at KSU.

Dr. Zolnowich is involved in numerous areas where his teaching abilities have made a difference. He has an ambitious teaching load that includes two large undergraduate courses and four graduate courses. He supplements this teaching load by providing guest lectures in a number of other entomology classes. Dr. Zolnowich also serves as the curator of the KSU natural history research collection of insects and other arthropods. He provides research experiences for students on the Konza Prairie and has directed seven graduate students. His commitment to students prompted one student to write that Dr. Zolnowich transformed her life and contributed significantly to her decision to stay in school and complete her degree.

Dr. Zolnowich has shown an extraordinary ability in educating students about entomology, both inside and outside of the classroom. His outstanding performance and enthusiasm in teaching entomology reach far beyond the KSU Department of Entomology. He has the mark of a superlative teacher, one who not only combines knowledge, preparation and performance into their teaching, but who has a sincere commitment to education and to students.

SCHEDULE

Sunday, March 25, 2007

NCB Executive Committee Meeting
9:00 AM – 1:00 PM
Heartland

Registration
10:00 AM – 1:00 PM
2:00 PM – 6:00 PM
Ballroom Foyer

Upload Presentations
10:00 AM – 12:00 PM
1:30 PM – 5:30 PM
Talbot

Poster Setup
4:00 PM – 10:00 PM
Campaign

Entomology of Fly Fishing Symposium
1:00 PM – 5:00 PM
Ballroom B

Apiculture Symposium
Bee Health is More Than Just Mite Control
1:00 PM – 5:00 PM
Ballroom C

Photo Salon
6:00 PM – 7:00 PM
Ballroom B & C

Linnaean Games
7:00 PM – 9:00 PM
Gamemaster: W. Wyatt Hoback
University of Nebraska at Kearney
Ballroom B & C

PROGRAM

Sunday, March 25, 2007

Entomology of Fly Fishing Symposium
Sunday, March 25, 2007
1:00 PM – 5:00 PM
Ballroom B

Organizer and Moderator:
Terry D. Galloway
Department of Entomology
University of Manitoba
Winnipeg, MB, R3T 2N2
terry_galloway@umanitoba.ca

1:00	001	Introduction **Terry D. Galloway,** Department of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2
1:05	002	The Art, Science and Recreation of Fly Fishing **Terry D. Galloway**, Department of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2
1:30	003	Benthic Niches: Fly Fishing in a Lighter Than Air World **Robert Newbury**, 11215 Maddock Ave, Newbury Hydraulics, Okanagan Centre, BC, V4V 2J7
2:30	004	Fly Fishing Manitoba **Brian Joynt**, Don Sexton and Gerry Beck, Manitoba Fly Fishers' Association, Winnipeg, MB
3:00		**BREAK**
3:30	005	Recreational Entomology: A Brief Exploration of the Relationship between Fly Fishing and Entomology **Will Milne**, Waterside Manitoba, Winnipeg, MB

4:00 006 Hatching Patterns of Insects from Representative Streams and Lakes in Manitoba
Don G. Cobb, 501 University Crescent, Department of Fishersies and Oceans, Winnipeg, MB, R3T 2N6

4:30 007 An Introduction to Hackle Herding: Poultry Production for Fly Fishers
Bob Hammon, Box 20,000-5028, Colorado State University, Grand Junction, CO 81502-5028, Tom Whiting, 5796 Sawmill Mesa Rd, Whiting Farms, Delta, CO, 81416

Apiculture Symposium
Bee Health is More Than Just Mite Control
Sunday March 25, 2007
1:00 PM – 5:00 PM
Ballroom C

Organizer and Moderator:
Rhéal Lafrenière
Provincial Apiarist
Manitoba Agriculture, Food and Rural Initiatives
Ag. Services Complex Bldg., 204-545 University Cres.
Winnipeg, Manitoba, Canada, R3T 5S6
Rheal.Lafreniere@gov.mb.ca

1:00 008 Problems Associated with Feeding Sucrose and Corn Syrups to Honey Bees
Rob W. Currie, Dept. of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2

1:30 009 Interactions of *Varroa* With *Nosema* and Chalkbrood in a Honey Bee Hive: Revisiting Past Research of a Current Concern
David Ostermann, Ag Services Complex, 204 - 545 University Cr., Manitoba Agriculture Food & Rural Initiatives, Winnipeg, MB, R3T 5S6

2:00	010	Oxalic Acid Distribution in Honey Bee Colonies is Driven by Bee-To-Bee Contact **Nicholas P. Aliano** and Marion D. Ellis, Department of Entomology, 202 Plant Industry Bldg., University of Nebraska-Lincoln, Lincoln, NE, 68583
2:30	011	What is Behind the Major Honey Bee Colony Die-off in France? **Yves M. Le Conte**, Site Agroparc, Domaine Saint-Paul, Laboratoire Biologie et Protection de L'Abeille, INRA, 84914 Avignon, France
3:00		**BREAK**
3:30	012	Honey Bee Health in Crisis: Assessing Colony Health and Predicting Colony Survival **Richard E. Rogers**, 53 Blossom Dr, Wildwood Labs Inc, Kentville, NS, B4N 3Z1
4:00	013	Almond Pollination and Honey Bee Health **Marion D. Ellis**, 202 PI Bldg., Department of Entomology, University of Nebraska, Lincoln, NE, 68583-0816
4:30	014	Summary and Bee Health Discussion **Rheal Lafreniere**, Ag Services Complex, 204 - 545 University Circle, Manitoba Agriculture Food and Rural Initiatives, Winnipeg, MB, R3T 5S6

SCHEDULE

Monday, March 26, 2007

Registration
8:00 AM – 3:00 PM
Ballroom Foyer

Upload Presentations
9:00 AM – 12:00 PM
1:30PM – 4:00 PM
Talbot

Opening Session
8:00 AM – 10:00 PM
Ballroom C

B.Sc./M.Sc. Student Competition Papers
10:15 AM – 12:00 PM
Sections A–Cf - Ballroom A
Sections D–Fb - Ballroom B

Ph.D. Student Paper Competition
10:15 AM – 12:00 PM
Sections A–B - Ballroom C
Secions Ca–Fb - Kildonan

Student Competition Poster Session
10:15 AM – 12:00 PM
1:00 PM – 5:30 PM
Campaign

Scientific Illustration Symposium
Learning Techniques for Insect Illustration
1:00 PM – 5:00 PM
Ballroom C

Urban Forestry Symposium
1:00 PM – 5:00 PM
Ballroom B

Submitted Papers
1:00 PM – 3:00 PM
Sections A – Cf
Ballroom A

Scientific Illustration Workshop
6:30 PM – 7:30 PM
Kildonan

Photo Salon
6:00 PM – 8:00 PM
Ballroom B & C

Submitted Poster Setup
6:00 PM – 8:00 PM
Campaign

Linnaean Games
8:00 PM – 10:00 PM
Gamemaster: W. Wyatt Hoback
University of Nebraska at Kearney
Ballroom B & C

PROGRAM

Monday, March 26, 2007

Opening Session
8:00 AM – 10:00 AM
Ballroom C

Call to Order
Gary Hein, President
North Central Branch
Entomological Society of America

Welcome
Blaine Timlick, President
Entomological Society of Manitoba

Local Arrangements Update
Brent Elliott

Program Update
Marion Ellis

Message from your ESA
Scott H. Hutchins, President
Entomological Society of America

ESA Governing Board Report
Larry Charlet
NCB Representative to ESA Governing Board

BCE-ACE Message
Mitch Meehan
NCB-BCE Representative

President's Address
Gary Hein

Preliminary Business Meeting

B.Sc./M.Sc. Student Competition Papers
Sections A–Cf
Monday, March 26, 2007
10:15 AM – 11:51 PM
Ballroom A

Moderator:
Robert Wright
University of Nebraska
Lincoln, Nebraska
rwright2@unl.edu

10:15 015 Deployment of *Trichogramma ostriniae* for Suppression of European Corn Borer, *Ostrinia nubilalis* (Hübner), in Kentucky bell peppers
Kathleen G. Russell and Ric Bessin, S225 Ag. Sciences North, University of Kentucky, Lexington, KY, 40546

11:27 016 Examining *Varroa destructor*'s Use of Honey Bee Brood in Winter
Paul R. Kozak and Rob Currie, Animal Science Building, Room 218c, University of Manitoba, Winnipeg, MB, R3T 2N2

10:39 017 Sampling Populations of *Tribolium* spp. in Flour Mills
Karen J. Hawkin, 12 Dafoe Road, Room 214, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2, Paul G. Fields, 195 Dafoe Rd, Agriculture and Agri-Food Canada, Winnipeg, MB, Canada, R3T 2M9

10:51 018 Food Preference of the Grasshopper Species *Arphia xanthoptera* (Burmeister) and *Dichromorpha viridis* (Scudder) (Orthoptera: Acrididae)
Sean D. Whipple, Matthew L. Brust and W. Wyatt Hoback, 1701 West 35th Street Apt. A-113, University of Nebraska-Kearney, Kearney, NE, 68845

11:03 019 Effects of Tallgrass Prairie Management (Burning, Haying, Grazing) on Prairie Bees (Hymenoptera:Apoidea)
Rebecca L. Andres and David A. Rider, 1300 Albrecht Dr., Hultz Hall Rm 202, North Dakota State University, Fargo, ND, 58105

11:15 020 The Influence of Prescribed Burning and Grazing on the Dakota Skipper, *Hesperia dacotae*, Habitat in South-Eastern Manitoba
Lara M. Bates, 515 Portage Ave, University of Winnipeg, Winnipeg, MB, Richard Westwood, 515 Portage Ave, University of Winnipeg, Winnipeg, MB

11:27 021 Hot on the Trail: Evidence of Chemical Trailing Behavior in the Grain Mite, *Acarus siro*
Brian D. Sass, Tamara L. Smith and W. Wyatt Hoback, 905 West 25th St., Bruner Hall of Science, University of Nebraska at Kearney, Kearney, NE, 68849

11:39 022 A Survey of Terrestrial Mangrove Invertebrates on a Tropical Island
Heather R. Tracy, Marc Albrecht and Wyatt Hoback, Bruner Hall of Science, 905 W 25th St., University of Nebraska at Kearney, Kearney, NE, 68849

B.Sc./M.Sc. Student Competition Papers
Sections Da–Fb

Monday, March 26, 2007
10:15 AM –11:15PM
Ballroom B

Moderator:
Raymond Cloyd
Kansas State University
Manhattan, Kansas
rcloyd@ksu.edu

10:15 023 The Effects of Photoperiod on Development Rates of Forensically-Important Blow Flies
Michael L. Fisher, Leon G. Higley and John E. Foster, 202 Plant Industry, University of Nebraska–Lincoln, Lincoln, NE, 68583

10:27 024 Impact of Neonicotinoid Insecticides on Soybean Aphid Under Field and Laboratory Conditions
Leonardo C. Magalhaes, Thomas E. Hunt and Blair D. Siegfried, 202 Plant Industry Building, University of Nebraska–Lincoln, Lincoln, NE, 68583-0816

10:39 025 Pyrethroid Resistance in the Corn Earworm
Alana L. Jacobson and Ricky E. Foster, 901 W. State Street, Purdue University, West Lafayette, IN, 47907

10:51 026 The Interaction of Soybean Aphid and Soybean Cyst Nematode: Responses of Several Resistant and Susceptible Soybean Varieties
Joshua R. Heeren, Nicholas A. Tinsley, Ronald E. Estes, Jared B. Schroeder, Michael E. Gray, Kevin L. Steffey and Terry L. Niblack, Department of Crop Sciences, 1102 South Goodwin Ave, University of Illinois, Urbana, IL, 61801, Matthew E. O'Neal, M. Felicitas Avendano and Gregory L. Tylka, 117 Insectary, Iowa State University, Ames, IA, 50011

11:03 027 Community and Environmental Variables and the Relationship to Pollinator Visitation in the Endangered Western Prairie Fringed Orchid (*Platanthera praeclara*)
Chris Friesen, 27 Noble Avenue, University of Manitoba, Winnipeg, MB, R2L 0J3, Richard Westwood, 515 Portage Avenue, University of Winnipeg, Winnipeg, MB R2L 0J3

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Ph.D. Student Competition Papers
Sections A-B

Monday, March 26, 2007
10:15 AM –11:15 PM
Ballroom C

Moderator:
John Obrycki
University of Kentucky
Lexington, Kentucky
john.obrycki@uky.edu

10:15 028 Fungal Detection in Wheat Using Near-Infrared Hyperspectral Imaging
Chandra B. Singh, Digvir S. Jayas, Jitendra Paliwal and Noel D. White, E2- 376, EITC, Biosystems Engg, University of Manitoba, University of Manitoba, Winnipeg, MB, R3T 5V6

10:27 029 Mitochondrial DNA Sequences From North American Species of Lygus
Prasad S. Burange, 202 Hultz Hall, North Dakota, North Dakota State University, Fargo, ND, 58105 U.S.A., Richard L. Roehrdanz, Insect Genetics and Biochemistry, 1605 Albrecht Blvd., USDA-ARS RRVARC Biosciences Research Laboratory, Fargo, ND, 58105 U.S.A., Mark A. Boetel, 202 Hultz Hall, North Dakota, North Dakota State University, Fargo, ND, 58105 U.S.A.

10:39 030 Comparison of Resistant and Susceptible Strains of Western Rootworms Using cDNA Microarrays
Analiza P. Alves, 202 Plant Industry, University of Nebraska–Lincoln, Lincoln, NE, 68583-0816, Hugh M. Robertson and Kimberly K. O. Walden, 320 Morrill Hall, 505 S. Goodwin Ave, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, Susan T. Ratcliffe, S-316 Turner Hall MC-046, 1102 S Goodwin Ave, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, Blair D. Siegfried, 202 Plant Industry, University of Nebraska–Lincoln, Lincoln, NE, 68583-0816

10:51 031 Population Dynamics of the Hessian Fly, a Wheat Pest in the Southeastern United States
Philip K. Morton, Yan M. Crane and Brandi J. Schemerhorn, 901 W. State St., Purdue, West Lafayette, IN, 47907

11:03 032 Inheritance of Resistance to Cry1Ab Toxin from *Bacillus thuringiensis* in a Field Derived Strain of *Ostrinia nubilalis*
Andre Luiz B. Crespo, Terence A. Spencer and Blair D. Siegfried, 202 Plant Industry Building, University of Nebraska–Lincoln, Lincoln, NE, 68583

Ph.D. Student Competition Papers
Sections Ca-Fb

Monday, March 26, 2007
10:15 AM –11:27 PM
Kildonan

Moderator:
Richard Weinzierl
University of Illinois
Urbana, Illinois
weinzier@uiuc.edu

10:15 033 Can Genetic Selection Improve Specific Foraging Traits of the Predatory Mite, *Phytoseiulus persimilis*?
Punya Nachappa, David Margolies and James Nechols, 124 Waters Hall, Kansas State University, Manhattan, KS, 66506

10:27 034 Temperature Changes in Honey Bees Due to Infestation by Parasitic Mites
Suresh Desai, Manickavasagan Annamalai, Digvir Jayas and Rob Currie, # 218 Animal Science Building, Dept. of Entomology, Department of Biosystems Engineering, University of Manitoba, Winnipeg, MB, R3T 2N2

10:39 035 Formic Acid Gas Distribution When Used as a Fumigant in Overwintering Honey Bee Colonies to Control *Varroa destructor*
Rassol Bahreini and Rob W. Currie, Entomology Dept., University of Manitoba, R3T 2N3, Winnipeg, MB, Canada

10:51 036 Genetic Variation of Field Populations of Wheat Curl Mite, *Aceria tosichella* Keifer
Benjawan Siriwetwiwat, 202 Plant Industry Building, UNL Department of Entomology, Lincoln, NE, 68503, Gary L. Hein, 4502 Ave I , Panhandle Research and Extension Center-UNL, Scottsbluff, NE, 69361, Roy C. French, 426 Plant Sciences Hall, USDA-ARS: Department of Plant Pathology-UNL, Lincoln, NE, 68583, John E. Foster, 202 Plant Industry Building, UNL Department of Entomology, Lincoln, NE, 68503

11:03 037 Control of Stored-Product Insect Pests Using Smoke Generated From Burning Rice (Paddy) Husks
L. K. W. Wijayaratne, 12 Dafoe Road, Room 214, University of Manitoba, Winnipeg, MB, Canada, R3T 2M9

11:15 038 Investigation of 3D Geometry of Cereal Grain Porous Media Using X-Ray Computed Tomography Images
S. Neethirajan, D.S. Jayas, N.D.G. White, H. Zhang E2 - 376 Biosystems Engineering, University of Manitoba, Winnipeg, MB, R3T5V6

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Monday, March 26, 2007
Scientific Illustration Symposium
Learning Techniques for Insect Illustration

1:00 PM –5:00 PM
Ballroom C

Moderator:
Lana Johnson
University of Nebraska
Ljohnson1@unl.edu

1:00 039 Understanding Digital Image Resolution
Lana K. Johnson, 111 Mussehl Hall, University of Nebraska, Lincoln, NE, 68583

1:45 040 This is Not That Hard: Digital Macro-Photography for Entomologists
Marlin E. Rice, 103 Insectary, Iowa State University, Ames, IA, 50011

2:10 041 Traditional Drawing Methods Using a Computer
J. Marie Metz, 4231 Monument Wall Way #347, NMNH Smithsonian, Fairfax, VA, 22030

3:00 **BREAK**

3:15 042 Teaching Scientists How to Draw
Lana K. Johnson, 111 Mussehl Hall, University of Nebraska, Lincoln, NE, 68583

4:00 043 Digital Illustration and Photography Combined
J. Marie Metz, 4231 Monument Wall Way #347, NMNH Smithsonian, Fairfax, VA, 22030

4:45 044 Photography: Many Changes, and Much That Remains the Same
John Acorn, University of Alberta, 777 General Services Building, Edmonton, AB

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Monday, March 26, 2007
Urban Forestry Symposium

1:00 PM –5:00 PM
Ballroom B

Organizers:
Robert C. Venette
USDA Forest Service
St. Paul, Minnesota
Robert Lamb
Agriculture Agri-Food Canada
Winnipeg, Manitoba

Moderator:
Robert C. Venette
USDA Forest Service
St. Paul, Minnesota
Venet001@unm.edu

1:00 045 Mediterranean Pine Engraver: California Surfing Across North America?
Robert C. Venette, Northern Research Station, USDA Forest Service, 1561 Lindig St., St. Paul, MN 55108, Steven J. Seybold, Pacific Southwest Research Station, 720 Olive Drive, Suite D, USDA Forest Service, Davis, CA, 95616, Jana Lee and Walter Abigail, University of Minnesota, 219 Hodson Hall, 1980 Folwell Ave., Department of Entomology, St. Paul, MN, 55108

1:30 046 The Impact of Alien Birch Leafmining Sawfies on Urban and Native Forests in North America
Chris J. MacQuarrie, 442 Earth Sciences Bldg, University of Alberta, University of Alberta, Edmonton, AB, T6G2H1

2:00 047 Challenges in Urban Forestry: Cottony Psyllid, *Psyllopsis discrepans* (Flor), Infesting Ash in Alberta
Ken M. Fry, 4500-50th Street, Olds College, Olds, NA, T6H1R4, Chris Saunders and Bill Barr, 12304-107 Street, City of Edmonton Community Services, Edmonton, AB, T5G2S7, Frank Tinning, 5 Anne Street, City of St. Albert Parks Department, St. Albert, AB, T8N3Z9

2:30 048 Increasing Early Detection of Invasive Species Through Targeted Outreach
Ashley D. Walter and Clifford Sadof, 901 West State Street, Smith Hall, Purdue University, West Lafayette, IN, 47907

3:00 **BREAK**

3:30 049 How the Coalition to Save the Elms Assists in Protecting Winnipeg's Urban Forest
Samantha A. Mutchmor, 1539 Waverley Street, Coalition to Save the Elms, Winnipeg, MB, R3T 4V7

4:00 049x The Emerald Ash Borer, *Agrilus planipennis*, (Coleoptera: Buprestidae): A Catastrophic Threat to the Canadian Urban Ash Resource
Barry Lyons, Canadian Forest Service, Great Lakes Forestry Center, Natural Resources Canada, Sault Ste. Marie, ON

4:30 049y Management of Insect Vectors of Dutch Elm Disease in Manitoba
Neil J. Holliday and Sunday Oghiakhe, Department of Entomology, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2

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Student Competition Posters

D050 – D072
10:00 AM – 5:30 PM
Campaign

D050 Small Mammal and Carrion Beetle Interactions
Phillip A. Dobesh, 1928 South 11th St., Lincoln, NE, 68502, Wyatt Hoback, Bruner Hall of Science, 905 West 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849, David A. Wedin and Larkin Powell, School of Natural Resources, 419 Hardin Hall, University of Nebraska–Lincoln, Lincoln, NE, 68583-0974

D051 Effects of Different Cucumber Plant Architectures on the Prey-Finding Time and Foraging Behavior of the Predatory Mite *Phytoseiulus persimilis*
Lessando M. Gontijo, James R. Nechols and David Margolies, 123 W. Waters Hall, Kansas State University, Manhattan, KS, 66506-4004

D052 Between Caste Gene Expression in the Termite *Reticulitermes flavipes*
Matthew M. Steller and Srini Kambahmpati, 123 W Waters Hall, Kansas State University, Manhattan, KS, 66502

D053 Sex-Specific Antipredator Response in *Anax junius*, a Migratory Dragonfly
Bodini Herath, Brady Johnson, Josh Lunski and Linda Fuselier, Biosciences Department, 1104 7th Ave South, Minnesota State University, Moorhead, Moorhead, MN, 56563

D054 Recent Saltcedar, *Tamarix* spp., Invasion Does Not Alter Ant (Formicidae) Diversity or Abundance in Nebraska
Jessica D. Jurzenski and W. Wyatt Hoback, 905 W. 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849

D055 Biased Sex Ratios of Larval Populations of *Anax junius* in the Prairie Pothole Region
Char Binstock, Lewis Noska, Chris Ferrari, Josh Sandvik and Linda Fuselier, Biosciences Department, 1104 7th Ave S, Minnesota State University, Moorhead, Moorhead, MN, 56563

D056 Habitat use in Three Genera of Plecopterans
Catherine Witt, Charles Johnson, Joseph Devorak, Jackie Erickson and Linda Fuselier, Biosciences Department, 1104 7th Ave S, Minnesota State University, Moorhead, Moorhead, MN, 56563

D057 The Influence of Brook Stickleback (*Culaea inconstans*) on Macroinvertebrates in an Artificial Wetland
Katherine Braun, Brandon Kowalski, Jill Wavra, Rachel Savaloja and Linda Fuselier, Biosciences Department, 1104 7th Ave S, Minnesota State University, Moorhead, Moorhead, MN, 56563

D058 mtDNA Barcoding for Taxonomic Indentification Within the Genus *Agrilus*
John T. Shukle and Jeffrey D. Holland, 901 West State St., Purdue University, West Lafayette, IN, 47907

D059 Are they Biting? Fishing Tiger Beetle Larvae Allows Conservation of Rare Species and Their Habitat
Jennifer R. Johnson, 905 W. 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849, Mathew L. Brust, 202 Plant Industry Bldg, University of Nebraska–Lincoln, Lincoln, NE, 68583-0816, William W. Hoback, 905 W. 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849

D060 The Impacts of Light and Light Types on Nocturnal Carrion Beetles (Silphidae) with an Emphasis on The American Burying Beetle, *Nicrophorus americanus*
Rachel M. Anschutz, William J. Allgeier, Daniel J. Snethen and William W. Hoback, 905 West 25th Brunner Hall, University of Nebraska at Kearney, Kearney, NE, 68849

D061 A Line in the Stored Products: The Grain Mite, *Acarus siro* Avoids Citrus Extract
Roger W. Yerdon, Brian D. Sass, Tamara L. Smith and W. Wyatt Hoback, 905 W 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849

D062 Locating Habitat for Specialist Longhorned Beetles (Coleoptera: Cerambycidae)
Carolyn J. Foley and Jeffrey D. Holland, Department of Entomology, 901 W. State Street, Purdue University, West Lafayette, IN, 47907

D063 Efficacy of Miticides Applied at Tassel and Early Dough Stages for Control of Spider Mites in Corn in 2005
Holly N. Davis, 123 W. Waters Hall, Kansas State University, Manhattan, KS, 66506, Larry Buschman, Randy Currie, and Phil Sloderbeck, 4500 E. Mary St., KSU SWREC, Garden City, KS, 67846

D064 Efficacy of a Systemic Pesticide Against Leafhoppers in Commercial Potato Production
Jeffrey J. Hamik, Ben Zechmann and W. Wyatt Hoback, 905 West 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849

D065 Comparisons in the *Melanoplus packardii* Group: Evidence for Species Status of *Melanoplus fluviatilis* Bruner
Mathew L. Brust, 1038 A Street Apt. 1, University of Nebraska-Lincoln, Lincoln, NE, 68502

D066 Effect of Mating on Pheromone Biosynthesis in Female *Tenebrio molitor* (Coleoptera: Tenebrionidae)
Jaswinder Mangat and Désirée Vanderwel, 515 Portage Avenue, University of Winnipeg, Winnipeg, MB, R3B 2E9

D067 Analysis of Expressed Sequence Tags (ESTs) From the Gut of the European Corn Borer (*Ostrinia nubilalis* Hubner)
Chitvan Khajuria, 123 W. Waters Hall, Entomology, Kansas State University, Manhattan, KS, 66506, Yu-Cheng Zhu, USDA-ARS-JWDSRC, 141 Exp Stn Rd, Stoneville, MS 38776, Ming Chen, 123 W. Waters Hall, Entomology , Kansas State University, Manhattan, KS, 66506, Lawrent Buschman, Southwest Research-Extension Center, 4500 E. Mary St., Kansas State University, Garden City, KS, 67846, Kun Y. Zhu, 123 W. Waters Hall, Entomology , Kansas State University, Manhattan, KS, 66506

D068 Investigating the Key for Multi-Year Survival of Sugarbeet Root Maggot in Cold Storage
Anitha Chirumamilla and Mark A. Boetel, Hultz Hall Room No. 215, Department of Entomology, North Dakota State University, Fargo, ND, 58105, George D. Yocum, 1605, Albrecht Boulevard, USDA-ARS, Biosciences Research Laboratory, Fargo, ND, 58105

D069 Diversity of Symbiotic Bacteria Associated with the Hessian Fly [*Mayetiola destructor* (Say)]
Raman Bansal, 123 Waters Hall, Entomology, Kansas State University, Manhattan, KS, 66506, Scot H. Hulbert, Department of Plant Pathology, Johnson Hall, Washington State University, Pullman, WA, 99164, Xuming Liu and John C. Reese, 123 Waters Hall, Entomology, Kansas State University, Manhattan, KS, 66506, Jeffrey J. Stuart, WSLR, Entomology, Purdue University, West Lafayette, IN, 47907, Ming-Shun Chen, 123 Waters Hall, Entomology, Kansas State University, Manhattan, KS, 66506

D070 Parasitoids in the Classroom: Eye Color Genetics in *Habrobracon hebetor*
Evan C. Lampert, 215 Hultz Hall, North Dakota State University, Fargo, ND, 58105, Bob Taylor, 55 1st Ave S, Kindred High School, Kindred, ND, 58051

D071 Response of Western Corn Rootworm, *Diabrotica virgifera virgifera* LeConte, to Selection for Survival on Cry3Bb1 Corn
Lisa N. Meihls, Division of Plant Science, 205 Curtis Hall, University of Missouri, Columbia, MO, 65211, Blair D. Siegfried, Department of Entomology, 202 Plant Industry Bldg., University of Nebraska, Lincoln, NE, 68583, Bruce E. Hibbard, USDA-ARS, 205 Curtis Hall, University of Missouri, Columbia, MO, 65211

D072 Susceptibility of Wheat and Maize Varieties to Stored-Product Insects
Nagdy F. Abdel-Baky, Samir S. Awadalla and Hala A. ElSyrafi, Economic Entomology Department, Faculty of Agriculture , Egypt, Mansoura University, Mansoura, Egypt, 35516, Mahrous S. Gharib, Egypt, Giza, Plant Protection Research Institute, Dokii, Egypt, Ahmed Y. AbdelGhany, Economic Entomology Department, Faculty of Agriculture , Egypt, Mansoura University, Mansoura, Egypt, 35516

Monday, March 26, 2007
Submitted Papers
Sections A - Cf
1:00 PM –2:48 PM
Ballroom A

Moderator:
Ron Seymour
University of Nebraska
Lincoln, Nebraska
rseymour1@unl.edu

1:00 073 The Fire-Colored Beetles of Manitoba (Coleoptera: Pyrochroidae)
Daniel K. Young, 445 Russell Laboratories, Department of Entomology; 1630 Linden Drive, University of Wisconsin, Madison, WI, 53706

1:12 074 Assessing Habitat Change Through Use of Historical Records
Rob Roughley and Jen L. Murray, Department of Entomology, 63Dafoe Road, University of Manitoba, Winnipeg, MB, R3T 2N2

1:24 075 Conservation of Natural Enemies in Seed Potatoes Through Targeted Application of Insecticide
Ian V. MacRae, Edward Radcliffe and David Ragsdale, 219 Hodson Hall, 1980 Folwell Ave, University of Minnesota, St Paul, MN, 56716, Matthew Carroll, National Risk Management Research laboratory, 26 W Martin Luther King Jr. Dr, U.S. Environmental Protection Agency, Cincinnati, OH

1:36 076 Methods for Collecting, Processing, and Preparing Chalcidoidea for study
Patrick B. Beauzay, Department of Entomology, 1300 Albrecht Drive, Box 5346, North Dakota State University, Fargo, ND, 58105

1:48 077 Assessing the Combined Effect of Natural Enemies and Plant Resistance to Suppress Soybean Aphid Populations
Alejandro C. Costamagna and David W. Ragsdale, Department of Entomology, 219 Hodson Hall, 1980 Folwell Ave,, University of Minnesota, Saint Paul, MN, 55108

2:00 078 The Continuing PVY Epidemic in North American Seed Potatoes
Edward B. Radcliffe, Jeffrey A. Davis and David W. Ragsdale, 1980 Folwell Ave., University of Minnesota-St. Paul, St. Paul, MN, 55108

2:12 079 Sex Differences and Size at Emergence Are Not Linked to Biased Sex Ratios in the Common Green Darner, *Anax junius* (Odonata: Aeshnidae)
Linda Fuselier, Paul Decker, Josh Lunski, Tracey Mastel and Sarah Skolness, Biosciences Department, 1104 7th Ave South, Minnesota State University, Moorhead, Moorhead, MN, 56563

2:24 080 NIR Hyperspectral Imaging to Detect Infestation by *Cryptolestes ferrugineus* Inside Wheat Kernels
Manickavasagan Annamalai, Mahesh Sivakumar, Digvir S. Jayas and Jitendra Paliwal, E1- 342 EITC, University of Manitoba, Winnipeg, MB, R3T5V6, Noel. D. G. White, 195 Dafoe Road, Agriculture and Agri Food Canada, Winnipeg, MB, R3T2M9

2:36 081 Storage of High Moisture Grains
Gayathri Pitchai and Jitendra Paliwal, E1-342 EITC, University of Manitoba, Winnipeg, MB, R3T 5V6, Noel White, Agriculture & Agri-Food Canada, Winnipeg, MB, R3T 4M1, Digvir Jayas, 207, Aministration Building, University of Manitoba, Winnipeg, MB, R3T 3N2

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SCHEDULE

Tuesday, March 27, 2007

Registration
7:30 AM – 12:00 PM
Ballroom Foyer

Student Lunch
12:00 PM – 1:15 PM
Ballroom A

Awards Mixer and Dinner
6:00 PM – 9:00 PM
Ballroom B & C

Student Symposium
International Collaboration in Entomology
8:25 AM – 11:20 AM
Ballroom A

Wheat Symposium
Multi-Pest Resistance to the Diverse Pests of Wheat
8:15 AM – 5:30 PM
Ballroom C

Stored Products Symposium
Ancient Problems, Modern Innovations
8:00 AM – 5:00 PM
Ballroom B

Biological Control Symposium
1:30 PM – 4:30 PM
Ballroom A

Submitted Papers
Sections D - Fb
8:30 AM – 10:54 AM
Kildonan

Submitted Posters
D133 – D154
8:00 AM – 5:30 PM
Campaign

Remove Posters
5:30 PM – 7:00 PM
Campaign

PROGRAM

Tuesday, March 27, 2007

Student Symposium
International Collaboration in Entomology

Tuesday, March 27, 2007
8:25 AM – 11:20 AM
Ballroom A

Organizer: Marcus McDonough
Purdue University
West Lafayette, Indiana

Moderator: Evan Lampbert
North Dakota State University
Fargo, North Dakota
evan.lampert@ndsu.edu

8:25	082	Introduction **Evan Lampert**, 215 Hultz Hall, North Dakota State University, Fargo, ND 58105
8:30	083	The Honey Bee Worker Inhibitor Discovery: A Story of Remarkable Complementary Collaboration and Friendship **Yves M. Le Conte**, Site Agroparc, Domaine Saint-Paul, Laboratoire Biologie et Protection de l'abeille, INRA, UMR 406 INRA/UAPV Ecologie des Invertébrés, F-84914 Avignon, France
8:55	084	Serendipity in International Collaborative Research **Terry D. Galloway**, Department of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2
9:20	085	Have Net Will Travel: Tips About International Collecting **Rob Roughley**, Department of Entomology, 63 Dafoe Road, University of Manitoba, Winnipeg, MB, R3T 2N2

9:45 087 IPM of Cereal and Food Legume Insect Pests in North Africa and West and Central Asia
Mustapha El Bouhssini, P.O. Box 5466, International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, S. Lhaloui, INRA-CRRA Settat, PO Box 589, Settat, Morocco

10:10 **BREAK**

10:30 086 International Collaboration: A Key to Classical Biological Control Success
Wade H. Jenner, 1125 Colonel By Drive, Carleton University, Ottawa, ON, K1S 5B6

10:55 088 Risk Assessment of Bt Corn Cultivation in the Phillipines: Bridging the Information Between Two Corn Borer Species
Sek Yee Tan, 202 PI Bldg., Univ. of Nebraska, Lincoln, NE, 68583-0816

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Wheat Symposium
Multi-Pest Resistance to the Diverse Pests of Wheat

Tuesday, March 27, 2007
8:15 AM – 5:30 PM
Ballroom C

Organizers and Co-Moderators:
Marion O. Harris – AM Session
North Dakota State University
Fargo, North Dakota
Marion.harris@ndsu.edu
Robert Lamb – PM Session
Agriculture Agri-Food Canada
Winnipeg, Manitoba
rlamb@agr.gc.ca

8:15 089 Why Wheat is Interesting For Studies of Host Plant Resistance
Marion O. Harris, 269 Hultz Hall, North Dakota State University, Fargo, ND, 58105

8:30 090 Cereal Aphids and Wheat: Types and Potential Sources of Resistance Against a Diverse Group of Pests
Robert J. Lamb, 195 Dafoe Road, Agriculture & Agri-Food Canada, Winnipeg, MB, R3T 2M9

9:00 091 Cecidomyiids: Economic Significance of the Hessian Fly and Orange Wheat Blossom Midge and the Resistance Available for Both Insect Pests
Ian L. Wise, Cereal Research Center, 195 Dafoe Road, Agriculture and Agri-Food Canada, Winnipeg, MB, R3T 2M9

9:30 092 From Rescue to Lillian and Beyond: Host Effects on Wheat Stem Sawfly - The Canadian Experience
Héctor A. Cárcamo and Brian L. Beres, 5403 - 1 Ave. S., Lethbridge Research Centre, Lethbridge, AB, T1J 4B1, Ron Depauw and Fran Clarke, Agriculture and Agri-Food Canada, Swift Current, SK, Robert Byers, 5403 - 1 Ave. S., Lethbridge Research Centre, Lethbridge, AB, T1J 4B1

10:00 **BREAK**

10:30 093 Resistance in Wheat to the Wheat Curl Mite: Is Biotype Development Inevitable?
Gary L. Hein, Panhandle Res & Ext Center, 4502 Ave I, University Nebraska–Lincoln, Scottsbluff, NE, 69361, Benjawan Siriwetwiwat, Dept. Entomology, University of Nebraska– Lincoln, Lincoln, NE,68583, Roy French, USDA-ARS, Lincoln, NE, 68583

11:00 094 Progress in Host Plant Resistance to Insect Pests of Cereals and Food Legumes in West and Central Asia and North Africa
Mustafa El Bouhssini, P.O. Box 5466, International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, S. Lhaloui, INRA-CRRA Settat, PO Box 589, Settat, Morocco, M. Nachit, P.O. Box 5466, International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, N. Nsarellah, INRA-CRRA Settat, PO Box 589, Settat, Morocco, M. Mosaad, S. Grando, O. Abdallah, R. R. Malhotra and A. Sarker, P.O. Box 5466, International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria

11:30 095 Gene-For-Gene Resistance to Insects
Karin G. Anderson and Marion O. Harris, 202 Hultz Hall, North Dakota State University, Fargo, ND, 58105

12:00 **LUNCH**

1:30 096 Integrated Approaches to Understanding the Mechanisms of Host Plant Resistance Against the Greenbug in Wheat
Yigun Weng, 6500 Amarillo Blvd., Texas Agricultural Experiment Station, W. Amarillo, TX, 79106

2:00 097 Identification and Genetic Characterization of Hessian fly Resistance in Synthetic Wheat
Steven S. Xu, 1307 18th St. North, USDA-ARS, Fargo, ND, 58105, Xiwen Cai and Marion O. Harris, North Dakota State University, Fargo, ND, 58105

2:30 098 Fitness Cost of Wheat Resistance
Kirk M. Anderson and Marion O. Harris, Department of Entomology, 202 Hultz Hall, North Dakota State University, Fargo, ND, 58105

3:00		**BREAK**
3:30	099	Biological Control and Host Plant Resistance: Compatible Approaches For Managing Wheat Stem Sawfly? **Thomas G. Shanower**, 1500 N. Central Ave., USDA-ARS, Sidney, MT, 59270
4:00	100	Managing the Evolution of Wheat Midge Virulence to Resistance Genes **Marjorie A. Smith**, Robert J. Lamb and Ian L. Wise, 195 Dafoe Road, Cereal Research Centre, Winnipeg, MB, R3T 2M9
4:30	101	Developing Wheat Host Plant Resistance to Insects: A Perspective on the Future **William A. Berzonsky**, 370G Loftsgard Hall, Plant Sciences Dept., North Dakota State University, Fargo, ND, 58105
5:00	102	Future Entomological Research in Support of Wheat Improvement **Stephen L. Fox**, 195 Dafoe Road, Agriculture and Agri-Food Canada, Winnipeg, MB, R3T 2M9

Stored Products Symposium
Ancient Problems, Modern Innovations

Tuesday, March 27, 2007
8:00 AM – 5:00 PM
Ballroom B

Organizers:
Noel White and Paul Fields
Agriculture and Agri-Food
Winnipeg, Canada
James Campbell
USDA-ARS
Manhattan, Kansas

Moderators:
Noel White – AM Session
Agriculture and Agri-Food
Winnipeg, Manitoba
nwhite@agr.gc.ca
James Campbell – PM Session
USDA-ARS
Manhattan, Kansas
James.campbell@gmprc.ksu.edu

8:00	103	Introduction **Noel White**, 195 Dafoe Road, Agriculture and Agri-Food Canada, Winnipeg, MB, R3T 2M9
8:05	104	Automated Monitoring Systems for Stored Grain Insects **Paul W. Flinn**, George P. Opit and James E. Throne, USDA-ARS, GMPRC, 1515 College Ave, Manhattan, KS, 66502
8:30	105	Accuracy and Sensitivity of Using Insector® to Detect Insects and Predict Their Density **Fuji Jian**, Opi Systems, Inc., 1216 36th Avenue NE, Calgary, AB, T2E 6M8
9:00	106	Automated Monitoring Systems for Stored-Grain Insects **Jitendra Paliwal**, Opisysytems Inc., 1216 36th Avenue NE, Calgary, AB, T2E 6M8

9:30	107	Improving Semiochemical Based Detection and Management Strategies for Cigarette Beetles: The Odyssey Continues? **Rizana M. Mahroof** and Thomas W. Phillips, 127 Noble Research Center, Department of Entomology and Plant Pathology, Oklahoma State University, Stillwater, OK, 74078
10:00		**BREAK**
10:30	108	Sampling of Grains in a Commercial Handling System and the Abiotic Changes That Can Occur While in Transit **Blaine H. Timlick**, 900 - 303 Main St., Canadian Grain Commission, Winnipeg, MB, R3C 3G8
11:00	109	Evaluating the Population Structure of Red Flour Beetles in Flour Mills **James F. Campbell**, 1515 College Ave, USDA ARS GMPRC, Manhattan, KS, 66502, Richard T. Arbogast, 1700 SW 23rd Drive, USDA ARS CMAVE, Gainesville, FL, 32608, Richard W. Beeman, 1515 College Ave, USDA ARS GMPRC, Manhattan, KS, 66502
11:30	110	Applications of Pheromones to Managing Stored Product Insects **Thomas W. Phillips**, 127 Noble Research Center, Oklahoma State University, Stillwater, OK, 74078
12:00		**LUNCH**
1:30	111	Innovative Research on Stored Products in Canada **Noel White**, 195 Dafoe road, Cereal Research Centre, Winnipeg, MB, R3T 2M9
2:00	112	Physical Control Methods for Museum Pests **Tom Strang**, Department of Canadian Heritage, 1030 Innes Road, Canadian Conservation Institute, Ottawa, ON, K1A 0M5

2:30	113	Practical Applications of a Novel Thermal Death Kinetic Model During Structural Heat Treatments **Xingwei Hou**, Bhadriraju Subramanyam, Dhanaraj Biona and Sajid Alavi, 201 Shellenberger Dr., Kansas State University, Manhattan, KS, 66502
3:00		**BREAK**
3:30	114	High Temperature Treatments in Food Processing Facilities **Rajshekhar Hulasare** and Bruce Lindsay, 3700 West Preserve Blvd, Temp-Air, Burnsville, MN, 55337
4:00	115	Combination of Physical and Chemical Methods to Control Insects on Stored Wheat to Reduce Fragments in Flour **Flavio A. Lazzari**, 201 Shellenberger Hall, Department of Grain Science and Industry, KSU, Manhattan, KS, 66506-2201; Fabiane F. Ceruti, Departamento de Zoologia, Caixa Postal 19020, Universidade Federal do Parana, 81531-980 Curitiba, Parana, Brazil/CNPq Fellowship; Sonia M. Lazzari, Department of Entomology, 127 Waters Hall, KSU/Universidade Federal do Parana - Brazil/ CNPq Fellowship, Manhattan, KS, 66506-4004; Bhadriraju Subramanyam and Xingwei Hou, 201 Shellenberger Hall, Department of Grain Science and Industry, KSU, Manhattan, KS, 66506-2201
4:30	116	Aerosol Insecticides For Insect Pest Management in Food Warehouses and Flour Mills **Frank H. Arthur**, 1515 College Avenue, USDA-ARS-GMPRC, Manhattan, KS, 66502
5:00	117	Concluding Remarks **James Campbell**, USDA - ARS, Manhattan, KS 66502

Biological Control Symposium

Tuesday, March 27, 2007
1:30 PM – 4:30 PM
Ballroom A

Organizer and Moderator:
Luis Canas
The Ohio State University
Wooster, Ohio
canas.4@osu.edu

1:30	118	Prospects For Integrating Host-Plant Resistance and Biological Control in Soybeans **Kelley Tilmon**, South Dakota State University, Brookings, SD, 57007
2:00	119	Habitat Affiliations of Aphid-Specialist Enemies of *Aphis glycines*, the Invasive Soybean Aphid: Implications to Biocontrol **Michael Brewer**, Michigan State University, East Lansing, MI
2:30	120	Detection of Cry1 Ab-Endotoxins in Coccinellidae in *Bacillus thuringiensis* Corn Fields **John Obrycki** and James D. Harwood, University of Kentucky, Lexington, KY
3:00		**BREAK**
3:30	121	Factors Affecting the Use of Nematodes as Biocontrol Agents Against Fungus Gnats in Greenhouses **Luis Canas**, Ganpati B. Jagdale and Parwinder S. Grewal, The Ohio State University, Wooster, OH
4:00	122	Introduced Lady Beetles and the State of the Alberta Fauna **John Acorn**, University of Alberta, Edmonton, AB, T6G 2E1

Submitted Papers
Sections D - Fb
Tuesday, March 27, 2007
8:30 AM – 10:54 AM
Kildonan

Moderator:
John Gavloski
Manitoba Agriculture, Food and Rural Initiatives
Carman, Manitoba R0G 0J0
jgavloski@gov.mb.ca

8:30 123 Evaluation of a Self-Application Device for the Reduction of Stable Flies on Pastured Cattle in Nebraska
David J. Boxler and John B. Campbell, 461 West University Dr., University of Nebraska, WCREC, North Platte, NE, 69101

8:42 124 2006 Field Trial Performance of Herculex I® and Herculex XTRA® for Management of Western Bean Cutworm and Black Cutworm
Jeff M. Edwards, Paul A. Neese, Gary D. Thompson and J. Edward King, 9330 Zionsville Road, Dow AgroSciences, Indianapolis, IN, 46268

8:54 125 Managing Internal Lepidopteran Pests of Apples in the Eastern U.S. and Canada With Spinetoram®, a New Spinosyn Insecticide From Dow AgroSciences
Paul A. Neese, Brian D. Olson, James E. Dripps, Randy M. Huckaba and Alan G. McFadden, 9330 Zionsville Rd., Dow AgroSciences LLC, Indianapolis, IN, 46268

9:06 126 Effect of Diatomaceous Earth and *Trichoderma harzianum* T-22 on the Fungus Gnat, *Bradysia sp. nr. coprophila* (Lintner)
Raymond A. Cloyd, 123 Waters Hall, Kansas State University, Manhattan, KS, 66506, Amy Dickinson, Illinois Natural History Survey, Champaign, IL, 61820

9:18	127	Evaluations of Insecticides for Control of Corn Earworm, *Helicoverpa zea*, in Sweet Corn **Richard A. Weinzierl**, William Shoemaker and Ron Estes, 1102 South Goodwin Avenue, University of Illinois, Urbana, IL, 61801
9:30	128	The Rotation Resistance Trait Spreads in the Iowa Western Corn Rootworm Population **Jon J. Tollefson**, Benjamin Kaeb and Patricia Prasifka, 110 Insectary Bldg., Iowa State University, Ames, IA, 5011-3140
9:42	129	Preliminary Investigations on the Biology and Management Corn Blotch Leaf Miner in Nebraska **Ronald C. Seymour**, Robert J. Wright and Terry A. DeVries, University of Nebraska–Lincoln, Adams County Extension, P.O. Box 30, Hastings, NE 68902-0030
9:54		**BREAK**
10:30	130	Wheat Defense Volatiles Released in Response to Feeding by the Russian Wheat Aphid **C. Michael Smith**, Sonia M. Lazzari, Sharon Starkey and Elena V. Boyko, Department of Entomology, 123 Waters Hall, Kansas State University, Manhattan, KS, 66506; Alexis Sparks and Ruth Welti, Division of Biology, Ackert Hall, Kansas State University, Manhattan, KS, 66506
10:42	131	Agronomic Systems Trials - A Summary and Discussion of Future Research **Clinton D. Pilcher** and Todd A. DeGooyer, 800 N. Lindbergh Blvd, Monsanto Company, St. Louis, MO, 63167

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Submitted Posters

D133 – D154
8:00 AM – 5:30 PM
Campaign

D133 The Sublethal Effects of Methoxyfenozide on the Reproductive Behavior and Field Orientation of the Codling Moth (*Cydia pomonella* L.)
Amanda K. Franklin, 1-87 Agricultural building, 105 West Broadway Apt. 23 , University of Missouri, Columbia, MO, 65211, Bruce Barrett, 1-87 Agricultural building, Universtiy of Missouri, Columbia, MO, 65211

D134 Does Glyceraldehyde-3-Phosphate Dehydrogenase From *Spodoptera frugiperda* Share an Epitope With Elongation Factor-1Alpha?
Melissa K. Stuart, 800 W. Jefferson St., Dept. of Microbiology/Immunology, KCOM-ATSU, Kirksville, MO, 63501

D135 Antioxidant Defense Response in a Galling Insect
Omprakash Mittapalli, Beutenberg Campus, Hans-Knoll-StraBe 8, D-07745, Max Planck Institute for Chemical Ecology, Department of Molecular Ecology, Jena, Germany, Gr, Jonathan J. Neal, Dept of Entomology, 901 West State Street, Purdue University, West Lafayette, IN, 47907, Richard H. Shukle, Dept. of Entomology, Purdue University, 901 West State Street, USDA-ARS, West Lafayette, IN, 47907

D136 Impact of Natural Enemies on Russian Wheat Aphid Populations
Gary L. Hein and John A. Thomas, 4502 Ave I, Panhandle Research and Extension Center, Scottsbluff, NE, 69361

D137 Natural Enemy Abundance in Insecticide-Treated Soy Fields in South Dakota
Bradley L. McManus and Billy W. Fuller, NPB box 2140c room 109, South Dakota State University, Brookings , SD, 57006

D138 Within and Between Field Movement of *Diabrotica barberi* and *D. virgifera virgifera* in the South Dakota Areawide Management Site
Bryan W. French, 2923 Medary Ave., USDA, ARS, NCARL, Brookings, SD, 57006, Laurence D. Chandler, 2150 Centre Avenue, Building D, Suite 3001, USDA, ARS, NPA, Ft. Collins, CO, 80526

D139 Are Northern Corn Rootworms Laying Eggs in Soybean?
Patricia L. Prasifka and Jon J. Tollefson, Insectary Building, Iowa State University, Ames, IA, 50011

D140 Data on the Seasonal Occurrence and Oviposition Preferences of the Lesser Chestnut Weevil (*Curculio sayi*) in Mid-Missouri
Ian W. Keesey and Bruce A. Barrett, 1-31 Agriculture BLDG, University of Missouri, Columbia, MO, 65203

D141 A Rare Phenomenon of Pentatomidae Drift Along the Atlantic Coast of Brazil
Sonia M. Lazzari, 127 Waters Hall, Kansas State University, Manhattan, KS, 66506-4004 /Universidade Federal do Parana - Brazil, CNPq Fellowship; Antonio R. Panizzi, Caixa Postal 231, Embrapa Soja - Brazil, Londrina, Parana, Brazil, 86001-970; Jocelia Grazia, Av. Bento Goncalves 9.500 , Universidade Federal do Rio Grande do Sul, Departamento de Zoologia, Porto Alegre, Rio Grande do Sul, Brazil, 91501-970; Charles M. Smith, 128 Waters Hall, Kansas State University, Manhattan, KS, 66506-4004

D142 Mycosis Inhibits Grasshopper and Mormon Cricket Necrophagy
Stefan T. Jaronski, 1500 N. Central Ave., USDA ARS NPARL, Sidney, MT, 59270

D143 *Metarhizium anisopliae* Strain F52 and Cover Crops for Sugarbeet Root Maggot Management
Ayanava Majumdar and Mark A. Boetel, 202 Hultz Hall, North Dakota State University, Fargo, ND, 58105, Stefan T. Jaronski, Northern Plains Agricultural Research Laboratory, USDA-ARS, Sidney, MT, 59270, Robert J. Dregseth and Allen J. Schroeder, 202 Hultz Hall, North Dakota State University, Fargo, ND, 58105

D144 Epizootiology of West Nile Virus in the Central Red River Valley of North Dakota and Minnesota, USA 2002 – 2006
Jeffrey A. Bell, Shreekanta Poudel, Christina M. Brewer, Nathan J. Mickelson and Gabriel W. Garman, University of North Dakota, Grand Forks, ND, 58202-90199, Todd Hanson, Grand Forks County Public Health Department, Grand Forks, ND, 58201, Jefferson A. Vaughan, University of North Dakota, Grand Forks, ND, 58202-90199

D145 Microfilariae from Passerine Birds Penetrate the Midguts of Floodwater Mosquitoes: Implication for Microfilarial Enhancement of Early Season West Nile Virus Transmission within the Red River Valley of Minnesota and North Dakota.
Christina M. Brewer, Jeffrey A. Bell, LeAnne Froese, Amber Basting, Vasyl V. Tkach and Jefferson A. vaughan, University of North Dakota, Grand Forks, ND, 58202-9019

D146 Developing a Data Set in Support of a Pesticide Label Change: A Case Study
Douglas W. Johnson, UK-REC, 1205 Hopkinsville St., University of Kentucky, Princeton, KY, 42445-0469

D147 Field Trial Performance of Herculex XTRA® and Herculex RW® for Protection Against Corn Rootworms
J. Edward King, Jeff M. Edwards, Paul A. Neese and Gary D. Thompson, 9330 Zionsville Road, Dow AgroSciences, Indianapolis, IN, 46268

D148 Spinetoram® (XDE-175): A Next Generation Spinosyn Insecticide From Dow AgroSciences
Paul A. Neese, Randy M. Huckaba, Melissa Willrich Siebert, James E. Dripps, Thomas C. Sparks, Fikru J. Haile and Jon M. Babcock, 9330 Zionsville Rd., Dow AgroSciences LLC, Indianapolis, IN, 46268

D149 Efficacy of Insecticide Application Placement and Timing on Army Cutworm Control in Sugarbeet
Susan L. Harvey, Gary L. Hein and Rick W. Patrick, Panhandle Research and Extension Center 4502 Avenue I, University of Nebraska, Scottsbluff, NE, 69361

D150 Strategic Evaluation of Bt-Rootworm Corn, Seed Treatments and Soil Insecticides
Jessica R. Barnes and Kenneth R. Ostlie, 1980 Folwell Ave, , 219 Hodson Hall, University of Minnesota, St. Paul, MN, 55108-6125

D151 Field Testing of Soybean Cultivars With Putative Resistance to Soybean Aphid
Ronald E. Estes, Jared B. Schroeder, Nicholas A. Tinsley, Joshua R. Heeren, Brian W. Diers, Michael E. Gray and Kevin L. Steffey, AW-101Turner Hall, 1102 S. Goodwin Ave., University of Illinois, Urbana, IL, 61801

D152 Evaluation of Selected Soybean Lines for Resistance to the Stem Borer, *Dectes texanus texanus* LeConte
Terutaka Niide, Lawrent L. Buschman, Michael C. Smith and Robert J. Whitworth, 123 W. Waters Hall, Manhattan, KS 66506-4004

D153 Categories of Russian Wheat Aphid *Diuraphis noxia* (Mordvilko) Biotype 2 Resistance in Wheat Genotypes
Sonia M. Lazzari, 127 Waters Hall, Department of Entomology, Kansas State University, Manhattan, KS, 66506-4004/ Universidade Federal do Parana - Brazil, CNPq Fellowship; Charles M. Smith, 128 Waters Hall, Department of Entomology, Kansas State University, Manhattan, KS, 66506-4004; George A. Milliken, 102A Dickens Hall , Department of Statistics, Kansas State University, Manhattan, KS, 66506; David Breth and Jordan Metcalf, 127 Waters Hall, Department of Entomology, Kansas State University, Manhattan, KS, 66506-4004

D154 Pest Status of the Soybean Stem Borer, *Dectes texanus*, in North America
Lawrence L. Buschman and Phillip E. Sloderbeck, 4500 E. Mary St., Kansas State University, Garden City, KS, 67846

SCHEDULE

Wednesday, March 28, 2007

Business Meeting
7:30 AM – 8:30 AM
Ballroom C

Registration
7:30 – 9:00 AM
Ballroom Foyer

Canola Symposium
Managing New and Old Pests in a Changing Crop
8:25 PM – 11:45 AM
Ballroom B

Corn and Soybean IPM Symposium
The Future of IPM in Corn and Soybean Production
8:20 AM – 12:00 PM
Ballroom C

Executive Committee Meeting
12:00 PM – 3:00 PM
Heartland

PROGRAM

Wednesday, March 28, 2007

Canola Symposium
Managing New and Old Pests in a Changing Crop

Wednesday, March 28, 2007
8:30 AM – 11:45 AM
Ballroom B

Organizer and Moderator:
John Gavloski
Manitoba Agriculture Food and Rural Initiatives
Carman, Manitoba
John.Gavloski@gov.mb.ca

8:30	155	Introduction **John Gavloski**, 65 3rd Avenue NE, Box 1149, Manitoba Agriculture, Food and Rural Initiatives, Carman, MB R0G 0J0
8:35	156	Powered by Canola – the North American Industry Response to Food and Fuel Demands **Matthew Stanford**, Canola Council of Canada, Magrath, AB, Canada
8:55	157	Development of a Classical Biological Control Program For *Delia radicum* in Canola **Neil J. Holliday**, Dept of Entomology, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2, Ulrich Kuhlmann, 1 Rue des Grillons, CABI Europe, Delémont, Switzerland, CH-2800, Peter G. Mason, Research Centre, 960 Carling Avenue, Agriculture and Agri-Food Canada, Ottawa, ON, Canada, K1A OC6, K S. Hemachandra, Kim Riley and Lars Andreassen, Dept of Entomology, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2

9:25	158	Assessment of Non-Target Host Range of a Potential Biological Control Agent for *Delia radicum* **Lars D. Andreassen**, 214 Animal Science Building, University of Manitoba, Winnipeg MB, R3T 2N2, Ulrich Kuhlmann, 1 Rue des Grillons, CABI Bioscience, Delemont Switzerland, 2800, Peter G. Mason, K.W. Neatby Building, Agricultre and Agri-Food Canada, Ottawa ON, K1A 0C6, Neil J. Holliday, 214 Animal Science Building, University of Manitoba Department of Entomology, Winnipeg MB, R3T 2N2
9:40	159	The Effects of Bacterial and Jasmonic Acid Treatments on Insects of Canola **Kate Bergen**, Dilantha Fernando and Neil J. Holliday, Department of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2
9:55	160	An Economic Risk Management Approach to Crucifer Flea Beetle, *Phyllotreta cruciferae* (Goeze), Control in Canola **Janet J. Knodel**, Denise Olson, Bryan Hanson and Robert Henson, Department of Entomology, Hultz Hall, NDSU, Fargo, ND 58104
10:20	**BREAK**	
10:30	161	Working Towards Integrated Management of Bertha Armyworm and Diamondback Moth in Canola: Current Satus and What is Needed **John E. Gavloski**, 65 3rd Ave NE, Box 1149, Manitoba Agriculture, Food and Rural Initiatives, Carman, MB, R0G0J0
10:50	162	Hairy Canola: Host Plant Resistance to Flea Beetles **Soroka, J**., Gruber, M., Holowachuk, J. and Grenkow. L. Saskatoon Research Centre, Agriculture and Agri-Food Canada, 107 Science Place, Saskatoon, SK, S7N 0X2

11:15 163 Effects of Seeding Date, Cultivar and Pesticides on Insect Pests of Canola in Alberta
Héctor A. Cárcamo, 5403 - 1 Ave. S., Lethbridge Research Centre, Lethbridge, AB, T1J 4B1, Jennifer Otani, Beaverlodge Research Farm, Agriculture and Agri-Food Canada, Beaverlodge, AB, Lloyd Dosdall, University of Alberta, Edmonton, AB, Robert Blackshaw and George Clayton, 5403 - 1 Ave. S., Lethbridge Research Centre, Lethbridge, AB, T1J 4B1, Neil Harker, John O'Donovan and Kelly Turkington, Agriculture and Agri-Food Canada, Lacombe, AB

Corn and Soybean IPM Symposium
The Future of IPM in Corn and Soybean Production

Wednesday, March 28, 2007
8:20 AM – 12:00 PM
Ballroom C

Organizer and Moderator:
Tom Hunt
University of Nebraska, Department of Entomology
Concord, Nebraska
thunt2@unl.edu

8:30 164 Introduction: IPM vs. Insurance
Thomas E. Hunt, 57905 866 Road, University of Nebraska, Concord, NE, 68728

8:40 165 **Keynote**: Implementing IPM in a Transgenic Landscape: A Futile Exercise?
Michael E. Gray and Kevin L. Steffey, S-320 Turner Hall, 1102 S. Goodwin Avenue, Department of Crop Sciences, University of Illinois, Urbana, IL, 61801

9:05	166	Bt- Rootworm Corn Performance and the Refuge Dilemma **Kenneth R. Ostlie**, 1980 Folwell Ave, , 219 Hodson Hall, University of Minnesota, St. Paul, MN, 55108-6125
9:20	167	The Effect of Seed Treatments, Poncho® and Cruiser® on Corn Yield in the Absence of Insect Pest Populations **Gerald E. Wilde**, Kraig L. Roozeboom and Aqeel Ahmad, 123 West Waters Hall, Kansas State University, Manahattan, KS, 66506
9:35	168	The Past, Present and Future of Spider Mite Control in Corn in the Texas Panhandle **Roxanne A. Bowling**, 310 E. 1st. Street, Room 100, Texas Cooperative Extension, Dumas, TX, 79029, Bonnie B. Pendleton, Division of Agriculture, West Texas A&M University, Canyon, TX, Gerald J. Michels, 6500 Amarillo Blvd., West, Texas Agricultural Experiment Station, Amarillo, TX, 79106, Robert D. Bowling, 1321 Powell Ave., Pioneer Hybrid International, Dumas, TX, 79029
9:50	169	An assault on Soybean IPM? A Southern Minnesota Perspective on Prophylactic Insect Control **Bruce D. Potter**, 23669 130th Street, University of Minnesota - SWROC, Lamberton, MN, 56152, Kenneth R. Ostlie, 1980 Folwell Avenue, 219 Hodson Hall, University of Minnesota- Department of Entomology, St. Paul, MN, 55108
10:05		**BREAK**
10:25	170	**Keynote**: Do the Current Weed Control Tactics Qualify as IPM? **Micheal D. Owen**, 2104 Agronomy Hall, Iowa State University, Ames, IA, 50011

10:50 171 Progress Towards Integrated Pest Management of the *Dectes* Stem Borer in Soybean
Phillip E. Sloderbeck and Lawrent L. Buschman, 4500 E. Mary St., Kansas State University, Garden City, KS, 67846

11:05 172 IPM and Transgenics: Is *C/VIDK* Relevant?
Von Kaster and Jon Sagers, 317 330th Street, Syngenta Seeds Inc, Stanton, MN, 55018, Ryan Kurtz, 3054 East Cornwallis Road , Syngenta Biotechnology Inc, Durham, NC, 27709

11:20 173 **Keynote**: Is IPM Alive, Dead, or Undead?
Leon G. Higley, 202 PI Bldg. University of Nebraska–Lincoln, Lincoln, NE, 68583-0816

11:45 174 Panel Discussion and Questions and Answers
Tom Hunt, Haskell Agricultural Laboratory, University of Nebraska, Concord, NE

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ASH Apiaries

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NCB-ESA Meeting, March 24-27, 2008
Columbus, Ohio

Mark your calendars for next year's NCB-ESA meeting to be held at the Hyatt Regency Hotel in Columbus, Ohio, March 24-27, 2008. The meeting dates in 2008 reflect a slight shift in scheduling to avoid the need for travel on Sunday, as an early Easter falls on March 23, 2008. Program events will be scheduled to allow Monday, March 24, to be the arrival date for program participants. Reserve the dates, alert your colleagues to the time and place, and be sure to plan to attend and contribute as the meeting moves to eastern side of the branch in 2008.

Sincerely,
Rick Weinzierl
NCB-ESA President-Elect