NORTH CENTRAL BRANCH

Entomological
Society of America

March 15-18, 2009

Steve Yaninek, NCB President

Hilton St. Louis at the Ballpark
1 South Broadway
Saint Louis, MO 63102

Entomological Society of America
Trécé Incorporated

Purdue University (Department of Entomology)
The Ohio State University (Department of Entomology)
University of Missouri (Division of Plant Sciences)
University of Kentucky (Department of Entomology)
University of Minnesota (Department of Entomology)
University of Illinois (Department of Entomology)
Iowa State University (Department of Entomology)
University of Nebraska (Department of Entomology)
Michigan State University (Department of Entomology)
Kansas State University (Department of Entomology)
University of Wisconsin (Department of Entomology)
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Sunday, March 15, 2009

NCB Executive Committee Meeting
2:00 – 5:00 PM
Market St.

Registration
11:00 AM – 6:00 PM
Gateway Galley

Photo Salon
6:00 PM – 7:00 PM
Gateway Ballroom III

Preliminary Linnaean Games
7:00 – 10:00 PM
Gateway Ballrooms I & II

A/V Room (Upload Presentations)
11:00 AM – 6:00 PM
Broadway I

Student Competition Poster Setup
11:00 AM – 9:00 PM
Arch View Ballroom

Program Symposium
Ecology and Impact of Spiders in Terrestrial Ecosystems
2:00 PM – 4:45 PM
Gateway Ballroom III

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Monday Schedule

Monday, March 16, 2009

Continental Breakfast
7:00 AM – 8:00 AM
Arch View Ballroom

Registration
8:00 AM – 5:00 PM
Grand Foyer

A/V Room (Upload Presentations)
8:00 AM – 5:00 PM
Broadway I

Plenary Session
8:00 AM – 10:00 AM
Gateway Ballroom I & II

Student Competition Posters
Session 1
10:00 AM – 5:00 PM
Arch View Ballroom

B.S. Student Competition Papers
Session 1
10:15 AM – 11:32 AM
Broadway II

M.S. Student Competition Papers
Session 2
10:15 AM – 12:08 AM
Gateway Ballroom III

M.S. Student Competition Papers
Session 3
10:15 AM – 11:58 AM
Gateway Ballroom IV

Ph.D. Student Competition Papers
Session 4
10:15 AM – 11:44 AM
Gateway Ballroom V
Monday, March 16, 2009 (continued)

Ph.D. Student Competition Papers
Session 5
10:15 AM – 11:32 AM
Gateway Ballroom I & II

Job Perspectives for Entomologists in Industry
12:00 PM – 5:30 PM
Broadway II

Program Symposium
Contributions Towards Understanding the Impact
and Strategies for the Changing Sunflower Insect Pest
Complex from Texas to Canada
1:00 PM – 5:15 PM
Gateway Ballroom III

General Oral
Session 1
1:00 PM – 2:17 PM
Gateway Ballroom IV

Poster Take Down/Setup
5:00 PM – 8:00 PM
Arch View Ballroom

Photo Salon
6:00 PM – 7:00 PM
Gateway Ballroom III

Final Linnaean Games
7:00 – 9:00 PM
Gateway Ballrooms I & II

Mixer/Reception
9:00 PM – 10:00 PM
Arch View Ballroom

Mother's Day to Grandkiddies...
Tuesday Schedule

Tuesday, March 17, 2009

Continental Breakfast
7:00 AM – 8:00 AM
Arch View Ballroom

BCE Meeting
7:00 AM – 8:00 AM
Gateway Ballroom III

A/V Room (Upload Presentations)
8:00 AM – 12:00 PM
1:30 PM – 5:00 PM
   Broadway I

Registration
8:00 AM – 12:00 PM
1:30 PM – 5:00 PM
   Grand Foyer

Submitted Posters
   Session 1
8:00 AM – 5:00 PM
   Arch View Ballroom

Program Symposium
Green Technology and Pest Management
8:00 AM – 12:05 PM
   Gateway Ballroom III

General Oral
   Session 2
9:00 AM – 11:38 AM
   Gateway Ballroom IV

Awards Luncheon
12:00 PM – 1:30 PM
   Gateway Ballrooms I & II
Tuesday, March 17, 2009 (continued)

Program Symposium
More Biological Control Please: Extension and Outreach Efforts to Increase Awareness and Appreciation of Natural Enemies
1:30 PM – 4:50 PM
Gateway Ballroom III

General Oral
Session 3
1:30 PM – 4:42 PM
Gateway Ballroom IV

Poster Take Down
5:00 PM – 8:00 PM
Arch View Ballroom

Linnaean Games Masters: Winners vs. Old Timers
6:30 PM – 7:00 PM
Gateway Ballrooms III & IV

Branch Mixer
7:00 PM – 9:00 PM
Arch View Ballroom

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Wednesday, March 18, 2009

Continental Breakfast
7:00 AM – 8:00 AM
Arch View Ballroom

NCB Business Meeting
8:00 AM – 9:00 AM
Gateway Ballroom IV

A/V Room (Upload Presentations)
8:00 AM – 12:00 PM
Broadway I

Registration
8:00 AM – 10:30 AM
Grand Foyer

Students Affairs Symposium
Invasive Insect Management: Are We Making Any Progress
9:00 AM – 12:00 PM
Gateway Ballroom III

Program Symposium
Applying Proteomic and Genomic Methodology To Pest Insect Control
9:00 AM – 11:30 AM
Gateway Ballroom IV

NCB Executive Committee
12:00 PM – 2:00 PM
Market St.
Registration
All participants and attendees must be registered and display their name badges for admission to all sessions and other functions. The registration area will be located in the Gateway Gallery on Sunday and in the Grand Foyer on Monday – Wednesday. Registration will be open at the following times:

- **Sunday**: 11:00 AM – 6:00 PM (*Gateway Gallery*)
- **Monday**: 8:00 AM – 5:00 PM (*Grand Foyer*)
- **Tuesday**: 8:00 AM – 12:00 PM and 1:30 PM – 5:00 PM (*Grand Foyer*)
- **Wednesday**: 8:00 AM – 10:30 AM (*Grand Foyer*)

Messages, Program Changes, Lost & Found
A message board is available in the poster display room (Arch View Ballroom). Notices regarding program changes should be submitted to the A/V room (Broadway I). We will attempt to post last-minute changes on the easels outside each meeting room. Lost and found will be at the registration desk.

Spouses and Guests
There is no organized spouse/guest program. Information about attractions in the downtown St. Louis area is available at the hotel registration desk.

Employment Opportunity Center
Folders will be provided on a table in the poster display room (Arch View Ballroom) for submission of resumes, and a poster board will be available for posting job opportunities and contact information.

Audio/Visual Equipment
The Broadway I Room will serve as A/V headquarters. It will be open Sunday 11:00 AM – 6:00 PM, Monday 8:00 AM – 5:00 PM, Tuesday 8:00 AM – 5:00 PM (except during the awards
luncheon) and Wednesday 8:00 AM – 12:00 pm. All meeting rooms will be equipped with a LCD projector and laptop computer.

All computers will be PCs, and presenters who use Macintosh computers/operating systems should pre-test their presentations for compatibility on a PC in advance. The computers will be running Office 2003. There will be one computer available in the A/V Room with Office 2007 so that PowerPoint 2007 presentations can be downgraded to a PowerPoint 2003 file. PowerPoint presentations should be brought to the meeting on a flash drive or CD-ROM, and should be brought to the A/V room as soon as possible after you arrive, and at least 24 hours before your talk (note open hours of A/V room). Computers for presentations will be handled exclusively by the A/V committee.

Guidelines for Speakers and Moderators
Speakers and moderators will follow standard practice at professional meetings. Moderators and speakers are both responsible for maintaining the printed schedule for starting and ending presentations. Please be considerate.

Posters – Setup, Removal, When Authors Should Be Present
Posters will be displayed in the Arch View Ballroom. Posters may be setup on Sunday 11:00 AM – 5:00 PM (for Monday display), Monday 5:00 PM – 8:00 PM (for Tuesday display) and Tuesday 5:00 PM – 8:00 PM (for Wednesday display). Posters should be removed by 6:00 PM Monday and Tuesday. Posters remaining after 12:00 PM Wednesday will be discarded. Presenters are requested to be at their posters 11:00 AM-12:00 PM on Monday and 4:00 PM – 5:00 PM on Tuesday. Presenters may attach their posters via push-pins or velcro. Space for each poster is 4’ x 4’.

Welcome
President: Steve Yaninek
President-Elect: John Obrycki
Past President: Rick Weinzierl
Secretary-Treasurer: Dave Ragsdale
Governing Board Representative: Larry Charlet and Susan Weller
Executive Committee Members-at-Large:
Shripat Kamble, Matt O’Neal, and Susan Ratcliffe
Branch Archivist: Rick Weinzierl
Program Planning Committee: Tom Coudron (Co-Chair), Holly Popham (Co-Chair), and Glene Mynhardt
Local Arrangements Committee: Bruce Barrett (Chair)
Terrell Stamps, Tim Judd, and Lisa Meihls
Nominating Committee: Paula Davis, Ken Haynes, and Rob Venette
Auditing Committee: Bob Wright (Chair), Tom Phillips, and Michael Melichar
Student Awards Committee: Janet Knodel (Co-Chair), Elizabeth Owens (Co-Chair), Lyric Bartholomay, Doug Richmond, James Harwood, Diane Wood, Andy Michael, and Tim Husen
Membership Committee: Bill Hutchison (Chair), Bob Wright, Bob Koch, Aaron Gassmann, and Karrie Koch
Student Affairs Committee: David Coyle (Chair), Annie Ray (Vice Chair), Carl Redmond, Denise Markle, Glene Mynhardt, Nick Schmidt, Megan Woltz, Karrie Koch, Lisa Meihls, Rob Mitchell, Autumn Nance, and Tim Husen
NCB Honorary Awards Committee (for the C.V. Riley Award & Award of Merit): Michelle Smith (Co-Chair), Marion Harris (Co-Chair), Casey Burks, Lance Meinke, Changlu Wang, Mike Tolley, Joe Rinehart, and Annie Ray
National ESA Awards Committee: Rick Foster (Co-Chair), Sharon Dobesh (Co-Chair), Kelly Tillman, Chris Ranger, Matt Ginzel, Nick Schmidt
Linnaean Games Committee: Susan Weller (Chair), Wyatt Hoback, Mike Culy, Dan Herms, Marion Ellis, Doug Landis, David Margolies, Eileen Cullen, Roger Moon, Marianne Alleyne, Dan Young, Blair Siegfried, and Rob Mitchell
Photo Salon Committee: Tom Myers (Chair), Ric Bessin, Jim Mertins, Phil Sloderbeck, Dave Voegtlin, and Gary Hein
NCB-ESA Website: http://www.esancb.org/
Welcome

2008 - 2009
ESA NCB Meeting Organizers

Steve Yaninek
President

Bruce Barrett
Local Arrangements Chair

Tom Coudron
Program Co-Chair

Holly Popham
Program Co-Chair
Special Events

Awards Luncheon
Tuesday 12:00 PM – 1:30 PM
Gateway 1 & 2

The Branch will recognize award winners, the championship Linnaean Games team, and the many people who serve the North Central Branch and the ESA. Admission is included in your registration. A vegetarian option will be available; please ask your server.

Two Mixers
Monday 9:00 PM – 10:00 PM
Arch View
Tuesday 7:00 PM – 9:00 PM
Arch View

The traditional “Branch Mixer” will be held following the Linnaean Games on Monday. Light snacks and a cash bar will be available as we mingle with new and old colleagues. On Tuesday evening there will again be a chance to mix and visit while joining in another NCB tradition, the annual Linnaean Games Challenge Match between the champions and the old-timers. To be sure, today’s students know a lot, but do not discount the wisdom and craftiness of the geezer! Once again, a cash bar and light refreshments will be available.
Hilton St. Louis at the Ballpark

Lobby Level

Meeting Rooms
The C.V. Riley Award recognizes Dr. Kun Yan Zhu’s outstanding contributions to the science of entomology. Dr. Zhu has contributed to the science of entomology through his teaching and training of graduate students. He has taught three entomology courses since 1996. The teaching evaluations provided by his students have been steadily high. He has served as a major or co-major professor for 15 graduate students. Many of his students have received prestigious awards and recognitions from the ESA and other professional organizations.

Dr. Zhu has established an internationally reputable insect toxicology research program, and developed cohesive research collaborations with at least 45 scientists within the U.S. and around the world. His lab first documented a paralogous acetylcholinesterase gene in the greenbug, which has led to the identification of the paralogous gene in many other insect species. This discovery was cited as “a breakthrough in this toxicological riddle” by other scientists in 2007. He has authored or co-authored 82 peer-reviewed manuscripts, 9 book chapters, and 196 presentations including 63 invited.

Dr. Zhu has provided outstanding services to the ESA and other professional organizations. In 2004-2008 alone, he served as a peer reviewer of 36 grant proposals, 114 manuscripts for more than 30 peer-reviewed scientific journals, and 48 manuscripts for his colleagues and students. He has served as a subject editor for Journal of Economic Entomology and processed over 120 manuscripts for the journal since 2001. In addition, he is currently serving as an editorial board member for other four peer-reviewed journals in insect sciences and toxicology.
The North Central Branch Award of Merit recognizes outstanding contributions to the North Central Branch of the Entomological Society of America. This year’s award winner is Dr. Bruce E. Hibbard, USDA-ARS, Columbia MO.

Dr. Hibbard has served on the NCB Student Awards Committee, the NCB ESA Nominating committee (chairing each), he has helped judge papers and posters a number of times and NCB and National ESA meetings, and he has served as Subject Editor for the Journal of Economic Entomology since 2005. He has also served on the USDA-CSREES-NRI Panel and the EPA’s Scientific Advisory Panel. Dr. Hibbard is interested in all things Diabrotica (corn rootworms) including host-plant resistance, resistance management, behavior, ecology, and chemical ecology. He has worked primarily with the western corn rootworm, but also with the northern corn rootworm, and European corn borer, Ostrinia nubilalis. He has authored or coauthored 71 publications (including 2 germplasm releases, 2 patents, 4 book chapters, and 54 refereed publications), presented 41 invited talks (including five European trips paid by those issuing the invitation), and he has brought in more than $2.6 million in outside funding excluding annual ARS funds.
Luke Dodd, University of Kentucky

The 2009 NCB Graduate Student Scholarship Award winner is Luke Dodd, a Ph.D. student at the University of Kentucky. Luke is advised by Dr. Lynne Rieske-Kinney. Luke’s research focuses on the effects of forest structure on insect prey and the activity of forest-dwelling bats in the central Appalachians. Luke is investigating how foraging bats utilize their forest habitats and how habitat use is influenced by the insect forage base. Luke has developed a novel genetic method to identify dietary components from bat feces that improves resolution, which is lacking with traditional morphological identification. Luke is sequencing about 100 species of forest Lepidoptera to develop primers for screening of bat fecal material. This will provide precise data on prey species consumption by specific bat predators and lead to a better understanding of trophic linkages among bats, insects and their habitat. Luke has authored five peer-reviewed journal articles based on his research, and has given numerous poster and oral presentations.

In addition to his excellence in research, Luke is also distinguished as a teacher and mentor. Luke independently mentored an advanced undergraduate student for a research project last year, which added a new dimension to his teaching experience beyond the traditional role of graduate teaching assistant. Luke has actively pursued extramural funding for his research and has successfully procured a Sigma Xi Grant-in-Aid and a graduate research grant from Bat Conservation International. Luke has demonstrated academic excellence in his scholastic performance and in the breadth of his coursework. Luke is active in his professional societies, and in service work with other graduate students. He is also known for his broad knowledge, enthusiasm, humble character, good humor, and positive attitude in difficult situations, like working long hard days in the forest.

Congratulations Luke!
The 2009 NCB J.H. Comstock Award winner is David Coyle. David is majoring in Entomology at the University of Wisconsin and is expecting to complete his Ph.D. in August. He is advised by Dr. Kenneth Raffa.

David’s dissertation research involves the ecology and effects of root feeding by invasive weevils on the health and growth of trees in the northern hardwood ecosystem. David’s dissertation research also involves invasive species management and pest management in production forestry. In addition to his dissertation research, David is collaborating on two other forestry research projects – one involving the use of Populus clones in phytoremediation plantings in northern Wisconsin, and a second long-term project determining the effects of resource amendments on tree growth, biomass and nutrient partitioning on a research plantation in South Carolina. David is the author of two book chapters and 22 refereed journal articles. He has also authored several extension publications and has given 11 invited and 25 submitted presentations and 15 posters. David has authored or co-authored successful grants, including a highly competitive EPA STAR fellowship. David has demonstrated excellence in teaching forest entomology courses and is active in several professional societies, including the ESA-NCB Student Affairs Committee. He has shown tremendous initiative in organizing and moderating symposia at regional and national meetings. He has also volunteered his time and expertise in reviewing manuscripts for ESA and other journals.

Because of his excellence in research, extension and teaching, we acknowledge David’s overall effort with the 2009 NCB J.H. Comstock Award.
ESA-NCB Award of Excellence in Integrated Pest Management

Larry Gut, Michigan State University

Dr. Gut grew up in northern California. He earned a B.A. in Biology from California State University, Chico in 1976, a M.S. and Ph.D. in Entomology from Oregon State University, Corvallis in 1980 and 1985. Larry completed a post-doctoral position at Washington State University’s Tree Fruit Research and Extension Center in Wenatchee, WA, where he help guide the Washington apple industry into pheromone mating disruption. He joined the Entomology faculty at Michigan State University in 1997 as the tree fruit entomologist. He served as the associate chair for three years.

Dr. Gut is internationally and nationally recognized for his wide range in research on pheromone based mating disruption and other selective insect controls in tree fruit production. His passion is working directly with growers in finding real solutions to pest management problems and believes on farm research is the best way to facilitate change.
C. Michael Smith, Kansas State University

Dr. C. Michael Smith is an internationally recognized leader in the field of plant resistance to arthropods whose accomplishments have had significant impacts on the study of plant-arthropod interactions and plant arthropod pest management. His research has encompassed the identification and characterization of numerous genes controlling resistance to several key arthropod pests of wheat, resulting in the discovery of separate gene families in wheat controlling resistance to Diuraphis noxia and to Schizaphis graminum. Smith’s group has identified several D. noxia-resistant bread wheat and barley lines, which has facilitated the development of aphid-resistant wheat and barley by researchers in many countries. In 2002, Smith was a Fulbright Scholar with the Czech Agricultural University and Czech Research Institute of Crop Production, and together with Czech and Ethiopian collaborators, identified the first D. noxia biotypes in North Africa and South America. This collaboration led to the development of biotype-sensitive molecular markers that have recently been used to demonstrate two distinct invasions of North America by different D. noxia biotypes. Smith’s present research also includes investigation of expressed wheat and barley genes in resistance to aphids.

Smith has presented over 50 invited lectures in 16 countries and published over 90 refereed journals manuscripts and 15 book chapters. His review on the molecular bases of plant defense responses to aphid feeding, coauthored with Dr. Elena Boyko, was the most downloaded and most cited Entomologia Experimentalis et Applicata article in 2007. Smith is the author of two textbooks on plant resistance to insects and a coauthor.
of a plant resistance techniques book. He has taught courses in plant resistance to arthropods in Louisiana and Idaho and at Kansas State University, coordinated the development of the interdisciplinary undergraduate course Plant Resistance to Pests, and developed the laboratory course Conventional and Molecular Methods of the Evaluation of Plant Resistance to Pests. He teaches General Entomology in rotation with colleagues, and has delivered his Bugs, Bugs, Bugs presentation to hundreds of youth, adults and instructors in classrooms and at state fairs.

Smith received Ph.D. (1976) and M.S. (1973) degrees in entomology from Mississippi State University and a B.S. in biology (1971) from Southwestern Oklahoma State University. From 1978 to 1988, he was a faculty member in the Department of Entomology at Louisiana State University, and from 1988 to 1990, served as Chair of the Division of Entomology at the University of Idaho. From 1990 to 1996 he served as Head of the Department of Entomology at Kansas State University, where he has since advised seven Ph.D. students, four M.S. students, and four post doctoral scientists. He serves as a subject editor for the Journal of Economic Entomology, and on the editorial boards of Biopesticides International and Arthropod Plant Interactions. Smith was named Fellow of the Entomological Society of America in 2006.
Dr. W. Wyatt Hoback, a Professor of Biology at the University of Nebraska at Kearney and adjunct Professor of Entomology at the University of Nebraska-Lincoln has taught 18 undergraduate and graduate courses ranging from the Biology and Classification of Insects, Introduction to Graduate Studies and General Biology. He has been a leader in developing distance education classes and serves as the Director of the Distance Biology MS program where he advises more than 300 students each semester. He serves on the university-wide Distance Education Committee and is Chair of the Department of Biology Graduate Committee.

Dr. Hoback is committed to undergraduate and graduate research securing more than $1.5 million in external funded grants including two Higher Education Challenge grants to educate the public about the threats posed by exotic species and the use of biological control to reduce these threats. He incorporates novel hands-on laboratory activities using insects as models and has published 6 peer-reviewed teaching papers on topics including the testing of Bt on mosquitoes and non-target aquatic insects, the investigation of food for insect contamination, and the examination of flies transporting bacteria.

Dr. Hoback has received two educational project awards, the Pratt-Heins faculty award for research Excellence, and the Association of College and University Biology Educators’ Out of this World Teaching Idea award. He is active in the Entomology Society serving as the current North Central Branch Linnaean Games master, and previously served as the Youth Education Committee’s chair.
1. Educational Video for Youth

Catch the Reading Bug
By Tom Turpin, Melissa Shepson, Jos Holman, Michele Farley, Gary Bennett and Rob Jackson, Purdue University

The video was used to introduce young people to entomological ideas and arthropods in a fun way through the summer reading program. Young people were encouraged to learn more about these creatures by reading books. DVDs of the video were distributed by the Indiana Pest Management Association and it was available for download on the Indiana Library website. The video was widely used in Indiana and other states.

2. Extension Publication

Soybean Aphid Management Field Guide 2008
By Marlin E. Rice, Matt O’Neal, and David Wright, Iowa State University and the Iowa Soybean Association

Eighteen thousand copies of the Soybean Aphid Management Field Guide were printed and distributed to Iowa growers, crop consultants, and Extension agronomists during early July, 2008, immediately prior to the soybean aphid outbreak. The publication emphasized the necessity of field scouting and using the economic threshold prior to the application of any rescue insecticide. We believe that the information contained in this publication helped advance the principles of integrated pest management.
3. **Extension Website**

**Soybean Insects Guide**  
By Jeff Bradshaw, Marlin Rice, John VanDyke, and Derek Adams, *Iowa State University*

The Soybean Insects Guide/Website ([http://www.ent.iastate.edu/soybeaninsects/](http://www.ent.iastate.edu/soybeaninsects/)) will provide information for anyone interested in soybean insects. It is hoped that as this site evolves it will collect a diverse community of users. Based on this community, the website will exploit modern web technologies to provide personalized experiences, real-time content, and facilitate social networking centered on topics regarding soybean insects.

4. **Book**

**The Grasshoppers of Nebraska**  
By Mathew L. Brust, W. Wyatt Hoback, and Robert J. Wright, *University of Nebraska-Lincoln*

An up-to-date field guide on grasshopper identification will enable people to make more accurate identifications of grasshoppers in the field, and would be of benefit to state and federal survey workers, NRCS and Extension staff, ranchers and farmers. The species covered in this publication have wide applicability across the Western Region, and states bordering Nebraska. The publication is organized as a field guide, with lots of color pictures in a format suitable for use in the field.
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Ecology and Impact of Spiders in Terrestrial Ecosystems
2:00 PM – 4:45 PM
Gateway Ballroom III
Program Symposium

Ecology and Impact of Spiders in Terrestrial Ecosystems

Sunday, March 15, 2009
2:00 PM – 4:45 PM
Gateway Ballroom III

Moderators:
Susan A. Romero, and Kelton D. Welch, University of Kentucky

2:00
1 Spider communities in soybean are influenced by the surrounding agricultural landscape
Mary M. Gardiner, The Ohio State University
Doug A. Landis, Michigan State University

2:25
2 Seasonal variation in the consumption frequency of Diptera determined by an order-specific monoclonal antibody
Jason M Schmidt, Miami University
James D Harwood, Department of Entomology
Ann L Rypstra, Miami University, Department of Zoology

2:50
3 Predator diet breadth and the impact of natural enemy diversity on herbivore suppression: Implications for the role of spiders in biological control
Deborah L. Finke, University of Missouri

3:15
Break
3:30

4 How an herbicide influences epigeal intraguild predator activity in agroecosystems
Kerri M. Wrinn, Samuel C. Evans, and Ann L. Rypstra, Miami University, Department of Zoology
Emma M. Shaw, Manchester Metropolitan University, Department of Environmental and Geographic Sciences

3:55

5 Epigeal spider responses to large-scale manipulations of plant litter and nutrients in a temperate grassland
L. Brian Patrick, Kent State University-Tuscarawas

4:20

6 Niche partitioning and resource utilization by spiders in terrestrial agroecosystems
James D. Harwood, Susan Romero, and Kelton D. Welch, Department of Entomology, University of Kentucky
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Ph.D. Student Competition Papers
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Gateway Ballroom V
Monday, March 16, 2009 (continued)

Ph.D. Student Competition Papers
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Job Perspectives for Entomologists in Industry
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Program Symposium
Contributions Towards Understanding the Impact and Strategies for the Changing Sunflower Insect Pest Complex from Texas to Canada
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9:00 PM – 10:00 PM
Arch View Ballroom

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Monday, March 16, 2009
10:00 AM – 5:00 PM
Arch View Ballroom

B.S. Posters

D1 Preying mantids prefer solid colored mealworms to striped mealworms
Lacey M. Keeten and W. Wyatt Hoback, University of Nebraska at Kearney

D2 It Mite Be the Right Host: Phoretic Mite Selection of Burying Beetles Host
Andrew Prososki and W. Wyatt Hoback, University of Nebraska at Kearney

D3 Effects of Artemisia extracts on feeding in Cydia pomonella
Kevin Durden, Samantha Sellars, and Maciej Pszczolkowski, Missouri State University

D4 Differences in sugar preferences in several populations of the termite Reticulitermes flavipes during different seasons
Bruce A. Wallace and Timothy M. Judd, Department of Biology, Southeast Missouri State University

D5 Survey of Black Light Captures in an Illinois Agricultural Landscape
Caitlin M. Allen, Kelly A. Estes, Ronald E. Estes, and Nicholas A. Tinsley, University of Illinois

D6 When to flash? The effects of halogen and LED light on Photinus pyralis (Coleoptera: Lampyridae)
Danielle M. Brandt and Sarah A. Vordtriebe, St. Ambrose University
M.S. Posters

D7  Effects of different volatiles on Telenomus remus (Hymenoptera: Scelionidae) behavior
Lindsay A. Vivian and W. Wyatt Hoback, University of Nebraska at Kearney
Dr. Odair Fernandes and Alexandre C. Menezes Netto, Universidade Estadual Paulista-Jaboticabal, SP, Brasil

D8  Occurrence of entomopathogenic fungi and nematodes in cornfields: survey of pathogens attacking western corn rootworm Diabrotica virgifera virgifera
Melissa L Rynerson and Aaron J Gassmann, Iowa State University

D9  Diversity and population dynamics of bees on sunflower (Helianthus annuus L.) fields in eastern Nebraska
Kentaro Miwa, University of Nebraska-Lincoln

D10 Classical biological control of the soybean aphid in Wisconsin: Release of an exotic soybean aphid parasitoid
Camila Botero and David Hogg, University of Wisconsin-Madison

D11 Soybean Aphid
Julie Hochhalter and Janet J. Knodel, North Dakota State University

D12 Assessing Risk to Rotated Corn in Iowa from Western Corn Rootworms
Michael W. Dunbar and Aaron J. Gassmann, Iowa State University

D13 Spatial and Ecological Patterns of Tent Location in the Eastern Tent Caterpillar, Malacosoma americanum (Lepidoptera: Lasiocampidae)
Jennifer Pleasant, Ann Fritz, and Eric Bollinger, Eastern Illinois University
D14  Dominance hierarchy and nutrient acquisition in the slave-making ant Protomognathus americanus
Jason R. Carbaugh and Timothy M. Judd,
Department of Biology, Southeast Missouri State University

Ph.D. Posters

D15  The ambrosia beetle community and its habitat use in oak-hickory forests
Sharon E. Reed and Dr. Rose-Marie Muzika,
University of Missouri, Department of forestry

D16  Aquatic Insect, Amphipod, and Isopod Communities and Habitat Gradients in Missouri Spring Systems
Megan M. Zeller, Richard M. Houseman, and Robert W. Sites, University of Missouri

D17  Habitat Management Techniques to Control Maize Stem Borers in Ethiopia
Difabachew Belay and J.E. Foster, Department of Entomology, University of Nebraska-Lincoln
Fritz Schulthess
Charles Omega

D18  Interaction effects of habitat fragmentation, patch connectivity and spatial configuration: Implications for metapopulation persistence and stability
Byju Nambidiyattil Govindan, Purdue University

D19  Spider web site selection: patterns in vertical web placement
Kelton Welch, University of Kentucky

D20  Evolution of baridine weevils (Coleoptera: Curculionidae: Baridinae)
Steve Davis, University of Kansas

D21  The effects of soil micronutrients on the foraging behavior of the termite Reticulitermes flavipes
Paul S. Botch, University of Missouri
Timothy M. Judd, Southeast Missouri State University
D22 Preliminary Genetic Analysis of Selected WBC Populations
Erica Lindroth, Thomas E. Hunt, Donald Lee, and John E. Foster, University of Nebraska
Steven R. Skoda, USDA-ARS-SPASRU
Michael D. Culy, Dow AgroSciences

D23 Genetic variation of a local population of Stable fly, Stomoxys calcitrans (L.) (Diptera: Muscidae)
Kate M. Kneeland and John E. Foster, University of Nebraska-Lincoln
Steven R. Skoda, USDA-ARS
S.S.A. El Shall, Biological Application Department, Nuclear Research Center, Egyptian Atomic Energy Authority, Cairo, Egypt

D24 Host plant resistance to Dectes stem borer in soybean plant introductions
Terutaka Niide, C. Michael Smith, and Robert J. Whitworth, Department of Entomology, Kansas State University
Lawrent L. Buschman, KSU South Western Research and Extention Center

Patrick B. Beauzay, Janet J. Knodel, Eric D. Eriksmoen, and Neil R. Riveland, North Dakota State University
William A. Berzonsky, South Dakota State University

D26 Thiamethoxam seed treatments are compatible with soybean aphid fungal entomopathogens
Karrie A. Koch and David W. Ragsdale, University of Minnesota

D27 Soybean aphid (Aphis glycines Matsumura) on edamame (Glycines max) soybean in Nebraska
Bamphitlhi Tiroesele, Dr. Thomas E. Hunt, Dr. John E. Foster, Dr. Robert J. Wright, Dr. Stephen Mason, and Dr. Erin E. Blankenship, University of Nebraska-Lincoln
D28 Fitness comparisons of Bt-resistant and Bt-susceptible western corn rootworm colonies
Lisa Meihls and Georgia Davis, University of Missouri
Bruce Hibbard, USDA-ARS

D29 Western Corn Rootworm feeding damage is reduced by the brown midrib2 mutation
Kristen Leach and Dara Boardman, Theresa Musket, and Georgia Davis, Division of Plant Sciences, University of Missouri
Kelli Barr, Florida Gulf Coastal University

D30 A Wolbachia based population suppression strategy for controlling the lymphatic filariasis vector Aedes polynesiensis
Corey L. Brelsfoard and Stephen L. Dobson, University of Kentucky
Monday, March 16, 2009
10:15 AM – 11:32 AM
Broadway II

Moderator: Brian McCornack, Kansas State University

10:15

7 Introduction
Brian McCornack, Kansas State University

10:20

8 Introduced western squitoﬁsh, Gambusia affinis, also consume Trichoptera larvae
Morgan Kellogg, Lindsay Vivian, and W. Wyatt Hoback, University of Nebraska at Kearney

10:32

9 Molecular identiﬁcation of interaction pathways between carabid beetles and slugs in alfalfa agroecosystems
Mark K. Adams and James D. Harwood, Department of Entomology, University of Kentucky

10:44

10 Comparing four different pollinator regimes for oilseed crops: Brassica napus and Brassica rapa
Kelly Seman, Iowa State University

10:56

11 Species identiﬁcation of wood-boring beetles using mtDNA from gallery frass
John Shukle and Jeff Holland, Purdue University
11:08

12  Assessing the status of buffer zones in organic production for pest management: is there room for improvement?
Rachael Ann Cox, Iowa State University
Matthew O’Neal, Department of Entomology, Iowa State University
Stephen Sapp, Department of Sociology, Iowa State University

11:20

13  Non-target Coleoptera Caught by EAB Purple Traps
Michael Skvarla, Purdue University
### M.S. Student Competition Presentations
#### Session 2

**Monday, March 16, 2009**
10:15 AM – 12:08 PM
Gateway Ballroom III

**Moderator:** Jennifer Zaspel, University of Minnesota

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15</td>
<td>Introduction</td>
<td>Jennifer Zaspel, University of Minnesota</td>
</tr>
<tr>
<td>10:20</td>
<td>Overwintering habitat selection of the Colorado potato beetle, Leptinotarsa decemlineata (Say), in Wisconsin’s Central Sands Production Region</td>
<td>Anders Huseth and Russell L. Groves, University of Wisconsin-Madison Department of Entomology</td>
</tr>
<tr>
<td>10:32</td>
<td>Macroinvertebrate Response to Buffer Zone Quality in the Rainwater Basin Wetlands of Nebraska</td>
<td>John Riens and Dr. W. Wyatt Hoback, University of Nebraska at Kearney</td>
</tr>
<tr>
<td>10:44</td>
<td>A look at Telenomus Remus behavior</td>
<td>Lindsay A Vivian, UNK</td>
</tr>
<tr>
<td>10:56</td>
<td>Range expansion of the sand fly, Lutzomyia shannoni (Dyar): climate change and a heat unit accumulation model</td>
<td>Logan M. Minter and Grayson C. Brown, University of Kentucky, Department of Entomology</td>
</tr>
</tbody>
</table>
19 Relationship between amino acid composition and resistance to soybean aphid
Mariana Chiozza, Matthew O’Neal, and Gustavo MacIntosh, Iowa State University

20 Effect of low-linolenic acid soybean on soybean aphid population
Michael McCarville and Matthew O’Neal,
Department of Entomology, Iowa State University
Charles Kanobe and Gustavo MacIntosh,
Department of Biochemistry, Biophysics, and Molecular Biology, Iowa State University
Gregory Tylka, Department of Plant Pathology, Iowa State University
Palle Pedersen, Department of Agronomy, Iowa State University

21 Impact of Foliar Fungicides on Soybean Aphid (Hemiptera: Aphididae) in Iowa
Rebekah M Ritson, Matthew O’Neal, Alison Robertson, Daren Mueller, and Nathan Bestor,
Iowa State University

22 Lure and kill: A novel approach to controlling Japanese beetle (Popillia japonica Newman)
Elizabeth Erin Morris and Parwinder S. Grewal,
The Ohio State University

23 Investigating the bioaccumulation of ethylmercury in Saskatchewan wetland food webs
Lara Michelle Bates and Britt D Hall, University of Regina

✦✦✦✦✦✦✦
M.S. Student Competition Presentations
Session 3

Monday, March 16, 2009
10:15 AM – 11:58 PM
Gateway Ballroom IV

Moderator: Michelle Smith, Dow AgroSciences

10:15
24 Introduction
Michelle Smith, Dow AgroSciences

10:20
25 Comparison of an insecticidal seed-treatment and host-plant resistance for managing soybean aphids in Illinois and implications for predators
Nicholas A. Tinsley, Kevin L. Steffey, Ronald E. Estes, Joshua R. Heeren, and Michael E. Gray,
University of Illinois at Urbana-Champaign

10:32
26 Horizontal Transfer of Methoprene through Cannibalization by Tribolium castaneum
Angela M. Tucker and Kun Yan Zhu, Kansas State University
Jim Campbell and Frank Arthur, Grain Marketing and Production Research Center, Manhattan, KS

10:44
27 Role of pheromones in the mate location and recognition behavior of Mallodon dasystomus (Coleoptera: Cerambycidae)
Annie Elizabeth Spikes and Matthew Ginzel, Purdue University
Nathan Schiff, USDA Forest Service, Center for Bottomland Hardwoods Research
Jocelyn G. Millar, University of California Riverside
28  Friend or Foe: a Study of Myrmecophilous Mites  
Kaitlin A. Uppstrom and Hans Klompen, The Ohio State University

29  Survival of Three Stored Product Insects against Flameless Catalytic Infrared Radiation  
Subramanyam Bhadriraju and Hulya Dogan, Kansas State University

30  Can methyl salicylate, an herbivore-induced plant volatile, enhance biological control of the soybean aphid in soybean fields?  
Rachel Mallinger and David Hogg, University of Wisconsin-Madison

31  Thinking outside the Asclepias box: Oleander aphids and honeyvine milkweed  
Sarah M. Colvin and Kenneth V. Yeargan, University of Kentucky

32  Ant-exclusion to promote conservation biological control of calico scale on woody landscape plants  
Sarah J. Vanek and Daniel A. Potter, University of Kentucky
Monday, March 16, 2009
10:15 AM – 11:44 AM
Gateway Ballroom V

Moderator: Louis Hesler, USDA-ARS

10:15
33 Introduction
Louis Hesler, USDA-ARS

10:20
34 Utilizing Remote Sensing to Track Wheat Streak Mosaic Virus in Wheat
Abby R. Stilwell, Gary L Hein, and Donald C. Rundquist, University of Nebraska - Lincoln

10:32
35 Degradation of Fipronil in Aqueous Solution Stored in Polyethylene Tanks in Sun and Shade Conditions
Timothy J. Husen, Neil A. Spomer, Shripat T. Kamble, University of Nebraska-Lincoln

10:44
36 Persistence of Indoxacarb and Chlorantraniliprole in Four Midwestern Soils and Their Bioavailability to the Eastern Subterranean termites, Reticuliter
Neil A. Spomer and Shripat T. Kamble, University of Nebraska
37 Non-target Effects of Dimilin and Malathion on Burying Beetles (Coleoptera: Silphidae) May Explain American Burying Beetle Distribution in Nebraska
Jessica Jurzenski, University of Nebraska-Lincoln
Laura Vicentini and Maria Laura Giardini, Department of Fitossanidade, FCAV/UNESP
W. Wyatt Hoback, University of Nebraska at Kearney

38 Effect of host legacy on adult black vine weevil performance
David R. Coyle and Kenneth F. Raffa, University of Wisconsin-Madison
Katy E. Clark and Scott N. Johnson, Scottish Crop Research Institute

39 Vertical stratification in a web-building spider community
Kelton D. Welch, Susan A. Romero, and James D. Harwood, University of Kentucky

40 Pollen interception by linyphiid spiders: effect of anthesis on dietary supplementation and prey availability
Julie A. Peterson, Susan Romero, and James D. Harwood, University of Kentucky
Monday, March 16, 2009
10:15 AM – 11:32 AM
Gateway Ballroom I & II

Moderator: Ronda Hamm, Dow AgroSciences

10:15
41 Introduction
Ronda Hamm, Dow AgroSciences

10:20
42 Taxonomy and Phylogeny of leafhopper subfamily Idiocerinae (Hemiptera: Cicadellidae) from Madagascar
Sindhu Krishnankutty, University of Illinois

10:32
43 Probability of Cost-effective Management of Soybean Aphid (Hemiptera: Aphididae) in North America
Kevin D. Johnson, Matthew E. O'Neal, and Philip M. Dixon, Iowa State University
David W. Ragsdale, University of Minnesota
Christina D. DiFoonzo and Scott M. Swinton, Michigan State University

10:44
44 Rangeland grasshopper numbers and species composition in Nebraska: A comparison of fields, fences, and roadside ditches
Sean D. Whipple, University of Nebraska at Lincoln
Mathew L. Brust, Chadron State University
W. Wyatt Hoback, University of Nebraska at Kearney
45 Chemical signals in communities of longhorned beetles  
Robert F. Mitchell, Elizabeth E. Graham, Peter F. Reagel, and Lawrence M. Hanks, University of Illinois at Urbana-Champaign  
Jocelyn G. Millar, University of California at Riverside

46 Mitochondrial DNA in North American Lygus (Hemiptera: Miridae) Species: Analysis of Intra- and Inter-specific Relationships  
Prasad S. Burange and Mark A. Boetel, North Dakota State University  
Richard L. Roehrdanz, USDA-ARS

47 Effects of habitat fragmentation, patch connectivity and spatial configuration on metapopulation persistence and stability  
Byju Nambidiyattil Govindan and Robert K Swihart, Purdue University  
Bryan D Price
Job Perspectives for Entomologists in Industry

Monday, March 16, 2009
12:00 PM – 5:30 PM
Broadway II

Moderator: Tederson Galvan, Monsanto, Inc.

12:00
48 Introduction and transport to Chesterfield
Ted Galvan, Monsanto, Inc.
Program Symposium

Contributions Towards Understanding the Impact and Strategies for the Changing Sunflower Insect Pest Complex from Texas to Canada

Monday, March 16, 2009
1:00 PM – 5:15 PM
Gateway Ballroom III

Moderators: Janet J. Knodel, North Dakota State University and Larry D. Charlet, USDA, ARS

1:00
Janet J. Knodel, Entomological Department, NDSU

1:30
50 Update on insect pest situation in the Central Plains States
Phil Sloderbeck, Entomological Department, KSU

2:00
51 Update on insect pest situation in Manitoba, Canada
Brent Elliott, Canada

2:30
52 Ecology of Dectes texanus on sunflowers and novel tactics for mitigating yield losses
J.P. Michaud, Entomological Department, KSU

3:00
Break
53  Developing pest management strategies for an emerging sunflower insect pest, sunflower seed maggot (Neotephritis finalis (Loew))
Mangala Ganehiarachchi, Entomological Department, NDSU

54  Review of host plant resistance studies on sunflower insect pests
Larry D. Charlet, USDA ARS

55  Mechanisms of host plant resistance against banded sunflower moth in selected sunflower accessions
Anitha Chirumanmilla, Entomological Department, NDSU & USDA ARS

56  Pollinators, Pests and Sunflower Yield Management
Gary Brewer, Entomological Department, UNE
Monday, March 16, 2009
1:00 PM – 2:17 PM
Gateway Ballroom IV

Moderator: Russell L. Groves, University of Wisconsin-Madison, Department of Entomology

1:00
57 Introduction
Russell L. Groves, University of Wisconsin-Madison, Department of Entomology

1:05
58 Sustainable Management Solutions for the Cucumber beetle-bacterial wilt complex
Russell L. Groves and Scott A. Chapman, University of Wisconsin-Madison, Department of Entomology
Bill Halfman, University of Wisconsin, Cooperative Extension

1:17
59 Recruit HD, a new termite bait from Dow AgroSciences: product concept overview and bait matrix development
Mike Tolley, Joe DeMark, Joe Eger, Ronda Hamm, Matt Messenger, Mike Lees, Ellen Thoms, Marc Fisher, Mike Melichar, and Jackie McKern, Dow AgroSciences

1:29
60 Recruit HD, a new termite bait from Dow AgroSciences: termite hit rate, bait consumption, durability, and colony elimination
Ronda L. Hamm, Joe Eger, Mike Tolley, Matt Messenger, Ellen Thoms, Mike Lees, Joe DeMark, Marc Fisher, Mike Melichar, and Jackie McKern, Dow AgroSciences
Landscape Factors Associated with Subterranean Termite Infestations in Missouri Neighborhoods
Richard M. Houseman, University of Missouri

Nosema and tracheal mite prevalence in honey bee colonies in the North Central Region of the U.S.
Marion D. Ellis, University of Nebraska
Louis Chapon, University of Avignon, France
Alan Szalanski, University of Arkansas

Genetic variation of Africanized honey bees in the United States
Allen L. Szalanski and Roxane A. Magnus, University of Arkansas
Tuesday, March 17, 2009

**Continental Breakfast**  
7:00 AM – 8:00 AM  
Arch View Ballroom

**BCE Meeting**  
7:00 AM – 8:00 AM  
Gateway Ballroom III

**A/V Room (Upload Presentations)**  
8:00 AM – 12:00 PM  
1:30 PM – 5:00 PM  
Broadway I

**Registration**  
8:00 AM – 12:00 PM  
1:30 PM – 5:00 PM  
Grand Foyer

**Program Symposium**  
*Green Technology and Pest Management*  
8:00 AM – 12:05 PM  
Gateway Ballroom III

**Submitted Posters**  
**Session 1**  
8:00 AM – 5:00 PM  
Arch View Ballroom

**General Oral**  
**Session 2**  
9:00 AM – 11:38 AM  
Gateway Ballroom IV

**Awards Luncheon**  
12:00 PM – 1:30 PM  
Gateway Ballrooms I & II
Tuesday, March 17, 2009 [continued]

Program Symposium
More Biological Control Please: Extension and Outreach Efforts to Increase Awareness and Appreciation of Natural Enemies
1:30 PM – 4:50 PM
Gateway Ballroom III

General Oral
Session 3
1:30 PM – 4:42 PM
Gateway Ballroom IV

Poster Take Down
5:00 PM – 8:00 PM
Arch View Ballroom

Linnaean Games: Winners vs. Old Timers
6:30 PM – 7:00 PM
Gateway Ballrooms III & IV

Branch Mixer
7:00 PM – 9:00 PM
Arch View Ballroom
Program Symposium

Green Technology and Pest Management

Tuesday, March 17, 2009
8:00 AM – 12:05 PM
Gateway Ballroom III

Moderators: Shripat T. Kamble, University of Nebraska Department of Entomology

8:00
64 Opening Remarks - Going Green
Shripat T. Kamble, Department of Entomology, University of Nebraska

8:05
65 Developing Green Pest Management Solutions: An Industry Perspective
Christopher J. Voglewede, James E. Dripps, Luis E. Gomez, and Mike Tolley, Dow AgroSciences LLC.

8:35
66 Federal Grant Research and Needs for Green Technologies in Pest Management
Mary Purcell-Miramontes, USDA-NIFA

9:05
67 Managing Insect Pests of Turfgrass: What Does the Future Hold?
Daniel A. Potter and Carl T. Redmond, Department of Entomology, University of Kentucky

9:35
68 Green Approaches to Pest Management in Stored Product Protection
Thomas W. Phillips, Department of Entomology, Kansas State University

10:05
69 The Impact of Transgenic Plants in a Changing Environment
Ty T. Vaughn, Monsanto Inc
10:35
70 Discovery, Development and Commercialization of Natural Products for Pest Management
   Pam Marrone, Marrone Organic Innovations, Inc. (MOI)

11:05
71 Easy being Green? Perspectives from Industry on Green Technology & Pest Management
   Keri Henderson and Laura Higgins, Pioneer Hi-Bred International

11:35
72 Integrating Insect, Stress, and Output Traits for a Green Tomorrow
   Von Kaster, Syngenta Seeds

  ♥ ♥ ♥ ♥ ♥ ♥ ♥
Submitted Posters
Session 1

Tuesday, March 17, 2009

D31 – D62
8:00 AM – 5:00 PM
Arch View Ballroom

D31  Biology, Entomology, or Both: Distance MS Degree Options from the University of Nebraska System
Brian Peterson, Elizabeth Wethington, and
W. Wyatt Hoback, University of Nebraska at Kearney
John Foster, University of Nebraska-Lincoln

D32  After Ten Years: A Look at Distance Delivery of an Entomology MS Degree Program
Tom Weissling, John Foster, and Ousmane Youm,
Department of Entomology, University of Nebraska-Lincoln
Wyatt Hoback, Department of Entomology, University of Nebraska-Kearney

D33  Potential and Opportunities for Distance Education Delivery to Sub-Saharan Africa
Ousmane Youm and John E. Foster, Department of Entomology, University of Nebraska-Lincoln
W. Wyatt Hoback, Department of Biology, University of Nebraska-Kearney

D34  Arthropod Ecology and Biodiversity in Agroforestry versus Conventional Cropping Practices
W. Terrell Stamps and Terryl L. Woods, University of Missouri

D35  Biotic and Abiotic Factors Affect Green Ash Volatile Production and Emerald Ash Borer Adult Feeding Pre
Yigen Chen, Department of Entomology, Michigan State University
Therese Poland, USDA Forest Service
D36 Detection of low-density emerald ash borer infestations: evaluating trap design, placement and ash distribution  
Nathan W. Siegert, Michigan State University  
Deborah G. McCullough, Michigan State University  
Therese M. Poland, US Forest Service

D37 Assessing the influence of clusters of girdled trees on the spread of emerald ash borer in forested areas  
Nathan W. Siegert and Deborah G. McCullough, Michigan State University  
Therese M. Poland, US Forest Service  
Robert L. Heyd, Michigan Department of Natural Resources

D38 Molecular cloning of mariner-like elements from emerald ash borer  
Loren Jackeline Rivera Vega and Omprakash Mittapalli, Department of Entomology, The Ohio State University/OARDC

D39 Organization of aminopeptidase N genes in the genomes of Lepidoptera  
Brad Coates and Douglas V. Sumerford, USDA-ARS, Corn Insects & Crop Genetics Research Unit

D40 Tandem duplication of the Lepidopteran aminopeptidase gene family  
Brad Coates and Douglas V. Sumerford, USDA-ARS, Corn Insects & Crop Genetics Research Unit

D41 Soybean Arthropod Response to Glyphosate-Resistant Soybean Management  
Meinhardt, Clinton G. and Wayne C. Bailey, Division of Plant Sciences, University of Missouri  
Thomas L. Clark, Monsanto, Inc.

D42 Mites as predators of immature corn rootworms (Diabrotica spp.)  
Deirdre A. Prischmann-Voldseth, North Dakota State University  
Jonathan G. Lundgren, Kenton E. Dashiell, USDA-ARS North Central Agricultural Research Lab
D43 Field Trial Performance Of SmartStax For Protection Against Above-Ground Corn Insects And Corn Rootworms
Ed King, Bill Hendrix, Patricia Prasifka, Eric Scherder, Sam Ferguson, and Melissa Willrich Siebert, Dow AgroSciences

D44 The effect of volunteer corn in soybean on corn rootworm
Bruce D. Potter and Kenneth R. Ostlie, University of Minnesota, Department of Entomology

D45 Diabrotica Emergence Patterns in mCry3Aa Maize in South Dakota
Bradley McManus and Billy Fuller, South Dakota State University

D46 Performance of Transgenic Rootworm Resistant Corn in Minnesota
Kenneth R. Ostlie, University of Minnesota, Department of Entomology

D47 Optimum AcreMax1 Insect Protection: Assessing Field Performance of an Insect Control Trait Deployed with Blended Refuge
Timothy Nowatzki, Murdick McLeod, Herb Eichenseer, Mel Peters, and Laura Higgins, Pioneer Hi-Bred International

D48 Ovarian Development of Irradiated Screwworms Cochliomyia hominivorax (Coquerel) (Diptera: Calliphoridae): Effects of Strain and Age
Samira Sayed Ahmed Elshall, University of Nebraska
Steven R. Skoda, USDA-ARS Screwworm Research Unit
Dennis Berkebile, USDA-ARS
John E. Foster, University of Nebraska-Lincoln, Department of Entomology

D49 Ultrastructural changes in the midgut of Hessian fly larvae feeding on resistant wheat
Richard H. Shukle and Christie E. Williams, USDA-ARS
Subhashree Subramanyam, Purdue University
D50 Analyzing the diversity of secreted salivary gland transcripts in Hessian fly populations from Israel and the United States
Alisha Johnson, Sue Cambron and Richard H. Shukle, USDA-ARS/Purdue University
Ming S. Chen, USDA-ARS/Kansas State University
Philip K. Morton, Purdue University

D51 A Preliminary Study of the Biogeography of the dwarf honey bees, Apis florea and A. andreiniforms
Jason Palikij and Deborah Smith, University of Kansas

D52 Longhorned Beetle (Coleoptera: Cerambycidae) Species Diversity and Community Structure in a Fragmented Temperate Forest Landscape
Daniel M. Pavuk, Michigan State and Ohio State Universities Extension
Andrea M. Wadsworth, Department of Biological Sciences, Bowling Green State University

D53 Prey utilization by a linyphiid spider community: variation across diel and seasonal gradients
Susan A. Romero and James D. Harwood, University of Kentucky

D54 Distribution and Pest status of the Dectes Stem Borer (Coleoptera: Cerambycidae) in Kansas
Lawrent L. Buschman and Phillip E. Sloderbeck, Kansas State University

D55 A brief history of the eastern subterranean termite in Wisconsin
Rachel A. Arango, Frederick Green III, Glenn R. Esenther, USDA Forest Products Laboratory
D56  Detached Leaf Assay for Soybean Aphid Biotype Diagnostics
Nelson Horacio Davila Olivas and Jane Todd, USDA/ARS Insectary, OARDC, The Ohio State University
MA Rouf Mian, USDA/ARS Corn and Soybean Research
Andy Michel, Department of Entomology, OARDC, The Ohio State University

D57  Nosema and tracheal mite levels in honey bee colonies in the North Central Region
Louis Chapon, University of Avignon, France

D58  The Coccinellidae of South Dakota: Images and Morphology
Louis Hesler and Eric Beckendorf, USDA-ARS-NCARL
Guy Hanley, Minot St. University
Robert Kieckhefer, USDA-ARS
Michael Catangui, South Dakota St. University

D59  mtDNA Barcoding for taxonomic identification within the genus Agrilus
John Shukle and Jeff Holland, Purdue University

D60  The efficacy of high concentrations of ozone on adult maize weevil (Sitophilus zeamais (Motsch.)) and rice weevil (S. oryzae (L))
Marissa McDonough and Linda Mason, Purdue University

D61  Efficacy of Miticides for Control of Spider Mites in Corn 2008
Ankush Joshi, KSU-SWREC
Lawrent L. Buschman, Department of Entomology, Kansas State University

D62  Field Efficacy Of Deltamethrin Against American Cockroaches, Periplaneta americana (L.) (Dictyoptera: Blattidae) In The Sewer System
ABDUL HAFIZ AB MAJID, Univeristy of Nebraska-Lincoln
ABU HASSAN AHMAD, University Sains Malaysia
Tuesday, March 17, 2009
9:00 AM – 11:38 AM
Gateway Ballroom IV

**Moderators:** Mike Culy, *Dow Agro Scinces*
and Mark Boetel, *North Dakota State University*

9:00   
**73 Introduction**  
Mike Culy, *Dow AgroSciences*  
Mark Boetel, *North Dakota State University*

9:05   
**74 Western bean cutworm in corn in the Texas Panhandle**  
Roxanne Fegley, *Texas AgriLife Extension Service*  
Jerry Michels, *Texas AgriLife Research*  
Bonnie B. Pendleton, *West Texas A&M University*

9:17   
**75 Taste discrimination in codling moth neonates**  
Maciej A. Pszczolkowski, *Missouri State University*

9:29   
**76 A Field Evaluation of Tycoon Granules Against Selected Nuisance Ants in Residential Area**  
Timothy J. Husen, Shripat T. Kamble, Ralph Narain, and Neil A. Spomer, *Department of Entomology, University of Nebraska*

9:41   
**77 Requiem, a new insecticide/miticide for use in US specialty crop fruit and vegetable production**  
H. Brett Highland, *AgraQuest, Inc.*

9:53   
**78 Effect of silicon-based fertilizer applications on insect pests of greenhouses**  
Raymond A. Cloyd, *Kansas State University*  
Brian K. Hogendorp, *University of Illinois*
10:05  79  Spiders in agroecosystems  
Ann Rypstra, Miami University

10:17  Break

10:30  80  Pan trapping of soybean aphids (Aphis glycines Matsumura) and how it can relate to an outbreak  
Nick Behrens and Dr. Joel Coats, Iowa State University, Department of Entomology  
Junwei Zhu, USDA-ARS AMRU

10:42  81  Are we making a bad situation worse? Anthropomorphic aspects of soybean aphid outbreaks  
Matthew O’Neal and Nicholas Schmidt, Iowa State University

10:54  82  Recent efforts to understand the Dectes stem borer in Missouri soybean  
Kelly V. Tindall, University of Missouri, Division of Plant Sciences  
Kent Fothergill, Conservation Seeding and Restoration, Inc  
Jeff House, University of Missouri-Extension

11:06  83  Developing a web-based decision support system to manage soybean aphid  
Brian P. McCormack, Kansas State University

★ ★ ★ ★ ★ ★ ★ ★
Program Symposium

More Biological Control Please: Extension and Outreach Efforts to Increase Awareness and Appreciation of Natural Enemies

Tuesday, March 17, 2009
1:30 PM – 4:50 PM
Gateway Ballroom III

Moderators: Kelley Tilmon, South Dakota State University

1:30
84 Introduction
Kelly Tilmon, South Dakota State University

1:35
85 Engaging the public in biocontrol: The power of pretty plants
Anna K. Fiedler, Michigan State University
Doug A. Landis, Michigan State University

2:00
86 The lost ladybug project: Increasing awareness and appreciation of lady beetles through recruitment of citizen scientists
Louis Hessler and Erik Beckendorf, USDA-ARS, North Central Agricultural Research Laboratory
John Losey, Leslie Allee, and Rebecca Smyth, Cornell University
Michael Catangui, South Dakota State University

2:25
87 Integrated pest management in a closed system where the public runs wild
Nathan Brockman, Rieman Gardens, Iowa State University

2:50
88 Biological control at zoos and conservatories: a potential educational experience!
Luis Canas, Entomology Department, Ohio State University/OARDC
3:15

Break

3:35

89  Oofta! Selling biological control to Norwegian bachelor farmers in the Upper Midwest
Kelley J. Tilmon, Plant Science Department, South Dakota State University
Matthew E. O’Neal, Department of Entomology, Iowa State University

4:00

90  Purple loosestrife biocontrol: A cooperative rearing program that helped Minnesota conquer this invasive weed
David Ragsdale, Department of Entomology, University of Minnesota
Luke Skinner, Minnesota Department of Natural Resources

4:25

91  Short courses as a means for educating a diverse
Institute for Biological Control and the IOBC Ed
Jonathan Lundgren, USDA-ARS North Central Agricultural Research Laboratory
General Oral
Session 3

Tuesday, March 17, 2009
1:30 PM – 4:42 PM
Gateway Ballroom IV

Moderator: Bill Hendrix, Dow Agro Sciences
and Jason Palikij, North Dakota State University

1:30
92 Introduction
Bill Hendrix, Dow AgriSciences
Jason Palikij, University of Kansas

1:35
93 Field trial performance of SmartStax stacked Bt traits technology against above-ground corn insects: A two year summary
William H. Hendrix, III, Eric Scherder, Patricia Prasifka, Mike Culy, Ed King, and Sam Ferguson, Dow AgroSciences

1:47
94 Field trial performance of SmartStax stacked Bt traits technology against corn rootworms: A two year summary
Patricia Prasifka, Michael Culy, Bill Hendrix, Sam Ferguson, Eric Scherder, and Ed King, Dow AgroSciences

1:59
95 A Stochastic Population Genetics Model Designed to Assess the Durability of Genetic Traits for the Control of Damage By Nine Caterpillar Pests of Corn
Bruce H. Stanley and Zaiqi Pan, Du Pont Crop Genetics
David W. Onstad, University of Illinois at Urbana-Champaign
2:11

96 SmartStax: Comprehensive Insect Control for Corn
Chism Craig, Clint Pilcher, Corby Jensen, Graham Head, and Ty Vaughn, Monsanto, Inc.
Bill Hendrix, Dow AgroSciences

2:23

97 Stress Mitigation with YieldGard B.t. Protected Hybrids
Corby Jensen, Chism Craig, Ravi Sripada, Clinton Pilcher, Marcus Jones, and Jeff Coultas, Monsanto, Inc.

2:35

98 Off with their heads!: Western corn rootworm egg laying is released by decapitation
Joseph L. Spencer and Luis Orellana Jimenez, Illinois Natural History Survey-University of Illinois

2:47

99 Optimum AcreMax1 Insect Protection: Field Measures of Adult Corn Rootworm (Coleoptera: Chrysomelidae) Production When Refuge is Deployed as a Seed
Timothy Nowatzki, Murdick McLeod, Analiza Alves, Mel Peters, Stephen Thompson, and Laura Higgins, Pioneer Hi-Bred International

2:59

100 Increased insecticidal activity and broadened control spectrum with Syngenta’s Agrisure Viptera corn trait
Andre Luiz Barreto Crespo, Ryan Kurtz, and David O’Reilly, Syngenta Biotechnology
Von Kaster, Wayne Fithian, and Bruce Battles, Syngenta Seeds

3:11

Break
3:30
101 Bean Extrafloral Nectaries, Sought by Insects, Exhibit Structural Uniformity Within the Genus Vigna
Mark E. Headings, The Ohio State University
Leona E. Horst and Leslie A. Morris, USDA-ARS

3:42
102 Differences in nutrient levels between castes of the paper wasp, Polistes metricus
Timothy M. Judd and Roxane M. Magnus,
Department of Biology, Southeast Missouri State University
Matthew P. Fasnacht, Department of Chemistry, Southeast Missouri State University

3:54
103 Floral host plants of adult beetles of Central Illinois
Elizabeth E. Graham and Lawrence M. Hanks,
University of Illinois at Urbana-Champaign
John F. Tooker, Pennsylvania State University

4:06
104 Fire-colored beetles of the north-central branch region: taxonomy, natural history, and faunal affinities (Coleoptera: Pyrochroidae)
Daniel K. Young, University of Wisconsin, Department of Entomology

4:18
105 Tale of Three Tigers: Making Sense of the Cicindela splendida Hentz Group
Mathew Louis Brust, Chadron State College

4:30
106 Restoration of St. Anthony Dune Tiger Beetle Habitat
Kent Fothergill, Conservation Seeding and Restoration, Inc
Steve Bouffard, Individual Researcher
Kelly V. Tindall, University of Missouri

♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦
Wednesday, March 18, 2009

Continental Breakfast
7:00 AM – 8:00 AM
Arch View Ballroom

NCB Business Meeting
8:00 AM – 9:00 AM
Gateway Ballroom IV

A/V Room (Upload Presentations)
8:00 AM – 12:00 PM
Broadway I

Registration
8:00 AM – 10:30 AM
Grand Foyer

Student Affairs Symposium
Invasive Insect Management: Are We Making Any Progress
9:00 AM – 12:00 PM
Gateway Ballroom III

Program Symposium
Applying Proteomic and Genomic Methodology To Pest Insect Control
9:00 AM – 11:30 AM
Gateway Ballroom IV

NCB Executive Committee
12:00 PM – 2:00 PM
Market St.
Student Affairs Symposium

Invasive Insect Management: Are We Making Any Progress

Wednesday, March 18, 2009
9:00 AM – 12:00 PM
Gateway Ballroom III

Moderators: David R. Coyle, University of Wisconsin; Ann M. Ray, and Lisa Miehls, University of Missouri

9:00
107 Invasive Insect Management: Are We Making Any Progress?
Brian McCornack, Kansas State University
Lynne Rieske-Kinney, University of Kentucky
Adam Silagy, Florida Department of Agriculture and Consumer Sciences
Nathan Siegert, Michigan State University
Doctrine
Patrick Tobin, USDA Forest Service, Northern Research Station
Andrew Suarez, University of Illinois

9:05
108 What if the next one eats oak? Predicting the next exotic
Dr. Jeff Holland, Purdue University

9:25
109 The role of Allee effects in biological invasions
Dr. Patrick Tobin, USDA Forest Service, Northern Research Station

9:45
110 Update on the Soybean Aphid: Biology, Range, and Management
Dr. Brian McCornack, Kansas State University

10:05
111 Interactions Between the Soybean Aphid and Asian Ladybird Beetle
Dr. George Heimpel, University of Minnesota
10:25
Break

10:40
112  Hemlock Wolly Adelgid Ecology and Impact in the Appalachians  
     Dr. Lynne Rieske-Kinney, University of Kentucky

11:00
113  Emerald Ash Borer in North America: Is There Any Hope?  
     Dr. Nathan Siegert, Michigan State University

11:20
114  Status of western corn rootworm in Europe  
     Lisa Meihls, University of Missouri

11:40
115  Tracing historical patterns of invasion for the mealy plum aphid (Hyalopterus prunif) in North America  
     Jeff Lozier, University of Illinois
Program Symposium

Applying Proteomic and Genomic Methodology To Pest Insect Control

Wednesday, March 18, 2009
9:00 AM – 11:30 AM
Gateway Ballroom IV

Moderators: Thomas Coudron, USDA-ARS

9:00
116 Introduction
Thomas Coudron, USDA – ARS

9:05
117 Tentative steps into corn rootworm genomics
Nick Miller, USDA-ARS-CICGRU

9:30
118 The use of single nucleotide polymorphism (SNP) markers for genetic and genomic analyses of the European corn borer
Brad Coates, USDA-ARS-CICGRU

9:55
119 Unlocking the mystery of insect transformation by exploring protein kinases with molecular and proteomic approaches
Yaning Sun and Qisheng Song, University of Missouri, Division of Plant Sciences

10:20
Break

10:40
120 Heliobase - Jumpstarting Heliothine Genomics
Kent Shelby, USDA-ARS Biological Control of Insects Research Laboratory

11:05
121 Transcriptome analysis of the aquatic midge (Chironomus): A step toward toicogenomics
Kun Yan Zhu, Kansas State University

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March 13-17, 2010
The Brown Hotel
Louisville, KY