

NORTH CENTRAL BRANCH

Entomological Society of America

60th Annual Meeting

March 20-23, 2005



President Gary Brewer

**Purdue Memorial Union
101 North Grant Street
West Lafayette, IN 47907**

Annual Meeting Sponsors



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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 East Foyer. The registration desk will be open for check-in for those that pre-registered and for on-site registration at the following times:

Sunday noon – 6:00 p.m.

Monday 7:30 a.m. – 10:00 a.m.

Tuesday 7:30 a.m. – 10:00 a.m.

Check-in or onsite registration after 10:00 am on Monday should report to **Room 110**, Stewart Center

Messages, Program Changes, Lost & Found

A message board and tacks for posting announcements will be available in the Poster Room, Stewart Center, Room 214. Notices concerning program changes should be submitted to Headquarters, Room 107, Stewart Center. Lost and found items may be turned in and retrieved at Headquarters.

Spouses and Guests

No formal spouse/guest program is planned. Information about the West Lafayette area is available at Headquarters.

Employment Opportunity Center

Employers are invited to post available positions, and job seekers are encouraged to post their vitae, in folders provided in Stewart 214, adjacent to the poster displays.

Audio/Visual Equipment

An audio/visual preview room is available in Room 204, Stewart Center, for speakers to preview presentations. CDs with session papers or symposia are available for viewing on a computer in the A/V room. All meeting rooms will be equipped with an LCD projector and laptop projector. PowerPoint presentations uploaded on the NCB web site will be downloaded and available for preview. Speakers who did not upload presentations prior to March 18 MUST provide to the program staff in the A/V preview room, his/her

PowerPoint presentation at least 24 hours before the beginning of the session. The A/V Room will be available the same hours as the registration desk is open (see above). PowerPoint presentations brought to the meeting must be on Zip disks or CD. We will not directly connect laptops for file transfer, because of incompatibility. Timers and pointers are available for moderators at the A/V Room.

Guidelines for Speakers and Moderators

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

Poster Presentations

Posters will be displayed in Stewart 214. Posters for all student competition sections are to be set up Sunday, March 20, between 4:00 p.m. and 8:00 p.m. These posters must be removed Monday between 6:00 and 8:00 p.m. Posters to be displayed Tuesday (remaining sections posters) are to be set up Monday between 8:00 and 10:00 p.m. These posters are to be removed before 12:00 p.m. Wednesday. Authors are requested to be present at their poster(s) to answer questions between 3:00 – 4:00 p.m. Monday, and 4:00 – 5:00 p.m. Tuesday. Poster authors must bring their own pushpins to attach posters to poster setups.

2004 – 2005 ESA NCB Officers and Committees

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Joel Coats Chair, Wilamr Morjan, Marrion Ellis, Mark
Linit, Chris DiFonzo

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Blair Siegfried

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Cañas, Ron Seymour, Bruce Hibbard

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Campbell, Ayanava Majumdar, Jeff Davis, Marcus
McDonough, Wyatt Anderson

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Hogg Mark Zajac

Linnaean Games

Wyatt Hoback, Mark Boetel, Joel Coats, Gary Hein,
Russell Jurenka, Barbara Nead-Nylander, Blair
Siegfried, Joseph Spencer, Rick Weinzierl, Dan
Young, Jeremy J. Heath, Evan Lampert

NCB-ESA Website (<http://esa.ent.iastate.edu>)

John VanDyk, Webmaster Ian MacRae John Lloyd
Dave Ragsdale

Special Events

Awards Luncheon
Tuesday 12:00 – 1:15 p.m.
Purdue Memorial Union
Purdue Memorial Union
North Ballroom

The Awards Luncheon will consist of presentation of major awards (e.g., C. V. Riley, J. H. Comstock, ESA Graduate Student Scholarship), BCE Awards, as well as North Central Branch winners of National ESA Awards.

ESA NCB Mixer
Tuesday 7:00 – 9:00 p.m.
Purdue Memorial Union
North Ballroom

A mixer open to all ESA meeting participants is scheduled for Tuesday evening from 7:00 to 9:00 p.m. Everyone is encouraged to attend. This is an opportunity for sharing conversation and ideas with fellow NCB members. The mixer will be preceded by the Linnaean Games Playoff between the winning student team and the old Masters in Fowler Hall. Immediately following the Playoff will be the presentation of the winners of the Linnaean Games and Student Paper and Poster Awards.

Forensic Workshop
Sunday 1:30 – 5:30
Stewart Center
Fowler Hall

CSI has bombarded the TV screen with tremendous viewer interest. It seems more and more people are curious and intrigued with crime investigation today

than ever before. At Purdue, there is a huge student interest in forensic science and an increasing demand for professionals trained in the discipline and techniques of the real science of CSI. This symposium will present current activities and plans in forensic science education at Purdue followed by presentations on forensic imaging and use of insects in crime investigation.

**Early Morning With Tom Turpin
Monday Morning during the Opening Session in
the Stewart Center, Fowler Hall**

Monday morning's guests include C.V. Riley, noted entomologist and sexologist Alfred Kinsey, and the irrepressible May Berenbaum – only on NCB!

2005 North Central Branch Award Recipients

2005 North Central Branch C.V. Riley Award

Professor Charles Triplehorn

This is an especially appropriate time to honor Professor Triplehorn with the C.V. Riley Award, because he and Norm Johnson just published the 7th edition of *An Introduction to the Study of Insects*, the book originally authored by Borror and DeLong. Dr. Triplehorn was invited to co-author this book, beginning with the 4th edition in 1976, and he has had a major impact on each edition since that time. This book remains one of the dominant entomology textbooks, introducing students from around the world to insects. This accomplishment, alone, could have defined Chuck's career.

Chuck has been very generous to our profession through his participation in the governance of our societies. He served the Entomological Society of America in a number of positions including branch secretary-treasurer and president, and as a member of the ESA's Governing Board, and finally as President of the ESA in 1985. He also served as President of the Coleopterists Society. His major honors from the ESA include being named the Founder's Memorial Award Lecturer several years ago, and he is now an Honorary Member of the Society. He was also elected a Fellow of the Ohio Academy of Science.

Chuck has authored well over 100 papers, the earliest dealing with vertebrates and economically important insects (i.e., mosquitoes, weevils, corn leaf aphid, European corn borer, corn earworm, corn rootworm). But, even then, his love of the tenebrionids was becoming apparent. His love of these beetles is evidenced not only in his publications, but also in his willingness to help other curators with their holdings of these beetles.

Chuck has also contributed greatly to entomology through his teaching and training of graduate students. During his career at Ohio State, he has taught eight courses plus a research course. In addition, he has served as the major professor for 27 Master of Science and 24 Doctor of

Philosophy students, thus helping to train the next generation of entomologists. He is dearly loved by his students and by entomologists everywhere.

**2005 North Central Branch
Graduate Student Scholarship Award**

Robert L. Koch
University of Minnesota

Robert Koch is the 2005 Graduate Student Scholarship Award winner. Mr. Koch is a PhD candidate at the University of Minnesota and working with Drs. W.D. Hutchison and R.C. Venette. Robert took his curiosity about the impact of *Harmonia axyridis* on *Danaus plexippus* and developed a doctoral thesis evaluating the adverse impacts of an IPM tactics on the effectiveness of exotic natural enemies. Another aspect of his research is to identify more environmentally benign tactics that growers can use to manage pest problems in vegetable and fruit crops systems with traditionally high pesticide use. His commitment is to develop IPM programs that will be implemented, that further a healthy environment, and that are safe for growers and consumers. His goal is to be “part of a multidisciplinary team of researchers involved in developing IPM programs to evaluate and mitigate the adverse impacts of recently established exotic organisms.”

Robert is described as the “best student that I have had, in terms of balancing all areas of scholarship” and is known for his leadership. He is sought out by other graduate students for advice on experimental design, statistical analysis and advice on writing and publishing. He has published 7 refereed journal articles and 2 additional summary articles in the *American Entomologist*. In addition, he is a Subject Editor for the *Journal of Insect Science*. He has reviewed journal articles for *Biological Control*, *Entomologia Experimentalis et Applicata*, *Journal of Economic Entomology*, and the *Journal of Insect Science*.

He has had a strong interest in teaching since an undergraduate Teaching Assistant at St. John’s University and he has continued to teach at the University of Minnesota. Besides classroom and laboratory instruction, Robert has involved himself in Extension education. He has presented extension talks on *Harmonia* and Monarchs and has presented a talk on *Harmonia* as a pest of grapes and apples at the Annual Minnesota Fruit and Vegetable Growers meeting. He has contributed material for the ESA Handbook on Alfalfa (*in press*) and was senior author on an Asian Lady Beetle fact sheet and his web page on Asian Lady Beetle is

highly accessed. Previous awards for paper presentations include 1st place at the 2001 ESA meeting and 2nd place awards at the 2002 ESA meeting and at the NCB-ESA meeting in 2001.

**2005 North Central Branch
J.H. Comstock Award**

Lukasz L. Stelinski
Michigan State University

The 2005 North Central Branch ESA winner of the J.H. Comstock Graduate Student Award is Lukasz L. Stelinski. Mr. Stelinski is a PhD candidate at Michigan State University and expects to graduate soon. The goal of Lukasz's Ph.D. research is to increase understanding of and to improve mating disruption of moths by sex pheromones. His work is greatly expanding knowledge of how moths respond and interact in mating disruption environments. Lukasz made the unexpected discovery that sensitization of moth olfactory receptors is mediated by octopamine. Rather than supporting the idea that pheromone disruption is mediated mainly by desensitization, his results suggested sensory adaptation might allow moths to escape from a pheromone resource once attracted there. Lukasz is an extremely prolific publisher. His MS work resulted in six publications on trapping, behavior, and management of blueberry fly. After 3 years of work on his PhD project, Lukasz has published seven more publications and has two others in draft; and made substantial contributions to a book chapter.

Lukasz is described as an excellent teacher who first learned to teach by emulating excellent instructors at Kalamazoo College where he did B.A. in biology. As a graduate student, he continued to learn the art of teaching from other exceptional teachers. Lukasz has adopted the teaching philosophy that the most important teaching in the lab comes from one-on-one communication. As a further example of his commitment to teaching, Lukasz, graduated from a teaching program offered by the MSU Department of Education that is designed to prepare graduate students to teach college science and math. Lukasz is also an exceptional instructor in a lecture setting, "No matter what the topic, when he's at the podium, it simply is the most interesting topic in the world."

Dr. James R. Miller, Lukasz's Ph.D. advisor, says of Mr. Stelinski, he "lives and breathes entomology, science generally, and education as well".

PROGRAM

**March 20, 2005
Sunday Afternoon**

**Registration
NOON – 6:00 p.m.**

NCB Executive Committee Meeting
1:00 – 5:00
Stewart 204

**Informal Symposium - Experiences with Transgenic
Corn Rootworm Hybrids in 2004: Expectations for
2005 and Beyond**
2:00 – 4:45 p.m.
Stewart Hall 302

Organizer & Moderator:
Michael E. Gray
University of Illinois
Urbana, IL, 61801

- 2:00 001 Introduction
Michael E. Gray, University of Illinois,
Urbana, IL, 61801
- 2:05 002 Comparative feeding behavior of corn
rootworm on transgenics and isolines
John E. Foster, Peter Clrack, Jeffery Krumm
and Rosanna Serikawa, Dept. of Entomology,
University of Nebraska, University of
Nebraska - Lincoln, Lincoln, NE, 68583-0816
- 2:25 003 Dose/Selection intensity of Cry3Bb1 and
Cry34/35: comparison and status of Cry3Bb1
colonies
Bruce Hibbard, 205 Curtis Hall, University
of Missouri, USDA-ARS, Columbia, MO,
65211, Thomas L. Clark, 1-87 Agric. Bldg.,
University of Missouri, Dept. of Entomology,
University of Missouri, Columbia, MO,
65211

- 2:45 004 Development and Status of Transgenic Corn Expressing mCry3Aa for Corn Rootworm Control
Von Kaster, 2369 330th St., PO Box 500, Syngenta Seeds, Traits & Technology, Slater, IA, 50244
- 3:05 005 Field Performance of Herculex® RW and Herculex XTRA: Novel Bt corn products for Larval Corn Rootworm Management
Jonathan M. Babcock, Dow AgroSciences LLC, 9330 Zionsville Rd, Indianapolis, IN, 46268, James Bing, Mycogen Seeds, 301 Campus Drive, Huxley, IA, 50124, Paula Davis, Pioneer Hi-Bred International Inc., 7100 N. W. 62nd Avenue, Johnston, IA, 50131-1150, Jeff Edwards, Dow AgroSciences LLC, 9330 Zionsville Rd, Indianapolis, IN, 46268, Laura Higgins and Tim Nowatzki, Pioneer Hi-Bred International Inc., 7100 N. W. 62nd Avenue, Johnston, IA, 50131-1150
- 3:25 006 YieldGard Rootworm Performance Issues Surface in Urbana Experiment
Michael E. Gray, Kevin L. Steffey and Ron Estes, S-320 Turner Hall, 1102 S. Goodwin Avenue, University of Illinois, Urbana, IL, 61801
- 4:00 007 Impact of YieldGard Rootworm on Corn Rootworm Larval Feeding
Ty T. Vaughn, 700 Chesterfield Parkway N., Monsanto Co., Chesterfield, MO, 63017
- 4:25 008 2004 YieldGard Rootworm and YieldGard Plus Performance
Todd DeGooyer, 800 N. Lindbergh Blvd., Monsanto Co., St. Louis, MO, 63167

Forensic Science at Purdue

1:30 – 5:30 p.m.

Stewart Center

Fowler Hall

Organizer & Moderator:

Ralph Williams

Purdue University

West Lafayette, IN

- 1:30 010 Forensic science education at Purdue
David Tate, Purdue University, West
Lafayette, IN
- 2:15 011 Forensic imaging
Patrick Jones, Purdue University, West
Lafayette, IN
- 3:00 **BREAK**
- 3:15 012 Insects in forensic science
Ralph Williams, Purdue University, West
Lafayette, IN
- 4:00 013 Case studies in forensic entomology
Marissa Fusco, Purdue University, West
Lafayette, IN

Informal Working Group

Ornamental Entomology

1:30 – 4:00 p.m.

Stewart 306

**March 20, 2005
Sunday Evening,**

Poster Setup
4:00 – 8:00 p.m.
Stewart 214

Photo Salon
6:00 – 7:00 p.m.
Stewart 213

Linnean Games – Opening Rounds
7:00 – 9:00 p.m.

Gamesmaster: W. Wyatt Hoback
University of Nebraska at Kearney
Stewart Center
Fowler Hall

**March 21, 2005
Monday Morning**

Continental Breakfast
Purdue Memorial Union
North Ballroom
7:00 – 8:00 a.m.

Registration
7:30 – 5:00 p.m.

**Opening Session
8:00 – 10:00 a.m.**
**Stewart Center
Fowler Hall**

Welcome

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

Local Arrangements Update
Steve Yaninek

Opening Remarks
Michael A. Ivie
President
Entomological Society of America

ESA Governing Board Report
Laurence D. Charlet
NCB Representative to Governing Board

Early Morning with Tom Turpin

Take Charge of *YOUR* ESA

March 21, 2005
Monday Morning
BS/MS Student Competition Papers

Sections A, B, Cb, Cd, Cf, &D

10:15 a.m. – 12:30 p.m.

Stewart 202

Moderators:

Mark Boetel

NDSU, Fargo, ND 58105

- 10:15 014 New County Tiger Beetle Records and Statewide Inventory in Nebraska
Mathew L. Brust, 109 E 26th St. Apt. 6, University of Nebraska at Kearney, Kearney, NE, 68847, William W. Hoback, Bruner Hall of Science, 305 W 25th St., University of Nebraska at Kearney, Kearney, NE, 68849
- 10:27 015 Repellency of Catnip and Osage Orange Essential Oils to the Northern House Mosquito
Gretchen E. Schultz and Joel R. Coats, Department of Entomology, Insectary Bldg. , Iowa State University, Ames, IL, 50010
- 10:39 016 Characterization of the oral secretion of the burying beetle, *Nicrophorus marginatus*
Wendi K. Middleton, Julie J. Shaffer and William W. Hoback, 905 West 25 Street, University of Nebraska Kearney, Kearney, NE, 68849
- 10:51 017 Impact of orphaning on *Reticulitermes flavipes* (Isoptera: Rhinotermitidae) incipient colonies
Jerri D. Dombrowski and Susan C. Jones, 1991 Kenny Rd., Ohio State University, Columbus, OH, 43210
- 11:03 018 Off with their heads! Effects of host plant diversity and selection on the population dynamics of the head-clipping weevil, *Haplorhynchites aeneus*
Emily C. Kluger and Lawrence M. Hanks, 320 Morrill Hall , 505 S Goodwin Ave, University of Illinois at Urbana-Champaign, Urbana, IL, 61801
- 11:15 019 Antennal sensilla associated with long-range and

contact pheromones in longhorned beetles
(Coleoptera: Cerambycidae)

Ann M. Ray and James B. Nardi, 320 Morrill Hall, 505 S. Goodwin Ave., University of Illinois Urbana Champaign, Urbana, IL, 61801, Jocelyn G. Millar, Entomology 102, University of California Riverside, Riverside, CA, 92521, Scott J. Robinson, Beckman Institute for Advanced Science and Technology, University of Illinois, 405 N. Matthews Ave, Imaging Technology Group, Urbana, IL, 61801, Hugh M. Robertson and Lawrence M. Hanks, 320 Morrill Hall, 505 S. Goodwin Ave., University of Illinois Urbana Champaign, Urbana, IL, 61801

- 11:27 020 An Investigation of Ant (Hymenoptera: Formicidae) Diversity in 26 Nebraska Counties
Jessica D. Jurzenski, 106 1/2 E 30th St, University of Nebraska at Kearney, Kearney, NE, 68847
- 11:39 021 Ants as Indicators of biodiversity; Biodiversity of ants in different successional plots of Conservation Reserve Program land.
Sarah J. Phipps and Richard Houseman, 1-87 Agriculture Building, Columbia, MO, 65211
- 11:51 022 Baseline Invertebrate Survey in the Calumet region of Chicago
Nick Tzovolos, 106 Natural Resources Annex, University of Illinois, Urbana, Ill, 61801
- 12:03 023 Spatial Analyses at Multiple Scales Reveal Differences for Ant Genera in Nebraska
Paras Lamsal, Marc Albrecht and William Hoback, 905 W. 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849
- 12:15 024 Effects of Clothing on Decomposition and Insect Succession
Barb J. Sharanowski, S-225 Agriculture Science Centre North, University of Kentucky, Lexington, KY, 40536-0091

March 21, 2005
Monday Morning
BS/MS Student Competition Papers

Sections Ca, F, Fa, & Fb

10:15 a.m. – 12:30 p.m.

Stewart 206

Moderators:

Philip Glogoza

University of Minnesota,
Moorhead Regional Extension Center,
Moorhead, MN 56560

- 10:27 025 Temperature variation affecting consumption, transfer, and resulting mortality of noviflumuron fed *Reticulitermes flavipes* (Kollar) workers.
Neil A. Spomer and Shripat T. Kamble,
Department of Entomology, 202 Plant Industry Building, University of Nebraska, Lincoln, NE, 68583-0816
- 10:39 026 Factors affecting the natural occurrence of entomopathogenic nematodes on golf courses in Ohio: A principal components analysis
Alfred Alumai, Parwinder S. Grewal and Casey W. Hoy, 1680 Madison Ave., Ohio State University, Wooster, OH, 44691
- 10:51 027 Soybean aphid *Aphis glycines* management in Iowa; coverage verses compound.
Kevin D. Johnson and Matthew E. O'Neal,
113A Insectary , Iowa State University, Ames, IA, 50036
- 11:03 028 The Effect of Four Cropping Systems on Variant Western Corn Rootworm (Coleoptera: Chrysomelidae) Adult and Egg Densities and Subsequent Larval Injury in Rotated Maize
Jared B. Schroeder, Susan T. Ratcliffe and Michael E. Gray, 1102 South Goodwin MC-046, University of Illinois, Urbana, IL, 61801
- 11:15 029 Soil potassium deficiency improves nitrogen nutrition for the soybean aphid, *Aphis glycines*, and increases the size of soybean aphid populations.
Abigail J. Walter and Christina D. DiFonzo,

243 Natural Science, Michigan State University,
East Lansing, MI, 48912

- 11:27 030 Heritability of Sunflower Midge Resistance in Selected Inbred Lines
Derek S. Crompton, 3313 39 st s, NDSU, Fargo, ND, 58105, Gary J. Brewer, Hultz Hall, Fargo, ND, 58105
- 11:39 031 Micro-CAT Scanning; A New Look into Bruchid Resistance in Cowpea Seed
Matt Tarver, Barry R. Pittendrigh and Richard E. Shade, 901 West State Street, Purdue University, West Lafayette, IN, 47907, Robert D. Tarver, Indiana University School of Medicine, Wishard Memorial Hospital, 1001 West 10th Street, Indianapolis, IN, 46202, Yun Liang and Krishnamurthi Ganapathy, Section of Imaging Science, 950 Walnut St., Indiana University, Indianapolis, IN, 46202, Larry L. Murdock, 901 West State Street, Purdue University, West Lafayette, IN, 47907
- 11:51 032 Characterization of Antibiosis and Antixenosis in Kansas Soybean Lines to the Soybean Aphid, *Aphis glycines* Matsumura (Homoptera: Ahdidae)
John Diaz-Montano, John C. Reese, Randall A. Higgins, Phillip E. Sloderbeck and William T. Schapaugh, 123 West Waters Hall, Kansas State University, Manhattan, KS, 66506-4004
- 12:03 033 Ability of the First Instars of Flour Beetles to Pass Through Sieves of Two Mesh Sizes
Anna I. Getchell and Bhadriraju Subramanyam, 201 Shellenberger, Kansas State University, Manhattan, KS, 66506

March 21, 2005
Monday Morning
PhD Student Competition Papers

Sections A, B, & Cd

10:15 a.m. – 12:30 p.m.

Stewart 218AB

Moderators:

Rick Foster

Purdue Univ., West Lafayette, IN 46065

- 10:35 034 Morphological variation in *Chaenusa s. l.* (Hymenoptera: Braconidae), with emphasis on character states used to define *Chaenusa s. l.*, *Chaenusa s. s.*, *Chorebidea*, and *Chorebidella*
Robert R. Kula and Gregory Zolnerowich, 123 West Waters Hall, Kansas State University, Manhattan, KS, 66506-4004
- 10:47 035 Phylogeny of Ephemerellidae (Ephemeroptera) Based on Morphological and Molecular Data
Luke M. Jacobus, 901 W. State St., Purdue University Department of Entomology, West Lafayette, IN, 47907, T. H. Ogden, School of Life Sciences, P.O. Box 874501, Arizona State University, Tempe, AZ, 85287-4501, Jonathan T. Osborne and Michael F. Whiting, Department of Integrative Biology, 401 WIDB, Brigham Young University, Provo, UT, 84602, W. P. McCafferty, 901 W. State St., Purdue University Department of Entomology, West Lafayette, IN, 47907
- 10:59 036 Expression of Cyp6g1 and Cyp12d1 in DDT resistant and susceptible strains of *Drosophila melanogaster*
Hongmei Li, Reginaldo A. Festucci-Buselli, Aloisio S. Carvalho-Dias, Maxuel de Oliveira-Andrade, Cristiano Caixeta-Nunes and Jeffrey J. Stuart, Department of Entomology, Purdue University, 1158 Smith Hall, State Street, Purdue University, West Lafayette, IN, 47907-1158, William Muir, Lilly Hall, 915 W. State Street, Purdue University, , Department of Animal Sciences, West Lafayette, IN , 47907-2054, Michael E. Scharf and Barry R. Pittendrigh,

- Department of Entomology, Purdue University,
1158 Smith Hall, State Street, Purdue University,
West Lafayette, IN, 47907-1158
- 11:11 037 Expression Profile of two Cytochrome P450
Genes of the CYP6 Family from Midgut of the
Hessian fly, *Mayetiola destructor*
Omprakash. Mittapalli, 901 W. State St,
Purdue University, West Lafayette, IN, 47907-
2089, Jonathan J. Neal, 901 W. State St, Purdue
Univeristy, West Lafayette, IN, 47907, Richard
H. Shukle, 901 W. State St, USDA/ARS Purdue
University, West Lafayette, IN, 47907
- 11:23 038 Analyses of the Nutrient Content of Six Orders
and Eight Species of Insects
Mark E. Headings and Shah Rahnema, 1328
Dover Road, The Ohio State University Agric.
Tech. Institute, Wooster, OH, 44691
- 11:35 039 Effects of Bt-corn anthers on the behavior of
monarch butterfly larvae
Patricia L. Anderson, 13 Insectary Bldg, Iowa
State University, Ames, IA, 50011, Richard L.
Hellmich and Leslie C. Lewis, Genetics
Laboratory c/o Insectary Bldg, USDA-ARS,
Ames, IA, 50011
- 11:47 040 Host plant effects on the polyembryonic
parasitoid *Copidosoma sosares*
Evan C. Lampert and Paul J. Ode, 202 Hultz
Hall, North Dakota State University, Fargo, ND,
58105, Arthur R. Zangerl, Jennifer L. McGovern
and May R. Berenbaum, Morrill Hall, University
of Illinois, Urbana-Champaign, Urbana, IL,
61801
- 11:59 041 Whole genome amplification of individual mite
DNA for genetic studies
Bhanu S. Konakandla, 1601 roof drive, Apt #
G-24, Kansas state university, Manhattan, KS,
66502, Yoonseong Park and David C. Margolies,
Department of Entomology, 123 W. Waters Hall,
Kansas State University, Kansas State
University, Manhattan, KS, 66506
- 12:11 042 Fluctuating temperature effects on the green

peach aphid, *Myzus persicae* (Sulzer)
Jeffrey A. Davis, Edward B. Radcliffe and
David W. Ragsdale, 1980 Folwell Ave.,
University of Minnesota-St. Paul, St. Paul, MN,
55108

March 21, 2005

Monday Morning

PhD Student Competition Papers

Sections Ca, Cb, F, Fa, & Fb

10:15 – 12:30

Stewart 218CD

Moderators:

Mike Culy

Dow AgroScience, Indianapolis, IN

- 10:35 043 The effect of winter environmental conditions on the overwintering success of *Aphthona* flea beetles
Ankush Joshi, Denise L. Olson and Donald R. Carey, Entomology, Hulz Hall, NDSU, Fargo, ND, 58105
- 10:47 044 Phenology and management of the multicolored Asian lady beetle in Minnesota grapes
Tederson L. Galvan, Robert L. Koch, Eric C. Burkness, Suzanne J. Wold-Burkness and William D. Hutchison, 219 Hodson Hall, 1980 Folwell Ave, University of Minnesota, Saint Paul, MN, 55108
- 10:59 045 Using fall treatments with oxalic acid to reduce *Varroa* mite populations in the North Central Region
Nicholas P. Aliano and Marion D. Ellis, Department of Entomology, 202 Plant Industry Bldg., University of Nebraska-Lincoln, Lincoln, NE, 68583, Bob Cox, 2413 E HWY 83, USDA-ARS Honey Bee Research, Weslaco, TX, 78596
- 11:11 046 Dynamic Economic Injury Level for Banded Sunflower Moth (Lepidoptera: Tortricidae)
Kirk D. Mundal and Gary J. Brewer, 202 Hultz Hall, North Dakota State University, Fargo, ND, 58105

- 11:23 047 Gene Flow Among Indian Meal Moth Populations, A Population Genetic Study Using Microsatellite Markers
Tony Grace and Srinivas Kambhampati, 123 Waters Hall, Department of Entomology, Kansas State University, Manhattan, KS, 66506,
Bhadriraju Subramanyam, 201 Shellenberger Hall, Dept of Grain Science and Technology, Manhattan, KS, 66506

March 21, 2005

Monday Afternoon Student Competition Posters - All BS, MS, and PhD Posters

1:30 – 5:00 p.m.

Stewart 214

(Authors present 3:00 – 4:00 p.m.)

- D048 Questioning American Insect Mythology: a study to reveal the historical relationships of Hessian fly populations in North America and around the World
Alisha J. Johnson, Brandon J. Schemerhorn and Richard H. Shukle, 170 South University Street, WSLR 241, USDA-ARS/Purdue University, West Lafayette , IN, 47905
- D049 Testing the effects of caterpillar salivary enzymes on tomato plant defenses
James White, Spencer Williams and Richard O. Musser, Department of Biological Sciences, Western Illinois University, Macomb, IL, 61455
- D050 Selected Life History Characteristics of Nymphal and Adult *Orius insidiosus* (Say) fed Soybean Aphids (*Aphis glycines* Matsumura)
Casey D. Butler and Robert J. O'Neil, 901 W. State St., Purdue University, West Lafayette, IN, 47907
- D051 Ladybeetle Development in Alfalfa
Alexander P. Cunningham, Stephen D. Danielson and James Brandle, 202 Plant Industry Bldg., University of Nebraska-Lincoln, University of Nebraska - Lincoln, Lincoln, NE,

68583-0816

- D052 Testing for non-target effects of Conserve® on twospotted spider mite (Acari: Tetranychidae) and its predator, *Phytoseiulus persimilis* (Acari: Phytoseiidae)
Kiffnie M. Holt, George P. Opit, James R. Nechols, David C. Margolies and Kimberly A. Williams, 123 West Waters Hall, Kansas State University, Manhattan, KS, 66502
- D053 Black cutworm susceptibility to parasitoids and pathogens in Herculex I
Nina M. Richtman and Jon J. Tollefson, 13 Insectary, Iowa State University, Ames, IA, 50011
- D054 Documentation of Western Corn Rootworm (*Diabrotica virgifera virgifera* LeConte) pupal case construction.
Rosana H. Serikawa, Pete L. Clark, Jeff T. Krumm and John E. Foster, 202 Plant Industry Building, University of Nebraska, Lincoln, NE, 68583-0816
- D055 Aquatic Macroinvertebrates from Oil-Covered Waste Lagoons in Western Nebraska
Mike Cook, Mathew L. Brust, William W. Hoback and Julie J. Shaffer, 905 W. 25th Street, University of Nebraska at Kearney, Kearney, NE, 68849
- D056 Soybean Aphids (*Aphis glycines* Matsumura) on Edamame Soybean in Nebraska
Bamphithi Tiroesele, Thomas E. Hunt, John E. Foster and Robert J. Wright, 202 PLANT Industry Building, University of Nebraska-Lincoln, Lincoln, NE, 68583-0816
- D057 Characterization of an in vitro assay for evaluating the activity and potency of potential insecticides against adult stable flies, *Stomoxys calcitrans*
Steven M. Bauer, Philip R. Plummer, Keith A. Wilson and Daniel E. Snyder, 2001 West Main Street, P.O. Box 708, Elanco Animal Health, Greenfield, IN, 46140
- D058 Species-diagnostic Polymerase Chain Reaction Assay for the Identification of *Anopheles*

Vectors of Human *Plasmodium spp.*
Corey L. Brelsfoard and Gary N. Fritz,
Department of Biological Sciences, 600 Lincoln
Ave., Eastern Illinois University, Charleston, IL,
61920

- D059 The effect of YieldGard® Rootworm corn on
adult western corn rootworm longevity and
fecundity
Amanda R. Schroeder and Gerald E. Wilde,
123 W. Waters Hall, Kansas State University,
Manhattan, KS, 66506
- D060 Soybean aphid (*Aphis glycines*) in South Dakota:
Impact on soybean (*Glycine max*) development
and yield
Eric A. Beckendorf and Michael Catangui,
South Dakota State University, Brookings , SD,
57006, Walter Riedell, USDA-ARS, Brookings ,
SD, 57006
- D061 Genomic response of maize to herbivory
Jacque Gerard, Yaa N Owusu, Spencer
Williams and Richard O. Musser, Department of
Biological Sciences, Western Illinois University,
Macomb, IL, 61455
- D062 Technique for Identification of Sunflower midge
Resistance in Seedling Plants
Derek S. Crompton, John Fajardo and Gary J.
Brewer, Hultz Hall, NDSU, Fargo, ND , 58105
- D063 Molecular Study of Systematics And
Biogeography of Sunflower Seed Weevils in
North America
Shujuan Li, Christian Y. Oseto and Virginia R.
Ferris, 901 W. State Street , Purdue University,
West Lafayette, IN, 47907-2089
- D064 Genetic variability of Wheat Curl Mite
Populations
Benjawan Siriwetwivat and Gary L. Hein,
Panhandle Research & Extension Center , 4502
Ave I, UNL, Scottsbluff, NE, 69361, Roy C.
French, Dept. Plant Pathology, 406 Plant
Sciences Hall, UNL, USDA, Lincoln, NE, 68583
- D065 Polytene chromosomes from the salivary gland

cells of the wheat midge, *Sitodiplosis mosellana*
Omprakash. Mittapalli and Jeffery J. Stuart,
901 W. State St, Purdue University, West
Lafayette, IN, 47907-2089; Richard H. Shukle,
901 W State St., USDA/ARS Purdue University,
West Lafayette, IN, 47907 and Ian L. Wise,
Agriculture and Ari-Food Canada

D066 Preliminary Linkage Map of the Primary
Screwworm Fly

sasi maliphan, 202PI bldg. EC lincoln NE
68506, University of Nebraska at Lincoln,
lincoln, NE, 68506, Steven R. Skoda, Panama
city, Panama, USDA-ARS-SPA Screwworm
Research Unit, Panama city, Panama, John E.
Foster, 202PI bldg. EC lincoln NE 68506,
University of Nebraska at Lincoln, lincoln, NE,
68506

D067 Population Structure and Gene Flow Among
European Corn Borer in the Midwestern United
States

Jeffrey T. Krumm and Thomas E. Hunt,
Haskell Agricultural Laboratory, University of
Nebraska - Lincoln, Concord, NE 68728, Steven
R. Skoda, USDA-ARS Screwworm Research
Unit, American Embassy, Unit 0945, AA 34002
(Panama City, Panama), Gary L. Hein, Panhandle
Research and Extension Center, University of
Nebraska - Lincoln, Scottsbluff, NE 69361, and
John E. Foster, 312F Plant Industry Bldg.,
University of Nebraska - Lincoln, Lincoln, NE
68583-0816

D068 Applying Fiber-FISH in Functional Insect
Genomics

Rajat Aggarwal and Jeffery J. Stuart, 901 W.
State Street , Department of Entomology, Smith
Hall, Purdue University, West Lafayette, IN,
47907

D069 Selecting and evaluating a companion crop to
augment *Coleomegilla maculata* populations in
sweet corn

Michael P. Seagraves and Kenneth V. Yeargan,
S-225 Ag. Sci. North, University of Kentucky,
Lexington, KY

- D070 Evaluation of biorational and chemical insecticides against the crucifer flea beetle, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae), on canola.
Frank B. Antwi, and , North Dakota State University, Entomology Department, North Dakota State University, Fargo, ND, 58105
- D071 Biological control of twospotted spider mites, *Tetranychus urticae* Koch (Acari: Tetranychidae), on impatiens using *Phytoseiulus persimilis* Athias-Henriot (Acari: Phytoseidae)
Fahad J. Alatawi, James R. Nechols and David C. Margolies, 123 West Waters Hall, Manhattan, , Kansas State University , Manhattan, KS, 66506-4004
- D072 The effect of winter environmental conditions on the overwintering success of Aphanthia flea beetles
Ankush Joshi, Denise L. Olson and Donald R. Carey, Entomology, Hulz Hall, NDSU, Fargo, ND, 58105
- D073 Investigation of Defensive Behavior QTL Effects on Ethanol Sensitivity and Learning in Honey Bees
Andrew Ammons, Greg Hunt, Krispn Given, Christine Emore, David Schlipalius and Bradley Barnd, 901 W. State Street, Purdue University, West Lafayette, IN, 47907-2089
- D074 Winter depression of supercooling points in the Indianmeal moth, *Plodia interpunctella* (Hübner)
Mario A. Carrillo*, William D. Hutchison*, William F. Wilcke**, R. Vance Morey** and Nalladurai Kaliyan**, Departments of *Entomology and **Biosystems and Agricultural Engineering, University of Minnesota, Saint Paul, MN, 55108
- D075 Quaternary Insect Fossil Finds in Ohio and Their Uses in Paleoecology and Paleoclimate Studies
Melanie L. Bergolc, 217 Life Sciences, Bowling Green State University, Bowling Green, OH, 43403

- D076 Ecological Impact of Roundup Ready Cropping Systems on Soil Dwelling Mite and Collembolan Populations
Michal Roberts, Gerald E. Wilde and Kassim Al-Khatib, 123 West Waters Hall, Kansas State University, Manhattan, KS, 66506
- D077 An Investigation of Chinch Bug Mouthpart Morphology
Wyatt G. Anderson, Tiffany M. Heng-Moss and Frederick P. Baxendale, 202 Plant Industry P.O. Box 830816, University of Nebraska-Lincoln, Lincoln, NE, 68586-0816
- D078 Kernel characteristics of rough rice affect progeny production of the lesser grain borer , *Rhyzopertha dominica* (F.)
Yaowaluk Chanbang, 123 W.Waters Hall, Department of Entomology, Kansas State university, Manhattan, KS, 66502, Frank H. Arthur, 1515 College Ave., USDA-ARS Grain Marketing and Production Research Center, Manhattan, KS, 66502, Gerald E. Wilde, 123 W.Waters Hall, Department of Entomology, Kansas State university, Manhattan, KS, 66502
- D079 Discriminating antibiosis and antixenosis in transgenic maize resistant to *Diabrotica virgifera virgifera* LeConte
Pete L. Clark, 13 Plant Industry Building, University of Nebraska - Lincoln, Lincoln, NE, 68583-0816, Ty T. Vaughn, 700 Chesterfield Pkwy W, Monsanto Company LLC, Chesterfield, MO, 63017, John E. Foster, 312 F Plant Industry Building, University of Nebraska-Lincoln, Lincoln, NE, 68583-0816
- D080 Analysis of *Spodoptera frugiperda* (Lepidoptera: Noctuidae) populations from Brazil using RAPD markers and sequencing of the COI gene marker and ITS-1 region
Samuel Martinelli, 202 Plant Industry Building, University of Nebraska - Lincoln, Lincoln, NE, 68583-0816, Maria I. Zucchi, Reinaldo M. Barata and Marcio C. Silva Filho, Departamento de Genetica, Escola Superior de Agricultura - USP/ESALQ, Piracicaba, SP, 13418-900, John E. Foster, 202 Plant Industry Building,

University of Nebraska - Lincoln, Lincoln, NE,
68583-0816, Celso Omoto, Departamento de
Entomologia, Fitopatologia e Zoologia Agricola,
Escola Superior de Agricultura - USP/ESALQ,
Piracicaba, SP, 13418-900

Monday Afternoon

March 21, 2005

Symposium

**Urban Entomology Research and Extension Technology
in the North Central Region**

1:00 – 5:15

Stewart 218AB

Organizer & Moderator

Shripat T. Kamble

Dept of Entomology

University of Nebraska

Lincoln, NE, 68583-0816

- 1:00 081 Introduction
Shripat T. Kamble, 201A PI, University of
Nebraska, Lincoln, NE, 68583-0816
- 1:05 082 Mosquito populations and west Nile virus in the
Midwest
Robert Novak, Dept. of Entomology, Univ. of
Illinois, Champaign, IL, 61820
- 1:20 083 Stable flies as urban pest: Impact on recreation
and health.
David B. Taylor, Rm. 305 Plant Industry Bldg.,
East Campus, UNL, University of Nebraska,
Lincoln, Lincoln, NE, 68583
- 1:35 084 The itch mite, *Pyemotes herfsi* - an emerging pest
of public health importance
Ludek Zurek, Bobby Brown and Alberto Broce,
123 West Waters Hall, Kansas State University,
Manhattan, KS, 66506
- 1:50 085 Lymphocytic Choriomeningitis Virus (LCMV) -
A health concern for urban entomologists and the
relationship with rodents found in urban
structures.
Linda J. Mason, Wan-Tien Tsai and Jeff J. Stuart,
901 West State Street, Purdue University, West
Lafayette, IN, 47907 and R. Corrigan, RMC Pest
Management, Richmond, IN
- 2:05 086 Stored-Product IPM: Understanding issues
affecting end-users through surveys and focus
group meetings

- Subramanyam Bhadriraju**, 201 Shellenberger Hall, Kansas State University, Manhattan, KS, 66506
- 2:20 087 Methyl bromide fumigation: Heat treatment as an alternative strategy for pest management in food processing facilities
Rizana M. Mahroof and Bhadriraju Subramanyam, Department of Grain Science and Industry, 201 Shellenberger Hall, Kansas State University, Manhattan, KS, 66506
- 2:35 088 Development and Implementation of a Comprehensive Stewardship Program for ProFume Gas fumigant
Suresh K. Prabhakaran, 9300 Zionsville Road, Dow AgroSciences, Indianapolis, IN, IN, 46268
- 2:50 089 The influence of fungal diet on the development and oviposition preference of hairy fungus beetle, *Typhea stercorea* (L).
Wan-Tien Tsai, Linda J. Mason and Charles P. Woloshuk, 901 West State Street, Purdue University, West Lafayette, IN, 47907
- 3:30 090 Controlling thief and nuisance ants with bifenthrin, fipronil and phantom in urban settings.
Timothy J. Husen, University of Nebraska - Lincoln, Lincoln, NE, 68503, Shripat Kamble, University of Nebraska-Lincoln, Lincoln, NE, 68503, Neil Spomer, University of Nebraska-Lincoln, Lincoln, NE, 68503, Robert W. Davis, BASF- Specialty Products, Pflugerville, TX, 78660
- 3:45 091 Comparative Study of Traps and Baits for Monitoring German Cockroaches
Changlu Wang and Gary W. Bennett, 901 W. State St, Purdue University, West Lafayette, IN, 47907
- 4:00 092 Non-invasive termite control with imidacloprid in the North Central Region
Gary A. Braness and Byron L. Reid, 95 Chestnut Ridge Rd, Bayer Environmental Science, Montvale, NJ, 07645
- 4:15 093 Evaluation of Summon® and Firstline®

(sulfluramid) bait against *Reticulitermes flavipes* in Ohio

Susan C. Jones, 1991 Kenny Rd., Ohio State University, Columbus, OH, 43210

- 4:30 094 Consumption of mulches of different age by *Reticulitermes flavipes* (Kollar) pseudergates in multi-choice tests.
Olga P. Pinzon, Richard M. Houseman and C. J. Starbuck, 1-87 Ag. Building, University of Missouri, Columbia, MO, 65211
- 4:45 095 BAS 320I, A New Pest Control Product From BASF
Dawn Calibeo-Hayes, Richard A. Warriner and Chuck Klein, 26 Davis Drive PO Box 13528, BASF, Research Triangle Park, NC, 27709
- 5:00 096 The impact of Recruit™ IV on termite monitoring and baiting with the Sentricon® Termite Colony Elimination System
Paul A. Neese, 13210 Antonia Blvd., Dow AgroSciences LLC, Westfield, IN, 46074

March 21, 2005
Monday Afternoon

Symposium
Ground beetle (Coleoptera: Carabidae) ecology in the
Midwest: their function and diversity in natural and
agricultural habitats

1:00 – 5:15
Stewart 206

Organizer & Moderator
Jonathan G. Lundgren
USDA-ARS
2923 Medary Avenue
Northern Grain Insects Research Laboratory
Brookings, SD, 57006

- 1:00 Introduction
Jonathan G. Lundgren, USDA-ARS, 2923
Medary Avenue, Northern Grain Insects Research
Laboratory, Brookings, SD, 57006
- 1:05 097 Choosing where to live: factors impacting habitat
selection by ground beetles in Northeastern Iowa
Kirk J. Larsen, 700 College Drive, Luther
College, Decorah, IA, 52101
- 1:25 098 Carabid Beetle (Coleoptera: Carabidae) Diversity
in Forest Fragments of Northwestern Ohio
Daniel M. Pavuk and Rhonda Oates, 217 Life
Sciences Building, Department of Biological
Sciences, Bowling Green State University,
Bowling Green, OH, 43403-0212, Foster F.
Purrington, Department of Entomology, The Ohio
State University, Columbus, OH, 43210, Melanie
L. Bergolc, Kelly Hite-Bechstein and Laura L.
Hughes-Williams, 217 Life Sciences Building,
Department of Biological Sciences, Bowling
Green State University, Bowling Green, OH,
43403-0212
- 1:45 099 The effect of crop rotation systems on
invertebrate post-dispersal weed seed predation
Paula R. Westerman, Megan E. O'Rourke, Matt

- Liebman and Andrew H. Heggenstaller, 2501 Agronomy Hall, Iowa State University, Ames, IA, 50011-1010, Fabián D. Menalled, Department of Land Resources and Environmental Sciences, 719 Leon Johnson Hall, Montana State University, Bozeman, MT, 59717-3120
- 2:05 100 Farm management intensity and biological control
Jonathan G. Lundgren, USDA-ARS, 2923 Medary Avenue, Northern Grain Insects Research Laboratory, Brookings, SD, 57006
- 2:25 **BREAK**
- 2:35 101 The difficulty in assessing the role of carabids in agricultural systems
Gerald E. Brust, 479 Lagrange St, West Lafayette, IN, 47906
- 2:55 102 Assessing ground beetle contribution to ecosystem services: Does it matter if there are more ground beetles?
Matthew E. O'Neal, 204 CIPS, Michigan State University, East Lansing, MI, 48824, Rufus Isaacs, 202 Center for Integrated Plant Systems, Michigan State University, Department of Entomology, East Lansing, MI, 48824, Jeremy Singer, 2150 Pammel Drive, USDA-ARS National Soil Tilth Laboratory, Ames, IA, 50011, Nicholas Schmidt, 204 CIPS, Michigan State University, East Lansing, MI, 48824, Jarrad R. Prasifka and Richard L. Hellmich, Iowa State University, USDA-ARS Corn Insects and Crop Genetics Laboratory, Ames, IA, 50011
- 3:15 103 Ecology of Ground Beetles (Coleoptera: Carabidae) Inhabiting West-Central Illinois Soybean Fields and Habitat Islands
Kenneth W. McCravy and Jason E. Willand, Department of Biological Sciences, Western Illinois University, Macomb, IL 61455
- 3:35 104 Variation in Spatial Distribution and Diurnal Activity Cycles of Ground Beetles (Coleoptera: Carabidae) Encountered in Experimental Settings for Study of Sustainability Issues
Michael M. Ellsbury, Bryan W. French, Joseph L. Pikul, Jr. and Chris Noble, 2923 Medary

- Avenue, USDA, ARS, Brookings, SD, 57006
- 3:55 105 Effects of E-64 protease inhibitor on larvae of the ground beetle *Poecilus chalcites*: implications for Tier-I non-target organism testing for risk assessment of transgenic crops
Jian J. Duan and Mark S. Paradise, 800 North Lindgbergh, Monsanto Company, St. Louis, MO, 63167, Jonathan Lundgren, 2923 Medary Avenue, Northern Grains Insect Research Laboratory, USDA-ARS, Brookings, SD, 57006
- 4:15 106 Exposure and response of ground beetles to the cultivation of transgenic *Bacillus thuringiensis* (Bt) corn
Claudia Zwahlen and David A. Andow, 219 Hodson Hall, 1980 Folwell Ave., University of Minnesota, St. Paul, MN, 55108
- 4:35 Informal Mixer

**Monday Afternoon
March 21, 2005**

**Symposium
Variations of a theme: Biological Control**

1:00 – 5:10
Stewart 202

Organizers & Moderators:

Susan E. Moser,
Dept. of Entomology
University of Illinois
Urbana, IL 61801

Bethzayda Matos
Depts of Entomology & Horticulture
Iowa State University
Ames, IA 50011

- 1:05 107 Influence of Feeding Niche on Parasitism of Wood-Boring Larvae (Coleoptera: Cerambycidae)
Peter F. Reagel and Emerson S. Lacey, 420 Morrill Hall , 505 S. Goodwin Ave., University of Illinois at Urbana-Champaign, Urbana, IL, 61801, John F. Tooker, 546 Ag Science and Industry Building, The Pennsylvania State University, University Park, PA, 16802, Matthew D. Ginzel, 162 Howard Medical Science Building, University of Nevada Reno, Reno, NV, 89505, Michael T. Smith and Roger W. Fuester, 501 South Chapel Street, USDA/ARS-BIIR, Newark, DE, 19713, Lawrence M. Hanks, 420 Morrill Hall , 505 S. Goodwin Ave., University of Illinois at Urbana-Champaign, Urbana, IL, 61801
- 1:23 108 Elm (*Ulmus* spp.) Leaf Chemistry Influence on the Suitability and Feeding Preference of Two Invasive Species: Japanese Beetle and Gypsy Moth
Gretchen E. Schultz and Joel R. Coats, Department of Entomology, Insectary Bldg., Iowa State University, Ames, IL, 50010, Frederic Miller, 4100 Illinois Route 53, Morton Arboretum, Lisle, IL, 60532
- 1:41 109 Infection preferences of an entomopathogenic

- nematode, *Steinernema riobrave*, in two host species
Jayne M. Christen, Kansas State University, Department of Entomology, Manhattan, KS, James F. Campbell, USDA-ARS, Grain Marketing and Production Research Center, 1515 College Ave., Manhattan, KS, Sonny B. Ramaswamy, Kansas State University, Department of Entomology, Manhattan, KS
- 1:59 110 *Steinernema riobrave* as a potential biological control for stored product insect pests
Olgaly Ramos, Department of Entomology, 123 W. Waters Hall, Kansas State University, Manhattan, KS, 66506, James F. Campbell, 1515 College Ave, USDA-ARS GMPRC, Manhattan, KS, 66502, Sonny Ramaswamy, Department of Entomology, 123 W. Waters Hall, Kansas State University, Manhattan, KS, 66506
- 2:17 111 Do insect management programs or wild host removal affect natural enemies in Michigan vineyards?
Paul E. Jenkins and Rufus Isaacs, 202 Center for Integrated Plant Systems, Michigan State University, East Lansing, MI, 48824
- 2:35 112 Prey suitability of *Myzus lythri* and *Galerucella* spp. for three predatory species
Bethzayda Matos, 4 Insectary Bldg., Iowa State University, Ames, IA, 50011, John J. Obrycki, S-225 Ag. Sci. Cen. North, University of Kentucky, Lexington, KY, 40546
- 3:03 113 Conservation of predatory arthropods in a simple two-crop system
Jarrad R. Prasifka, Genetics Laboratory c/o Insectary, USDA - ARS Corn Insects Unit, Ames, IA, 50011
- 3:21 114 Multiparasitism and the occurrence of destructive host feeding between parasitoids of the Evergreen Bagworm
Susan E. Moser, Marianne Alleyne and Lawrence M. Hanks, 222 I-Building, Department of Entomology, University of Illinois, Urbana-Champaign, IL, 61802, Robert Wiedenmann, I

building, Center for Ecological Entomology,
Illinois Natural History Survey, Champaign, IL,
61802

- 3:39 115 Ecology of aphidophagous predators in soybeans:
sampling, phenology, and impact on *Aphis*
glycines
Nicholas P. Schmidt, Kevin D. Johnson and
Matthew E. O'Neal, Department of Entomology,
117 Insectary Building, Iowa State University,
Ames, IA, 50011
- 3:57 116 Habitat Analysis for Successful Biological
Control of Leafy Spurge in Lake County, Illinois
Lori Kae Schwab, 607 East Peabody, 172
Natural Resources Bldg., MC-652, University of
Illinois at Urbana-Champaign, Champaign, IL,
61820

March 21, 2005
Monday Evening

Poster Setup
8:00 – 10:00 p.m.
Stewart 214

Photo Salon
Stewart 213
7:00 - 8:00 p.m.

Linnean Games – Semi-Finals & Finals
8:00 – 10:00 p.m.
Gamesmaster: W. Wyatt Hoback
University of Nebraska at Kearney
Stewart Center
Fowler Hall

**March 22, 2005
Tuesday Morning**

**Continental Breakfast
7:00 – 8:00
Purdue Memorial Union
North Ballroom**

**Symposium
Managing stored product insect pests using organic
methods: Tools, techniques, issues, and challenges
8:00 – 11:00
Stewart 218AB**

Organizers & Moderators:

Rizana Mahroof
Dept of Entomology
Kansas State University
Manhattan, KS 66506.

Anna Getchell
Department of Grain Science and Industry
Kansas State University
Manhattan, KS 66506

- 8:05 117 The theory and challenges behind control tactics using organic methods
Stephen A. Kells, 1980 Folwell Ave, 219 Hodson Hall, University of Minnesota, St. Paul, MN, 55108
- 8:25 118 Pest Management in Organic Facilities: Bridging the Gap!
Anil Menon, Wil-Kil Pest Control, Sun Prairie, WI, 53590
- 8:45 119 Ecology and behavior of stored product insects in food processing facilities: foundation of an organic pest management program
James F. Campbell, 1515 College Ave, USDA ARS GMPC, Manhattan, KS, 66502
- 9:05 120 Advances in Attracting Female Moths
Patrick J. Kelley, Alain R. VanRyckeghem and

- David K. Mueller, 16950 Westfield Park Rd.,
Insects Limited Inc., Westfield, IN, 46074
- 9:40 121 Impact of physical and environmental factors on mortality of *Tribolium* spp. exposed to inert dusts.
Franklin H. Arthur, 1515 College Avenue,
GMPRC, Manhattan, KS, 66502
- 10:00 122 Performance of spinosad as a grain protectant.
Subramanyam Bhadriraju, 201 Shellenberger Hall, Department of Grain Science and Industry, Kansas State University, Manhattan, KS, 66506
- 10:20 123 Ozonation, chilling, and other methods to control stored product insects in organic grains and oilseeds
Dirk Maier, Raj Hulasare, Charles P. Woloshuk and Linda J. Mason, Purdue University, West Lafayette, IN
- 10:40 124 Disinfestation of Wheat and Rice using Catalytic Infrared Radiant Heating
Al Brooks, 9722 Crestwater Circle, Al Brooks Consulting, Magnolia, TX 77354

March 22, 2005
Tuesday Morning

Symposium
**Physiological and Ecological Determinants
of Insect Pathogen and Parasitoid Host
Range**

8:00 – 12:00
Stewart 218CD

Organizers & Moderators:

Marianne Alleyne

Department of Entomology
University of Illinois at Urbana-Champaign
Urbana, IL 61801

Leellen Solter

Center for Ecological Entomology
Illinois Natural History Survey
Champaign, IL 61820

- 8:05 125 In Response to Foreign Surfaces, Resting and Nonadherent Hemocytes Transform to Activated, Adherent Hemocytes
James B. Nardi, Barbara Pilas and Charles M. Bee, Department of Entomology, University of Illinois, 320 Morrill Hall, 505 S. Goodwin Avenue, Urbana, IL, 61801
- 8:30 126 Physiological factors determining parasitoid host range
Marianne Alleyne, 320 Morrill Hall, 505 S. Goodwin Ave., Department of Entomology - University of Illinois at Urbana-Champaign, Urbana, IL, 61801
- 8:55 127 Physiological and Ecological Host Range in Aphid Parasitoids
George E. Heimpel, 1980 Folwell Ave., St. Paul, MN, University of Minnesota, St. Paul, MN, 55108, Zhishan Wu, 1907 Dudley Ave., Minnesota Department of Agriculture, St. Paul, MN, 55108, Susanna Acheampong, 1980 Folwell Ave., St. Paul, MN, University of

- Minnesota, St. Paul, MN, 55108, Keith R. Hopper, 501 South Chapel St., USDA-ARS, Newark, DE, 19713, Michael Brewer, B18 Food Safety & Toxicology Bldg., Michigan State University, East Lansing, MI, 48824
- 9:20 128 Behavioral and physiological barriers to host range of entomopathogenic nematodes: A case study on white grubs
Parwinder S. Grewal, 1680 Madison Ave, The Ohio State University/OARDC, Wooster, OH, 44691
- 9:45 129 Nutritional epidemiology of baculoviruses
Kent S. Shelby and Holly J.R. Popham, 1503 S. Providence Rd., USDA-ARS-BCIRL, Columbia, MO, 65203
- 10:20 130 Taking it to the field: evaluating laboratory predictions of host specificity
Leellen F. Solter, 140 NSRC, 1101 W. Peabody Dr., 607 E. Peabody Drive, Illinois Natural History Survey, Urbana, IL, 61801; Daniela K. Pilarska, 1 Tsar Osvoboditel, Bulgarian Academy of Sciences, Sofia 1000, Bulgaria; Michael L. McManus, 51 Millpond Rd., USDA-Forest Service, Hamden, CT, 06514
- 10:45 131 Effects of a Protease-Expressing Recombinant Baculovirus Insecticide on the Parasitoid *Cotesia Marginiventris* (CRESSON)
Tyasing Nusawardani, John R. Ruberson, John J. Obrycki and Bryony C. Bonning, Iowa State University, Department of Entomology, Ames, IA, 50011
- 11:10 132 The role of insect defenses in baculovirus host range
Suzanne M. Thiem, 201 CIPS Building, Michigan State University, East Lansing, MI, 48824
- 11:35 133 What we can learn from databases and models
David W. Onstad, 1201 S. Dorner Dr., University of Illinois, Urbana, IL, 61801

**March 22, 2005
Tuesday Morning**

**Submitted Papers
Sections A, B, Cb, Cc, Cd, & D**

9:00 – 11:30
Stewart 202

Moderators:

Matthew Carroll
Dept of Entomology
Univ. of Minnesota
St. Paul, MN 55108

- 9:05 135 A Hypothesis on Range Expansion of Asian Honey Bee during Post-Glaciations Period
Natapot Warrit and Deborah R. Smith, 3038 Haworth Hall, University of Kansas, Lawrence, KS, 60045
- 9:17 136 Characterization of a serine carboxypeptidase gene from the salivary glands of the wheat midge, *Sitodiplosis mosellana*
Omprakash Mittapalli, 901 W. State St, Purdue University, West Lafayette, IN, 47907-2089, Ian L. Wise, 195 Dafoe Road, Agriculture and Agri-Food Canada, University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2M9, Richard H. Shukle, 901 W. State St, USDA/ARS, Purdue University, West Lafayette, IN, 47907
- 9:29 137 Establishing thickets.
Todd D. Sauer, N3872 Wistful Vista Rd., White Lake, WI, 54491
- 9:41 138 Drone Congregation Areas in Urban Settings
Marion D. Ellis and Cassie Callaway, 202 Plant Industry Bldg., Department of Entomology, Univ. of Nebraska, Lincoln, NE, 68583-0816
- 9:53 139 The influence of landscape composition on the incidence of the aphid-transmitted viruses Potato leafroll virus and Potato virus Y
Matthew W. Carroll, Ian V. MacRae, Edward B. Radcliffe and David W. Ragsdale, 219

- Hodson Hall, 1980 Folwell Ave., University of Minnesota, St. Paul, MN, 55108
- 10:25 140 Effects of Neighborhood on the Abundance of Arthropods on Induced Plants
Cesar R. Rodriguez-Saona, Department of Entomology, Michigan State University, East Lansing, MI, 48824
Jennifer S. Thaler, Department of Entomology, Cornell University, Ithaca, NY, 14853
- 10:39 141 Behavior associated with pheromone release in the cerambycid, *Neoclytus acuminatus acuminatus*
Emerson S. Lacey, 320 Morrill Hall 505 S. Goodwin, University of Illinois, Urbana, IL, 61801, Jocelyn G. Millar, 102 Entomology, University of California Riverside, Riverside, CA, 92521, Lawrence M. Hanks, 320 Morrill Hall 505 S. Goodwin, University of Illinois, Urbana, IL, 61801
- 10:51 142 Will rising atmospheric CO2 affect the correlation between larval performance and adult oviposition preference? A test with the cabbage butterfly, *Pieris rapae*
David N. Karowe and Shelley Martin, 3155 Wood Hall, Western Michigan University, Kalamazoo, MI, 49008-5410
- 11:03 143 Stable Fly Trapping and Movement in a Nebraska Sandhill Pasture
David J. Boxler and John B. Campbell, 461 West University Dr., University of Nebraska, WCREC, North Platte, NE, NE, 69101
- 11:15 144 Beyond the TA--What Happens When You Are Asked To Teach?
Martha V. Lutz, University of Kentucky, Lexington, KY, 40546

**March 22, 2005
Tuesday Afternoon**

North Central Branch Awards Luncheon
12:00 – 1:15
Purdue Memorial Union North Ballroom

Symposium
Arthropod Genomics: Recent Advances and Research Opportunities
1:30 – 4:45
Stewart 218CD

Organizer & Moderator:
Catherine A. Hill
Purdue University,
West Lafayette, IN, 47907

- 1:30 145 Comparative analysis of the genomes of *Drosophila*
Thom Kaufmann, Indiana University,
Bloomington, IL
- 2:00 146 *Aedes aegypti* Genomics
David W. Severson, 138 Galvin Life Sciences,
University of Notre Dame, Notre Dame, IN,
46556
- 2:30 147 What's new in *Tribolium* genomics?
Richard W. Beeman and Marce D. Lorenzen,
1515 College Ave., USDA-ARS-GMPCR,
Manhattan, KS, 66502, Susan J. Brown, Division
of Biology, Kansas State University, Manhattan,
KS, 66506
- 3:00 148 *Diabrotica virgifera virgifera*: Evolution in a
Cornfield
Susan T. Ratcliffe, 1102 S. Goodwin Avenue, S-
316 Turner Hall, University of Illinois, Urbana,
IL, 61801
- 3:45 149 Indiana Center for Insect Genomics: A Center of
Excellence
Neil F. Lobo, Frank H. Collins and Jeanne
Romero-Severson, Galvin Life Sciences,

University of Notre Dame, Notre Dame, IN,
46556

- 4:00 150 Genomic Analysis of the Salivary Gland Secretome from Hessian Fly [*Mayetiola destructor* (Say)] Larvae
Ming-Shun Chen, 123 Waters Hall, Kanasa State University, Manhattan, KS, KS 66506, Jeffrey J. Stuart, Department of Entomology, WSLR, Purdue University, West Lafayette, IN, 47907
- 4:15 151 Candidate Genes that Influence Honey Bee Defensive Behavior and Characterizing the Defensive-Bee Syndrome
Greg J. Hunt, Dept. of Entomology, 901 W. State St., Purdue University, West Lafayette, IN, 47907
- 4:30 152 The *Ixodes scapularis* Genome Project
Catherine A. Hill, 901 West State Street, Purdue University, West Lafayette, IN, 47907, Stephen K. Wikel, 263 Farmington Avenue, University of Connecticut Health Center, Farmington, CT, 06030

**March 22, 2005
Tuesday Afternoon**

**Symposium
Social and ecological contributions that affect adoption of
IPM and biological control**

1:00 – 5:15

Stewart 218AB

Organizers & Moderators:

Kris A.G. Wyckhuys & Robert J. O'Neil

Department of Entomology

Purdue University

West Lafayette, IN 47907

- 1:10 153 Reduction of pesticide use in home gardens: effects of training and garden research on the adoption of biological control
Clifford S. Sadof and Robert J. O'Neil, 901 West State Street, Purdue University, West Lafayette, IN, 47907, Robert N. Wiedenmann, Illinois Natural History Survey, Champaign, IL
- 1:35 154 Identifying and promoting native plant species for use in conservation biological control via habitat management
Anna K. Fiedler and Douglas A. Landis, 204 Center for Integrated Plant Systems, Michigan State University, East Lansing, MI, 48824
- 2:00 155 Pest management in traditional tropical agroecosystems: lessons for pest prevention research and extension
Helda Morales, Carretera Panamericana y Periferico Sur S/N, El Colegio de la Frontera Sur, San Cristóbal de Las Casas, Chiapas, 29290
- 2:25 156 But does it work? - An amateur's experiences promoting habitat modification and conservation biological control
Paul M. Whitaker, 518 South Seventh Ave., University of Wisconsin Marathon County, Wausau, WI, 54401
- 3:05 158 Building an ecosystems approach to urban lawn management: the final frontier

Parwinder S. Grewal, 1680 Madison Ave, The Ohio State University/OARDC, Wooster, OH, 44691

- 3:55 159 Adoption of IPM in Indiana school systems: social context, adopter's needs, and the importance of "reinvention"
Alfred J. Fournier, 901 West State Street, Purdue University, West Lafayette, IN, 47907
- 4:20 160 Agro-ecosystem change and biological control: 17 años en el Bajío, Mexico
Casey W. Hoy, 1680 Madison Ave., Dept. of Entomology, OARDC, OARDC, Wooster, OH, 44691, James M. McCully, Pillsbury, Gigante Verde, General Mills, Irapuato, GTO, Mexico
- 4:45 161 Strategically linking social and ecological systems to promote IPM: synopsis and discussion
Kris Wyckhuys, Purdue University, West Lafayette, IN

March 22, 2005
Tuesday Afternoon

Student Symposium

I Need a Job!

1:30 – 4:45 p.m.

Stewart 202

Organizers & Moderators:

Erin Hodgson

Robert Koch

Dept. of Entomology

Univ. of Minnesota

St Paul, MN, 55108

- 1:30 162 Introduction
Erin Hodgson and Robert Koch, Dept. of Entomology, 219 Hodson Hall, 1980 Folwell Ave, Univ. of Minnesota, Univ. of Minnesota, St Paul, MN, 55108
- 1:35 163 How to prepare for the job market while in graduate school
Steve Yaninek, Dept. of Entomology, 901 West State St., Purdue University, West Lafayette, IN, 47907-2089
- 2:05 164 Unique perspectives at a land grant university with research, extension and teaching
Ian V. MacRae, Entomology, UMN-NWROC, 2900 University Ave, University of Minnesota, Crookston, MN, 56716
- 2:25 165 Unique perspectives at a teaching university
H W. Hoback, Department of Biology, Bruner Hall of Science, 905 W 25th St, University of Nebraska - Kearney, Kearney, NE, 68849
- 2:45 166 Unique perspectives in the government
Leslie C. Lewis and Richard L. Hellmich, Corn Insects and Crop Genetics Research Unit, Genetics Laboratory, USDA-ARS, Ames, IA, 50011
- 3:25 167 Private-sector Entomology: Beyond the Academy
Scott H. Hutchins, 9330 Zionsville Road, Dow

AgroSciences, Indianapolis, IN, 46268

- 3:55 168 How to prepare for an interview: perspective from an applied entomologist at a land grant university.
Matthew E. O'Neal, 117 Insectary, Iowa State University, Ames, IA, 50011
- 4:15 169 What to expect at a job interview
David B. Hogg, 140 Agricultural Hall, College of Agricultural and Life Sciences, University of Wisconsin, Madison, WI, 53706

March 22, 2005
Tuesday Morning & Afternoon

Submitted Posters

All Sections

Stewart 214

8:00 – 5:00 p.m.

(Authors Present 4:00 – 5:00 p.m.)

- D170 Tests of Current Hypotheses of Mayfly (Ephemeroptera) Phylogeny Using Molecular (18s rDNA) Data
Lu Sun, 901 West State Street, Purdue University, West Lafayette, IN, 47907, Aniko Sabo, Genome Sequencing Center, George Washington University, St. Louis, MO, 95616, Michael D. Meyer, 901 West State Street, Purdue University, West Lafayette, IN, 47907, Patrick Randolph, Division of Biological Sciences, University of California, Davis, CA , 95616, Patrick McCafferty, Luke M. Jacobus and Virginia R. Ferris, 901 West State Street, Purdue University, West Lafayette, IN, 47907
- D171 Molecular diagnostics of selected wireworm species from the Midwest
Erica J. Lindroth and Thomas L. Clark, Department of Entomology, 1-87 Agriculture Building, University of Missouri, Columbia, MO, 65211
- D172 Evidence that caterpillar labial saliva suppresses infectivity of potential bacterial pathogens
Richard O. Musser, Hyeog S. Kwon and Spencer Williams, Western Illinois University, Macomb, IL, 61455
- D173 A Super-family of Genes Coding For Secreted Salivary Gland Proteins (SSGP) From the Hessian Fly [*Mayetiola destructor* (Say)]
Ming-Shun Chen, 123 Waters Hall, Department of Entomology, Kanasa State University, Manhattan, KS, KS 66506, John P. Fellers, Department of Plant Pathology, Kansas State University, USDA-ARS, Manhattan, KS, 66506, Yu Cheng Zhu, PO Box 346, 141 Exp Stn Road, 4USDA-ARS-JWDSRC, PO Box 346/141 Exp Stn Rd, Stoneville, MS 38776,

Stonevile, MS, 38766, Jeffrey J. Stuart, Department of Entomology, Purdue University, Purdue University, West Lafayette, IN, 47907, Scot Hulbert, Department of Plant Pathology, 4002 Throckmorton Hall, Kansas State University, Manhattan, KS, 66506, Mustapha El-Bouhssini, Aleppo, Syria, 6International Center for Agricultural Research in the Dry Areas , Aleppo, Syria, Xiang Liu, 123 Waters Hall, Department of Entomology, Kansas State University, Manhattan, KS, KS 66506

- D174 Potential Use of Parasitic Wasps to Control New Exotic Wood-Boring Species of Insects on Trees of Economic Importance in Indiana
Rianna M. Arcinas and Clifford S. Sadof, Smith Hall, Dept. of Entomology, 901 West State Street, Purdue University, West Lafayette, IN, 47907
- D175 Geographic variation in the abundance of *Aphidius ervi* and *Praon pequodorum* (Hymenoptera: Braconidae), parasitoids of the pea aphid
Kelley J. Tilmon and Anthony R. Ives, 430 Lincoln Drive, University of Wisconsin, Madison, WI, 53706
- D176 Effect of overhead irrigation on twospotted mite (Acari: Tetranychidae) populations and on biological control by *Phytoseiulus persimilis* (Acari: Phytoseiidae) on greenhouse impatiens.
George P. Opit, USDA ARS, Grain Marketing Production and Research Center, 1515 College Ave., Manhattan, KS, 66502, Greg K. Fitch, Department of Biology, Avila University, 11901 Wornall, Kansas City, MO, 64145, Kimberly A. Williams, Department of Horticulture, Forestry and Recreation Resources, 2021 Throckmorton Hall, and David C. Margolies and James R. Nechols, Department of Entomology, 123 Waters Hall, Kansas State University, Manhattan, KS, 66506
- D177 Soybean aphid population growth limitation by *Orius insidiosus* in the field in Indiana
Nicolas G. Desneux, Ho Jung S. Yoo and Robert J. O'Neil, Smith Hall, 901 W State Street, Purdue University, West Lafayette, IN, 47905
- D178 Preliminary results on the impact of natural enemies against soybean aphid in South Dakota

- Louis S. Hesler**, Northern Grain Insects Research Laboratory, 2923 Medary Ave., USDA-ARS, Brookings, SD, 57006
- D179 Impact of trap design, tree lines, and selected weather parameters on captures of European corn borer (Lepidoptera: Crambidae) in pheromone-baited traps
Brendon J. Reardon, Douglas V. Sumerford and Thomas W. Sappington, USDA-ARS Genetics Laboratory, Iowa State University, Ames, IA, 50011
- D180 Behaviors of Male Caribbean Fruit Flies During Copulation in Relation to Age and Duration
Holly J. Wallace and Ann H. Fritz, 600 Lincoln Ave. Eastern Illinois University, Charleston, IL, 61920-3099
- D181 Overwintering survival of bean leaf beetle, *Cerotoma trifurcata* (Foster), in southern Minnesota
Mario A. Carrillo, Robert L. Koch, Eric C. Burkness, Kathleen Bennett, William D. Hutchison and David W. Ragsdale, Department of Entomology, 219 Hodson Hall, 1980 Folwell Ave., University of Minnesota, Saint Paul, MN, 55108
- D182 Diel Activity of Ground Beetles (Coleoptera: Carabidae) in a Coal-Mine Remnant and Soybean Fields in West-Central Illinois
Jason E. Willand and Kenneth W. McCravy, Department of Biological Sciences, Western Illinois University, Macomb, IL 61455
- D183 Implications for pest management and soil biology during transition to organic production: overview and progress
Cathy E. Eastman, Edmond Zaborski, John Lundgren and John Shaw, 607 E. Peabody Drive, Illinois Natural History Survey, Center for Ecological Entomology, Champaign, IL, 61820; Michelle Wander, John Masiunas, Darin Eastburn, Leslie Cooperband, Dan Anderson, Deborah Cavanaugh-Grant and Martha Bazik, University of Illinois, Urbana, IL, 61801
- D184 Diversity of Forest Lepidoptera and Associated Parasitoids in a Fragmented Landscape
Laura L. Hughes-Williams, Melanie L. Bergolc and Daniel M. Pavuk, Insect Ecology Laboratory, Department of Biological Sciences, Bowling Green

State University, Bowling Green, OH, 43403

- D185 Grasshopper Densities Among Different Crops Along the Platte River, Nebraska
Kerri M. Skinner and Lance M. Gunderson, 302B Bruner Hall of Science, University of Nebraska at Kearney, Kearney, NE, 68845
- D186 Suppression of Adult Corn Rootworm Populations in the South Dakota Areawide Management Site Using Semiochemical-Baits
Bryan W. French, 2923 Medary Ave., USDA, ARS, NGIRL, Brookings, SD, 57006, Laurence D. Chandler, Natural Resources Research Center, 2150 Centre Avenue, Building D, Suite 300, USDA, ARS, NPA, Fort Collins, CO, 80526, Allan Janus, Deb Hartman and Dave Beck, 2923 Medary Ave., USDA, ARS, NGIRL, Brookings, SD, 57006
- D187 Non-target Invertebrate Ecological Risk Assessment for Field Corn Expressing Cry34Ab1 and Cry35Ab1 Insecticidal Proteins
Nick N. Poletika and Nicholas P. Storer, Dow AgroSciences, 9330 Zionsville Rd, Indianapolis, IN, 46268
- D188 Potential Winter Hosts of the Soybean Aphid, *Aphis glycines* Matsumura
David J. Voegtlin, 607 E. Peabody, Illinois Natural History Survey, Champaign, IL, 61820, Robert J. O'Neil, Department of Entomology, Purdue University, Purdue University, West Lafayette, IN, 47907-2089, William R. Graves, Department of Horticulture, Iowa State University, Iowa State University, Ames, IA, 50011-1100, Doris Lagos, 607 E. Peabody, Illinois Natural History Survey, Champaign, IL, 61820, Ho Jung S. Yoo, Department of Entomology, Purdue University, Purdue University, West Lafayette, IN, 47907-2089
- D189 Early season predator-prey dynamics in soybean and consequences for soybean aphid population growth
Ho Jung S. Yoo and Robert J. O'Neil, Smith Hall, 901 W. State Street, Purdue University, West Lafayette, IN, 47906
- D190 Polymorphic Microsatellite Loci in the Caribbean

Fruit Fly, *Anastrepha suspensa*.

Ann H. Fritz, 600 Lincoln Ave, Dept. of Biological Sciences, Eastern Illinois University, Charleston, IL, 61920, Nancy Schable, P.O. Drawer E, Savannah River Ecology Laboratory, Aiken, SC, 29802, Laura Novak, 600 Lincoln Ave, Dept. of Biological Sciences, Eastern Illinois University, Charleston, IL, 61920

- D191 The Effects of Varying Specialist Aphid Herbivore Density on the Growth and Chemical Defense of the Host Plant
John J. Couture and Stephen B. Malcolm, 1903 W. Michigan Ave, Western Michigan University, Kalamazoo, MI, 49008
- D192 Fly Cleaning Behavior Reduces the Transmission of *Escherichia coli*
Julie J. Shaffer, Michael W. Kling and William W. Hoback, 905 W. 25th, University of Nebraska at Kearney, Kearney, NE, 68849
- D193 Development of a rodent model using the cat flea to examine potential insecticides
Christine M. McCoy, Connie J. Kemper and Daniel E. Snyder, 2001 West Main Street, P.O. Box 708, Elanco Animal Health, Greenfield, IN, 46205
- D194 Surveillance of Mosquitoes for West Nile Virus in West-Central Illinois
Abigail Michels and Kenneth W. McCravy, Department of Biological Sciences, Western Illinois University, Macomb, IL 61455
- D195 Economic Impact of Soybean Aphid during 2003 in Iowa
Carol L. Pilcher and Marlin E. Rice, 103 Insectary Building, Iowa State University, Ames, IA, 50011
- D196 Degree-Day Calculator: An Internet Tool to Track Insect Pest Development in Illinois
Kelly A. Cook, S-312 Turner Hall, 1102 S. Goodwin, University of Illinois, Urbana, IL, 61201, Robert W. Scott, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL, 61820
- D197 Non-target Testing Strategies for Insecticidal Crystalline Proteins: Early tier evaluation of Cry34/35Ab1 effects on the development and survival of the ladybird beetle *Coleomegilla maculata*

DeGeer (Coleoptera: Coccinellidae)

Elizabeth Owens, Laura S. Higgins and Rachel Binning, 7250 NW 62nd Ave., Pioneer Hi-Bred International, Inc., Johnston, IA, 50131

- D198 Herculex™ I Insect Protection and Future Corn Biotechnology Products (Herculex™ RW & Herculex™ XTRA)
Ed King, 9330 Zionsville Road, Dow AgroSciences, Indianapolis, IN, 46268, Jim Bing, 301 Campus Drive, Dow AgroSciences, Huxley, IA, Jon Babcock, 13668 Magic Stallion Drive, Dow AgroSciences, Carmel, IN, 46268, and Paula Davis, 7100 N.W. 62nd Ave., P.O. Box 1150, Pioneer Hi-Bred International, Johnston, IA, 50131
- D199 Tracking the variant western corn rootworm in southeast Wisconsin
Eileen M. Cullen and Bryan Jensen, 1630 Linden Drive, University of Wisconsin, Madison, WI, 53706
- D200 Squash Bug and Yellow Vine Decline Management with Neonicotinoid Insecticides
Ric T. Bessin, S-225 Ag. Sci. north, University of Kentucky, Lexington, KY, 40546-0091
- D201 Potato (*Solanum tuberosum*) response to leaflet removal and hole punch defoliation
William W. Hoback, 904 S. 25th Street, University of Nebraska Kearney, Kearney, NE, 68849
- D202 Ear pests and damage to organic, conventional, and Bt protected sweet corn.
John D. Sedlacek and Steve L. Hillman, Atwood Research Facility, Kentucky State University, Frankfort, KY, 40601
- D203 The Soybean Aphid in Kansas – Status and Selected Research Findings
Randall A. Higgins, Phillip E. Sloderbeck, Robert J. Whitworth, Robert J. Wolf, John C. Reese, Charles M. Smith, William T. Schapaugh, Jr. and Douglas J. Jardine, Department of Plant Pathology, 4602 Throckmorton Hall, Kansas State University, Manhattan, KS, 66506
- D205 Neonicotinoid seed treatments in corn and soybeans: Measuring the efficacy on white grubs (*Phyllophaga*)

- spp.*) and black cutworms (*Agrotis ipsilon*).
Marlin E. Rice and David Dorhout, 103 Insectary,
Iowa State University, Ames, IA, 50011
- D206 Horsenettle as an Alternate Host for Soybean Aphid
Thomas L. Clark, Ben Puttler, Wayne C. Bailey and
Lisa N. Meihls, 1-87 Agriculture Bldg, University of
Missouri, Columbia, MO, 65211
- D207 Evidence that Cuphea does not support larval
development of western corn rootworm larvae
Robert W. Behle, 1815 N. University , USDA-ARS-
NCAUR, Peoria, IL, 61604
- D208 Reducing insecticide use in cucurbits using seed
specific application
James Jasinski, 1512 S. US Highway 68, Suite B100,
Ohio State University Extension, Urbana, OH, 43078,
Matt Darr, Reza Ehsani, Erdal Ozkan, Matt Sullivan
and Robert Precheur, 240 B Howlett Hall, 2001 Fyffe
Court, Ohio State University, Columbus, OH, 43210
- D209 Jasmonate increases pinto bean resistance to whitefly
infestation
Marian H. Aanenson and Richard O. Musser,
Biological Sciences, Western Illinois University,
Macomb, IL, 61455
- D210 Evidence that insect saliva mediates cross-resistance
in bean plants
Kimberly G. LeCompte, Spencer Williams and
Richard O. Musser, Western Illinois University,
Macomb, IL, 61455
- D211 Western bean cutworm (*Richia albicosta*, Smith)
susceptibility to Cry1F insecticidal protein
Steve A. Lefko, Pioneer Hi-Bred Int'l Inc. Stine
Haskell #215, 1090 Elkton Rd. Newark, DE, 19714,
Rachel R. Binning, 7250 NW 62nd Ave., Pioneer Hi-
Bred Int'l Inc., Johnston, IA, 50131, Bruce H.
Stanley, Stine Haskell #210, 1090 Elkton Rd, DuPont
Crop Protection, Newark, DE, 19714, and Tim M.
Nowatzki, 7250 NW 62nd Ave., Pioneer Hi-Bred Int'l
Inc., Johnston, IA, 50131
- D212 Alternatives to organophosphates and carbamates for
managing aphids in wheat and sorghum
Roxanne A. Bowling and Bonnie B. Pendleton, West
Texas A&M University, Canyon, TX, Robert D.
Bowling, 310 E. 1st Street, Texas Cooperative

- Extension, Dumas, TX, 79029, Jerry Michels, Texas Agricultural Experiment Station, Bushland, TX
- D213 Efficacy of YieldGard® CRW, YieldGard® Plus and Poncho® 1250 Against Western Corn Rootworm and Corn Borer
Robert D. Bowling, Roxanne A. Bowling and Clint Quintana, 310 East First Street, Texas A&M, Dumas, TX, 79029
- D214 Response by Fall Armyworm and Western Bean Cutworm (Lepidoptera: Noctuidae) Larvae Presented Corn Event TC1507
Robert D. Bowling and Roxanne A. Bowling, 310 East First Street, Texas A&M, Dumas, TX, 79029, Bonnie Pendleton, Department of Plant and Soil Sciences, West Texas A&M University, Canyon, TX, Clint Quintana, 310 East First Street, Texas A&M, Dumas, TX, 79029
- D215 Consistency Of Dectes Stem Borer (*Dectes texanus texanus*) Damage Variables Across Two Locations In 10 Soybean Varieties.
Chitvan Khajuria, 123 W. Waters hall, Department of Entomology, Kansas State University, Manhattan, KS, 66506, Lawrent L. Buschman, Southwest Research-Extension Center, , 4500 E. Mary St., Kansas State University, Garden City, KS, 67846, Randall A. Higgins and C. M. Smith, 123 W. Waters Hall, Department of Entomology, Kansas State University, Manhattan, KS, 66506
- D216 Effect of nitrogent concentration on development and reproduction of citrus mealybug, *Planococcus citri* feeding on two colors of coleus, *Solenstemon scutellarioides*
Brian K. Hogendorp and Raymond A. Cloyd, 384 National Soybean Research Laboratory, 1101 West Peabody Drive, University of Illinois, Urbana, IL, 61801
- D217 An integrated pest management program for cucumber beetles (Coleoptera: Chrysomelidae) on muskmelons
Wai-Ki Frankie Lam and Rick E. Foster, 901 West State Street, Purdue University, West Lafayette, IN, 47907

- D218 A novel wheat lectin gene is up-regulated in resistant wheat plants during Hessian fly larval feeding
Marcelo P. Giovanini and Herbert W. Ohm, 915 W. State street, Purdue University, West Lafayette, IN, 47906, Christie E. Williams, Purdue University, USDA - ARS, West Lafayette, IN, 47907
- D219 Monitoring Adult Activity by Nantucket Pine Tip Moth and Evaluation of Bayer Advanced Tree and Shrub Insect Control for Their Suppression
Robert D. Bowling, Roxanne A. Bowling and Clint Quintana, 310 East First Street, Texas A&M, Dumas, TX, 79029
- D220 Impacts of soil moisture level on three sympatric subterranean termites (Isoptera: Rhinotermitidae)
Jody M. Green, 901 W State St, Smith Hall, Purdue University, West Lafayette, IN, 47907, Michael E. Scharf, Entomology and Nematology Department, PO Box 110620, University of Florida, Gainesville, FL, 32611, Gary W. Bennett, 901 W State St, Smith Hall, Purdue University, West Lafayette, IN, 47907
- D221 Intercaste formation in *Reticulitermes flavipes* (Kollar) found in juvenile hormone assays
Marcus McDonough and Gary W. Bennett, 901 W State Street, Purdue University, Lafayette, IN, 47907
- D223 Demography of Entomology Departments in the U.S.
Michael W. Baldauf and Douglas S. Richmond, 901 W. State Street, Purdue University, West Lafayette, IN, 47907

March 22, 2005
Tuesday Evening

Linnean Games – Champions vs. Old Masters

6:00 – 7:00 p.m.
Stewart Center
Fowler Hall

NCB Mixer

7:00 – 9:00 p.m.
Purdue Memorial Union
North Ballroom

**March 23, 2005
Wednesday Morning**

**Continental Breakfast
7:00 – 8:00
Purdue Memorial Union
North Ballroom**

**NCB Business Meeting
7:30 – 8:30
Purdue Memorial Union
North Ballroom**

**Symposium
Legal Entomology: Insects in the Courtroom
8:30 – 12:00
Stewart Center
Fowler Hall**

Organizer & Moderator:
Ralph Williams
Purdue University, West Lafayette, IN

- 8:30 224 Introduction
Ralph Williams, Dept. of Entomology, Purdue University, West Lafayette, IN
- 8:35 225 The role of the entomologist as an expert witness
Robert Hall, University of Missouri, Columbia, MO
- 9:05 226 Insects in death investigations
Neal Haskell, St. Joseph's College, Rensselaer, IN, 47978
- 9:35 227 Legal issues in the pest control industry
Rob Sutherleand, Orkin Pest Control, Indianapolis, IN
- 10:05 **BREAK**
- 10:15 228 Insect contamination of food products
Linda Mason, Dept. of Entomology, Purdue

University, West Lafayette, IN

10:45 229 Medicolegal entomology
Tim Gibb, Dept. of Entomology, Purdue
University, West Lafayette, IN

11:15 230 Nuisance insect concerns with confined livestock
& poultry production
Ralph Williams, Dept. of Entomology, Purdue
University, West Lafayette, IN

March 23, 2005
Wednesday Morning

Symposium
Movement and Landscape Mosaics
8:30 – 12:00
Stewart 202

Organizer & Moderator:
Jeffrey Holland
Purdue University, West Lafayette, IN

- 8:35 231 Insect movements between habitat patches - when does the matrix matter?
Brett J. Goodwin, Box 9019, Biology Dept., University of North Dakota, Grand Forks, ND, 58202-9019
- 9:00 232 Factors influencing incidence of pest problems in urban landscapes
Clifford S. Sadof, 901 West State Street, Purdue University, West Lafayette, IN, 47907-2089
- 9:25 233 The implications of local adaptation for butterfly populations under climate change: a study of species with contrasting traits
Jessica J. Hellmann, 107 Galvin Life Science Center, University of Notre Dame, Notre Dame, IN, 46556
- 9:50 234 National Slow the Spread: Long-term Gypsy Moth Monitoring and Management
Amos H. Ziegler, 1405 South Harrison Road, 209 Manly Miles Building, Michigan State University, East Lansing, MI, 48823
- 10:30 235 Aphid movement: processes and consequences
Gail E. Kampmeier, 1101 W. Peabody, Illinois Natural History Survey, Urbana, IL, 61801, Michael E. Irwin, 1101 W. Peabody, University of Illinois, Urbana, IL, 61801
- 10:55 236 Spread dynamics of aphid-transmitted potato viruses in seed potato
Edward B. Radcliffe, 219 Hodson Hall, 1980 Folwell Ave., University of Minnesota, St. Paul, MN, 55108

- 11:20 237 Seasonal movement of western corn rootworms between corn and soybean fields
Eli Levine, 607 E. Peabody Dr., Illinois Natural History Survey, Champaign, IL, 61820
- 11:45 238 Using transgenic corn to study western corn rootworm movement
Joseph L. Spencer, Center for Economic Entomology, Natural Resources Bldg, 607 E. Peabody Drive, Champaign, IL, 61820-6917, Lauren E. Fontenot, 220 Davenport Hall, 607 South Mathews Avenue, Dept. of Geography, University of Illinois, Urbana, IL, 61801-3671, Scott A. Isard, 0205 Buckhout Laboratory, Dept. of Plant Pathology, Penn State University, University Park, PA, 16802, Eli Levine, Center for Economic Entomology, Natural Resources Bldg, 607 E. Peabody Drive, Champaign, IL, 61820-6917
- 12:10 239 Geographic Spread of an Herbivorous Beetle over Heterogeneous Landscapes
David W. Onstad, 1201 S. Dorner Dr., University of Illinois, Urbana, IL, 61801

**Wednesday Morning
March 23, 2005**

**Submitted papers
Sections F, Fa, & Fb**

8:30 – 11:15

Stewart 218

Moderators:

David Schilpalus

Department of Entomology, Purdue University, West
Lafayette, IN 47907

- 8:35 240 Rearing practices and resistance monitoring in
Ostrinia nubilalis
Douglas V. Sumerford, James C. Robbins, Kate
T. Kronback and Leslie C. Lewis, USDA-ARS,
Ames, IA, IA
- 8:47 241 Western Corn Rootworm (Coleoptera:
Chrysomelidae) Larval Injury and Nitrogen
Utilization in YieldGard® Rootworm Corn
Darren M. Bakken, Ron Estes, Jared
Schroeder, Nathan Wentworth, Kevin Steffey
and Michael Gray, 1102 S. Goodwin Ave. MC-
046, University of Illinois at Urbana-Champaign,
Urbana, IL, 61801-4730
- 8:59 242 The Impact of Giant Foxtail Density and
Removal Time on Rootworm Damage to
Cry3Bb1 Protected Corn
Thomas L. Clark, 1-87 Agriculture Bldg.,
University of Missouri, Columbia, MO, 65211,
Bruce E. Hibbard, 205 Curtis Hall, University of
Missouri, USDA-ARS, Plant Genetics Research
Unit, Columbia, MO, 65211, Ted Wilson, Briar
Cliff University, Sioux City, IA
- 9:11 243 Searching behavior of western corn rootworm
(*Diabrotica virgifera virgifera*) after exposure to
Cry34Ab1/Cry35Ab1 insecticidal proteins.
Rachel Binning, Steve Lefko and Fu-Chih
Cheng, 7250 NW 62nd Ave, PO Box 552,
Pioneer Hi-Bred, Des Moines, IA, 50131-0552,
Kaijun Liao, 1090 Elkton Rd, DuPont, Newark,

DE, 19711

- 9:23 244 Development of an alternative sampling technique and determination of sampling time for cucumber beetles (Coleoptera: Chrysomelidae) on muskmelon
Wai-Ki Frankie Lam, Southwest Purdue Agricultural Program, 4369 North Purdue Road, Purdue University, Vincennes, IN, 47591
- 9:35 245 Interactions of Alternate Hosts, Post-Emergence Grass Control, and Rootworm Resistant Transgenic Corn on Western Corn Rootworm (Coleoptera: Chrysomelidae) Adult Emergence and Plant Damage
Isaac O. Oyediran, Bruce E. Hibbard and Thomas L. Clark, 1-87 Agriculture Building, University of Missouri, Columbia, MO, 65211-7140
- 9:47 246 Incidence and Severity of Western bean cutworm damage in Herculex 1 corn
Herb Eichenseer and 'Casey' Burks, 7301 NW 62nd Ave P.O. Box 85, Pioneer Hi-Bred International, Johnston, IA, 50131-0085, Robert Strohbehm, E McGregor Road P.O. Box 557, Pioneer Hi-Bred International, Inc., Algona, IA, 50511-0557
- 9:59 247 YieldGard Rootworm field testing against the western corn rootworm under different crop rotations
Marvin W. Bugg, John W. Eberwine, Jeffrey S. Coultas and Clinton D. Pilcher, Monsanto Company, St. Louis, MO
- 10:20 248 Advances in Codling Moth Management In Indiana
Rick E. Foster, 901 W. State Street, Purdue University, W. Lafayette, IN, 46065
- 10:32 249 The role of a highly induced lectin in the defense mechanism of resistant wheat during response to Hessian fly larval feeding
Marcelo P. Giovanini and Herbert W. Ohm, 915 W. State street , Lilly Hall - Agronomy department , Purdue University , West Lafayette,

IN, 47907, Christie E. Williams , Purdue
University , USDA - ARS, West Lafayette, IN,
47901

- 10:44 250 Survival and Feeding Responses of
Anacanthotermes ochraceus (Hodotermitidae:
Isoptera) to Local and Imported Woods
Walid Kaakeh, College of Food Systems,
Department of Aridland Agriculture, P. O. Box
17555, United Arab Emirates University, Al-
Ain, NA
- 10:56 251 Successful Insecticide Treatment of Dectes Stem
Borer in Soybean leads to improved Grain Yield
Lawrent L. Buschman and Phillip E.
Sloderbeck, 4500 E. Mary St., Kansas State
University, Garden City, MD, 67846

March 23, 2005

NCB Executive Committee Meeting

12:00 – 2:00

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