

Curriculum Vitae

Robert Lee Koch

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Education

- Ph.D. Entomology, University of Minnesota, Twin Cities, March 2005 (GPA 4.0/4.0)
-dissertation title: “Non-target effects of the multicolored Asian lady beetle, *Harmonia axyridis*, on monarch butterfly, *Danaus plexippus*, populations”
-advisors: W.D. Hutchison and R.C. Venette
- B.A. Biology, Saint John’s University, Collegeville, MN, December 1999 (GPA 3.6/4.0)

Professional Experience

- Post-Doctoral Research Associate, Department of Entomology, University of Minnesota, 2005-present -- mentor: G.E. Heimpel
- Graduate Research Assistant, Department of Entomology, University of Minnesota, 2000-2005
- Junior Laboratory Technician, Department of Entomology, University of Minnesota, 1999
- Herbarium Curatorial Assistant, Department of Biology, Saint John’s University, 1998-1999

Teaching Experience

- Teaching Assistant, Insect Biology (ENT3005), Department of Entomology, University of Minnesota, 2002
- Guest lecturer, Insect Biology (ENT3005), University of Minnesota, November 2002.
- Teaching Assistant, Biology of Insects (BIOL309), Department of Biology, Saint John’s University, 1998-1999

Service

Editorial commitment

- Subject Editor, Journal of Insect Science (2004-present)

Reviewer Service

- Journal of Economic Entomology – 8 manuscripts
- Journal of Insect Science – 5 manuscripts
- Biological Control – 2 manuscripts
- Environmental Entomology – 1 manuscript
- Crop Protection – 1 manuscript
- Entomologia Experimentalis et Applicata – 1 manuscript
- Journal of Applied Entomology – 1 manuscript
- Philippine Agricultural Scientist – 1 manuscript
- Neotropical Entomology – 1 manuscript
- The Great Lakes Entomologist – 1 manuscript
- Global Invasive Species Database, Invasive Species Working Group

University Committees

- Voting Staff Representative, Department of Entomology, University of Minnesota, 2003-2005
- Public Relations Committee, Department of Entomology, University of Minnesota, 2003-2005
- Vice President - Frenatae, Entomology graduate student organization, University of Minnesota, 2002-2003

- Secretary - Frenatae, Entomology graduate student organization, University of Minnesota, 2001-2002
- Council of Graduate Students Representative, University of Minnesota, 2000-2002

Symposia

- “I Need a Job.” Meeting of the North Central Branch of the Entomological Society of America, March 2005 -- *co-organizer*

Research Grants

- Agricultural Utilization Research Institute – Pesticide Reduction Options. “Promoting biological control in sweet corn and soybean via selective insecticides.” (2003-2005) \$40,000 -- *primary author*
- North Central Region – Sustainable Agriculture Research and Education. “From beneficial insect to economic pest: a sustainable management response to the Asian lady beetle in Midwestern grapes.” (2004-2005) \$9,600 -- *co-author*

Honors

- National Honor Society of Agriculture, Gamma Sigma Delta (2003)
- The Honor Society of Phi Kappa Phi (2002)

Awards

Professional society

- North Central Branch Graduate Student Scholarship, Entomological Society of America (2005) \$500
- Second place-10-minute paper presentation student competition, Annual Meeting of the Entomological Society of America, Ft. Lauderdale, FL (2002)
- President’s Prize (First place) 10-minute paper presentation, student competition, Annual Meeting of the Entomological Society of America, San Diego, CA (2001)
- Second place-10-minute paper presentation student competition, Meeting of the North Central Branch of the Entomological Society of America, Ft. Collins, CO (2001)

University

- Philip C. Hamm Memorial Scholarship (2005) \$1,500
- Doctoral Dissertation Fellowship, University of Minnesota (2003-2004) \$25,000
- Graduate School Block Grant (travel fellowship), University of Minnesota (2000-2004) total: \$2,000

Department

- Marion Brooks-Wallace Academic Achievement Award (2004) \$1,000
- Dr. Alexander A. Granovsky Pest Management Scholarship (2003) \$1,000

Licenses and Training

- State of Minnesota Pesticide Applicators License, Categories A, C (general ground, field crops pest management) (2000-present)
- Principles and Procedures for Rearing Quality Insects. Mississippi State University, Department of Entomology and Plant Pathology. Dr. Frank Davis et al., Sept. 23-28, 2001

Society Memberships

- Entomological Society of America (2000-present)
- Coleopterists’ Society (2002-present)
- International Organization for Biological Control (IOBC) Nearctic Regional Section (NRS) (2002-present)

Publications

Refereed Journals:

- 1--**Koch, R.L.**, M.A. Carrillo, E.C. Burkness and W.D. Hutchison. 2006. Observations on the overwintering potential of the striped cucumber beetle (Coleoptera: Chrysomelidae). *The Great Lakes Entomologist* (**in press**).
- 2--Galvan, T.L., **R.L. Koch** and W.D. Hutchison. 2006. Toxicity of spinosad and indoxacarb to the multicolored Asian lady beetle (Coleoptera: Coccinellidae) via three routes of exposure. *Pest Management Science* (**in press**).
- 3--**Koch, R.L.**, R.C. Venette and W.D. Hutchison. 2006. Predicted impact of an invasive generalist predator on monarch butterfly (Lepidoptera: Nymphalidae) populations: A quantitative risk assessment. *Biological Invasions* (**in press**).
- 4--Hodgson, E.W., **R.L. Koch** and D.W. Ragsdale. 2006. Pan trapping for soybean aphid (Homoptera: Aphididae) in Minnesota soybean. *Journal Entomological Science* (**in press**).
- 5--Carrillo, M.A., **R.L. Koch**, E.C. Burkness, K. Bennett, W.D. Hutchison and D.W. Ragsdale. 2005. Supercooling point of bean leaf beetle (Coleoptera: Chrysomelidae) in Minnesota and a revised predictive model for survival at low temperatures. *Environmental Entomology* 34(6): 1395-1401.
- 6--Galvan, T.L. **R.L. Koch** and W.D. Hutchison. 2005. Effects of spinosad and indoxacarb on survival, development and reproduction of the multicolored Asian lady beetle (Coleoptera: Coccinellidae). *Biological Control* 34(1): 108-114.
- 7--**Koch, R.L.**, E.C. Burkness, W.D. Hutchison and T. Rabaey. 2005. Efficacy of systemic insecticide seed treatments for protection of early-growth stage snap beans from bean leaf beetle (Coleoptera: Chrysomelidae) foliar feeding. *Crop Protection* 24(8): 734-742.
- 8--Galvan, T.L., **R.L. Koch** and W.D. Hutchison. 2005. Toxicity of commonly used insecticides in sweet corn and soybean to the multicolored Asian lady beetle (Coleoptera: Coccinellidae). *Journal of Economic Entomology* 98(3): 780-789.
- 9--**Koch, R.L.**, R.C. Venette and W.D. Hutchison. 2005. Influence of alternate prey on predation of monarch butterfly (Lepidoptera: Nymphalidae) larvae by the multicolored Asian lady beetle (Coleoptera: Coccinellidae). *Environmental Entomology* 34(2): 410-416.
- 10--**Koch, R.L.**, M.A. Carrillo, R.C. Venette, C.A. Cannon and W.D. Hutchison. 2004. Cold hardiness of the multicolored Asian lady beetle (Coleoptera: Coccinellidae). *Environmental Entomology* 33(4): 815-822.
- 11--**Koch, R.L.**, E.C. Burkness, S.J. Wold Burkness and W.D. Hutchison. 2004. Phytophagous preferences of the multicolored Asian lady beetle (Coleoptera: Coccinellidae) to autumn ripening fruit. *Journal of Economic Entomology* 97(2): 539-544.
- 12--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2004. Non-target effects of the multicolored Asian lady beetle (Coleoptera: Coccinellidae): Case study with the monarch butterfly (Lepidoptera: Nymphalidae). *American Entomologist* 50(3): 155-156.
- 13--M.A. Carrillo, **Koch, R.L.**, R.C. Venette, C.A. Cannon and W.D. Hutchison. 2004. Response of the multicolored Asian lady beetle (Coleoptera: Coccinellidae) to low temperatures: Implications for overwintering. *American Entomologist* 50(3): 157-158.

14--**Koch, R.L.**, E.C. Burkness and W.D. Hutchison. 2004. Confirmation of bean leaf beetle, *Cerotoma trifurcata*, feeding on cucurbits. *Journal of Insect Science* 4(5): 6pp.
<http://www.insectscience.org/4.5/>

15--**Koch, R.L.** 2003. The multicolored Asian lady beetle, *Harmonia axyridis*: A review of its biology, uses in biological control, and non-target impacts. *Journal of Insect Science* 3(32): 16pp.
<http://www.insectscience.org/3.32/>

16--**Koch, R.L.**, W.D. Hutchison, R.C. Venette and G.E. Heimpel. 2003. Susceptibility of immature monarch butterfly, *Danaus plexippus* (Lepidoptera: Nymphalidae: Danainae), to predation by *Harmonia axyridis* (Coleoptera: Coccinellidae). *Biological Control* 28(2): 265-270.

17--**Koch, R.L.** and W.D. Hutchison. 2003. Phenology and blacklight trapping of the multicolored Asian lady beetle (Coleoptera: Coccinellidae) in a Minnesota agricultural landscape. *Journal of Entomological Science* 38(3): 477-480.

18--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2003. Survival of monarch butterfly, *Danaus plexippus* (Nymphalidae), larvae on milkweed near Bt cornfields. *Journal of the Lepidopterists' Society* 57(2): 92-99.

Featured in: Dahlem, G.A. 2003. Research Briefs: Summaries of recent insect- or arthropod-related literature of interest to entomologists. *American Entomologist* 49(4): 235.

19--**Koch, R.L.**, E.C. Burkness and W.D. Hutchison. Spatial distribution and fixed-precision sampling plans for the ladybird *Harmonia axyridis* in sweet corn. *BioControl* (**submitted**).

Manuscripts in Preparation for Refereed Journals:

1--**R.L. Koch**, M.A. Carrillo, H.J. Kraiss, S.A. Kells and E.M. Cullen. Impact of a parasitic fungus, *Hesperomyces virescens* (Laboulbeniales: Laboulbeniaceae), on the cold hardiness of *Harmonia axyridis* (Coleoptera: Coccinellidae). *Journal of Invertebrate Pathology* (**in preparation**).

2--**R.L. Koch**, R.C. Venette and W.D. Hutchison. Invasions by *Harmonia axyridis* (Pallas) (Coleoptera: Coccinellidae): Review of the Past and Eco-climatic Predictions for the Future. *Neotropical Entomology* (**in preparation**).

3--K.A.G. Wyckhuys, **R.L. Koch** and G.E. Heimpel. Physical and ant-mediated refuges from parasitism: implications for non-target effects in biological control. *Ecological Entomology* (**in preparation**).

4--B.P. McCornack, **Koch, R.L.** and D.W. Ragsdale. Identification and validation of morphological characters for in-field sex determination of the multicolored Asian lady beetle (Coleoptera: Coccinellidae). *Biological Control* (**in preparation**).

5--**Koch, R.L.**, G.E. Heimpel, P.M. Porter, M.M. Harbur, M. Abrahamson, D.W. Ragsdale and K. Koch. Response of soybean insects to autumn-seeded rye cover crops. *Agricultural, Ecosystems and Environment* (**in preparation**).

Book Chapters:

1--Hutchison, W.D., **R.L. Koch** and S.J. Wold. 2006. Coccinellids in Alfalfa. *In: W. Lamp* (Ed.), *Handbook of Forage Insects*. Entomological Society of America. (**in press**).

Proceedings articles from research conferences:

1--Heimpel, G.E., P.M. Porter, D.W. Ragsdale, **R.L. Koch**, B. Potter. 2005. The potential role of insect suppression in increasing the adoption of cover crops. *In*: Hoddle, M.S. (ed), Second International Symposium on Biological Control of Arthropods, Davos, Switzerland. pp. 185-191.

Technical Reports:

1--Burkness, E.C., **R.L. Koch** and W.D. Hutchison. 2004. Control of European corn borer in Minnesota snap beans, 2003. *Arthropod Management Tests* 29: E1.

2--Burkness, E.C., **R.L. Koch** and W.D. Hutchison. 2004. Control of European corn borer in Minnesota sweet corn, 2003. *Arthropod Management Tests* 29: E28.

3--Burkness, E.C., **R.L. Koch** and W.D. Hutchison. 2004. Control of lepidopteran pests in Minnesota cabbage, 2003. *Arthropod Management Tests* 29: E5.

4-- Burkness, E.C., **R.L. Koch** and W.D. Hutchison. 2004. Control of striped cucumber beetle in Minnesota squash, 2003. *Arthropod Management Tests* 29: E79.

5--Burkness, E.C., **R.L. Koch** and W.D. Hutchison. 2003. Control of European corn borer and corn earworm in Minnesota sweet corn, 2002. *Arthropod Management Tests* 28: E22.

6--Burkness, E.C., **R.L. Koch** and W.D. Hutchison. 2003. Insecticidal control of European corn borer in Minnesota snap beans, 2002. *Arthropod Management Tests* 28: E1.

7--**Koch, R.L.**, E.C. Burkness and W.D. Hutchison. 2003. Insecticidal control of lepidopteran pests in Minnesota cabbage, 2002. *Arthropod Management Tests* 28: E9.

8--Wold, S.J., E.C. Burkness, **R.L. Koch** and W.D. Hutchison. 2002. Timing of pyrethroids for control of European corn borer and corn earworm on sweet corn, 2001. *Arthropod Management Tests* 27: E38.

9--Burkness, E.C., **R.L. Koch**, S.J. Wold and W.D. Hutchison. 2002. Insecticidal control of European corn borer on sweet corn, 2001. *Arthropod Management Tests* 27: E30.

10--**Koch, R.L.**, E.C. Burkness, S.J. Wold and W.D. Hutchison. 2002. Insecticidal control of lepidopteran pests in irrigated cabbage, 2001. *Arthropod Management Tests* 27: E11.

11--**Koch, R.L.**, E.C. Burkness, S.J. Wold and W.D. Hutchison. 2002. Insecticidal control of lepidopteran pests in non-irrigated cabbage, 2001. *Arthropod Management Tests* 27: E12.

12--Burkness, E.C., **R.L. Koch**, S.J. Wold and W.D. Hutchison. 2002. Evaluation of surfactants and insecticides for control of lepidopteran pests on irrigated cabbage, 2001. *Arthropod Management Tests* 27: E7.

13--Burkness, E.C., **R.L. Koch**, S.J. Wold and W.D. Hutchison. 2002. Evaluation of surfactants and insecticides for control of lepidopteran pests in non-irrigated cabbage, 2001. *Arthropod Management Tests* 27: E8.

14--Burkness, E.C., S.J. Wold, **R.L. Koch** and W.D. Hutchison. 2002. Control of European corn borer in snap beans, 2001. *Arthropod Management Tests* 27: E1.

15--**Koch, R.L.**, P.K. O'Rourke, E.C. Burkness and W.D. Hutchison. 2001. Control of European corn borer on Minnesota sweet corn, 2000. *Arthropod Management Tests* 26: E27.

Pest Risk Assessments:

1--**Koch, R.L.** and R.C. Venette. 2001. Importation of cauliflower (*Brassica oleracea* var. *botrytis*) from Australia into the continental United States: A qualitative, pathway-initiated risk assessment. Animal and Plant Health Inspection Service (APHIS), USDA, Riverdale, MD. 42 pp.

Extension Publications:

Fact sheets:

1--**Koch, R.L.**, M.A. Carrillo and W.D. Hutchison. 2004. Springtails (Collembola). Vegetable Pest Fact Sheets, *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN <http://www.vegedge.umn.edu/vegpest/beneficials/Springtails.htm>

2--**Koch, R.L.** and W.D. Hutchison. 2004. *Compsilura concinnata*. Vegetable Pest Fact Sheets, *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN <http://www.vegedge.umn.edu/vegpest/beneficials/Comps.htm>

3--**Koch, R.L.** and W.D. Hutchison. 2003. Multicolored Asian Lady Beetle. Vegetable Pest Fact Sheets, *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN <http://www.vegedge.umn.edu/vegpest/Harmonia/Harmonia.htm>

4--Van Wychen Bennett, K., W.D. Hutchison, E.C. Burkness, **R.L. Koch** and B. Potter. 2003. Bean Leaf Beetle – Snap Beans. Vegetable Pest Fact Sheets, *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN <http://www.vegedge.umn.edu/vegpest/BLB.htm>

Proceedings articles from extension meetings:

1--Galvan, T.L., **R.L. Koch**, E.C. Burkness, S.J. Wold Burkness and W.D. Hutchison. 2005. Research updates on multicolored Asian lady beetle management in Minnesota grapes. *In: Proceedings of the Upper Midwest Regional Fruit and Vegetable Growers Association*, St. Cloud, MN, February 3-5.

2--Hutchison, W.D., E.C. Burkness, **R.L. Koch** and T.L. Rabaey. 2004. Insect management in processing snap beans with seed treatment insecticides: 2003 research update. *In: Proceedings, Midwest Food Processors Association*, La Crosse, WI. February 23-24. 16: 23-41.

3--**Koch, R.L.**, E.C. Burkness, S.J. Wold Burkness and W.D. Hutchison. 2004. The multicolored Asian lady beetle: a recent invader and pest of fruit production. *In: Proceedings of the Upper Midwest Regional Fruit and Vegetable Growers Association*, St. Cloud, MN, February 5-6.

4--Hutchison, W.D., E.C. Burkness and **R.L. Koch**. 2004. Striped cucumber beetle in Minnesota: monitoring and control updates. *In: Proceedings of the Upper Midwest Regional Fruit and Vegetable Growers Association*, St. Cloud, MN, February 5-6.

5--Hutchison, W.D., E.C. Burkness and **R.L. Koch**. 2004. Update on European corn borer control in Minnesota sweet corn-2004. *In: Proceedings of the Upper Midwest Regional Fruit and Vegetable Growers Association*, St. Cloud, MN, February 5-6.

6--Hutchison, W.D., E.C. Burkness, **R.L. Koch** and T. Rabaey. 2003. Efficacy of systemic seed treatments in snap bean and sweet corn: 2002 update. *In: Proceedings, Midwest Food Processors Association*, La Crosse, WI, February 24-25. 15: 159-171.

Newsletter articles:

1--Bennett, K., M.A. Carrillo, E.C. Burkness, **R.L. Koch** and W.D. Hutchison. 2004. Survival of bean leaf beetle and striped cucumber beetle in Minnesota: 2003-2004 overwintering results. *MN Fruit and Vegetable IPM Newsletter*, Vol. 1, No. 4, May 31st *VegEdge* Web site, Dept. of

Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/MNFruit&VegNews/Vol1/531BLB.htm>

2--Hutchison, W.D., E.C. Burkness, **R.L. Koch** and S. Wold. 2003. It's a wrap: insect pest overview for 2003. *MN Vegetable IPM Newsletter*, Vol. 5, No. 9, October 10th. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol5/vol5n9.htm>

3--Hutchison, W.D., E.C. Burkness, **R.L. Koch** and S. Wold. 2003. Corn earworm control in Minnesota Sweet corn, 2003. *MN Vegetable IPM Newsletter*, Vol. 5, No. 8, September 12th. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol5/vol5n8.htm>

4--Hutchison, W.D., E. Burkness and **R.L. Koch**. 2003. Potato leafhopper and bean leaf beetle updates. *MN Vegetable IPM Newsletter*, Vol. 5, No. 3, July 11th. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol5/711plh.htm>

5--Hutchison, W.D., E. Burkness, **R.L. Koch**, S. Wold and K. Bennett. 2003. 2003 Spring insect update. *MN Vegetable IPM Newsletter*, Vol. 5, No. 1, May 23rd. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol5/526mag.htm>

6--Hutchison, W.D., E. Burkness, **R.L. Koch**, P. O'Rourke and S. Wold. 2002. Insect Pest Overview: 2002 Season. *MN Vegetable IPM Newsletter*, Vol. 4, No. 8, October 11th. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol4/vol4n8.htm>

7--Hutchison, B., E. Burkness, **R.L. Koch** and P. O'Rourke. 2002. Sweet corn insect update. *MN Vegetable IPM Newsletter*, Vol. 4, No. 7, August 23rd. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol4/vol4n7.htm>

8--Hutchison, B., E. Burkness, **R.L. Koch** and P. O'Rourke. 2002. Snap bean insect update. *MN Vegetable IPM Newsletter*, Vol. 4, No. 6, August 2nd. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol4/vol4n6.htm>

9--Hutchison, B., E. Burkness and **R.L. Koch**. 2002. Pest Updates (A to Z: Infinity and Beyond). *MN Vegetable IPM Newsletter*, Vol. 4, No. 2, June 14th. *VegEdge* Web site, Dept. of Entomology, University of Minnesota Extension Service, St. Paul, MN
<http://www.vegedge.umn.edu/mnvegnew/vol4/614pest.htm>

Presentations

Research presentations--Invited:

1--**Koch, R.L.** 2004, October. Assessing the risk of an invasive soybean aphid predator impacting monarch butterflies. Plant Science Department, South Dakota State University, Brookings, SD

2--**Koch, R.L.** 2004, August. Impact of an invasive soybean aphid predator on monarch butterflies. Northern Grain Insects Research Laboratory, United States Department of Agriculture, Agricultural Research Services, Brookings, SD

3--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2004, January. Distribution and status of the multicolored Asian lady beetle in North America: Costs and benefits. 10-minute paper

presentation. 3rd Annual Minnesota Invasion Biology Research Consortium Retreat, Chanhassen, MN.

4--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2003, October. Non-target effects of multicolored Asian lady beetles on non-pest insects, *In symposium*: "Multicolored Asian Lady Beetles in Agriculture and the Urban Environment." Annual Meeting of the Entomological Society of America, Cincinnati, OH.

5--Carrillo, M.A., **R.L. Koch**, C. Cannon, R.C. Venette and W.D. Hutchison. 2003, October. Cold hardiness of multicolored Asian lady beetles, *In symposium*: "Multicolored Asian Lady Beetles in Agriculture and the Urban Environment." Annual Meeting of the Entomological Society of America, Cincinnati, OH.

6--Hutchison, W.D, **R.L. Koch** and R.C. Venette. 2001, November. Is Bt corn a real risk to Monarchs?: Analysis of a recent Minnesota study. Waite Institute, University of Adelaide, Adelaide, Australia.

Research presentations--Contributed:

1--**Koch, R.L.**, G.E. Heimpel, P. Porter, M. Harbur, K. Koch and D. Ragsdale. 2005, December. Evaluation of fall-seeded rye cover crops for insect pest management in organic soybeans. 10-minute paper presentation, Annual Meeting of the Entomological Society of America, Ft. Lauderdale, FL.

2--Burkness, E.C., **Koch, R.L.**, M.A. Carrillo and W.D. Hutchison. 2005, December. Observations on the overwintering potential of the striped cucumber beetle, *Acalymma vittatum* (Fabricius). Poster presentation, Annual Meeting of the Entomological Society of America, Ft. Lauderdale, FL.

3--Galvan, T.L. **R.L. Koch** and W.D. Hutchison. 2005, December. Toxicity of spinosad and indoxacarb to the multicolored Asian lady beetle (Coleoptera: Coccinellidae) via three routes of exposure. Poster presentation, Annual Meeting of the Entomological Society of America, Ft. Lauderdale, FL.

4--Ragsdale, D.E., B. McCornack and **R.L. Koch**. 2005, December. In-field sex determination of *Harmonia axyridis* (Coleoptera: Coccinellidae) using readily accessible morphological characters. Poster presentation, Annual Meeting of the Entomological Society of America, Ft. Lauderdale, FL.

5--**R.L. Koch**, G.E. Heimpel, P.M. Porter, M.M. Harbur, K. Koch and D.W. Ragsdale. 2005, September. Cover-crops and insect pest suppression: Winter rye and soybean aphids in Minnesota, USA. International Symposium on Biological Control of Arthropods, Davos, Switzerland.

6--Galvan, T.L., **R.L. Koch**, E.C. Burkness, S.J. Wold Burkness and W.D. Hutchison. 2005, March. Phenology and management of the multicolored Asian lady beetle in Minnesota grapes. 10-minute paper presentation, Meeting of the North Central Branch of the Entomological Society of America, West Lafayette, IN.

7--M.A. Carrillo, **R.L. Koch**, E.C. Burkness, K. Bennett, W.D. Hutchison and D.W. Ragsdale. 2005, March. Overwintering survival of bean leaf beetle, *Cerotoma trifurcata* (Forster), in southern Minnesota. Poster presentation, Meeting of the North Central Branch of the Entomological Society of America, West Lafayette, IN.

8--**Koch, R.L.** 2005, February. Non-target effects of the multicolored Asian lady beetle, *Harmonia axyridis*, on monarch butterfly, *Danaus plexippus*, populations. Departmental Seminar, Department of Entomology, University of Minnesota, St. Paul, MN.

9--**Koch, R.L.**, R.C. Venette and W.D. Hutchison. 2004, November. Non-target impacts of an exotic generalist predator: A quantitative risk assessment. 10-minute paper presentation, student competition, Annual Meeting of the Entomological Society of America, Salt Lake City, UT.

10--Galvan, T.L., **R.L. Koch** and W.D. Hutchison. 2004, November. Selectivity of insecticides to *Harmonia axyridis* (Coleoptera: Coccinellidae) under field and laboratory conditions. 10-minute paper presentation, student competition, Annual Meeting of the Entomological Society of America, Salt Lake City, UT.

11--**Koch, R.L.** 2004, April. Status and impacts of a classical biological control agent, *Compsilura concinnata* (Diptera: Tachinidae), in North America. Departmental Seminar, Department of Entomology, University of Minnesota, St. Paul, MN.

12--**Koch, R.L.**, E.C. Burkness, S.J. Wold Burkness and W.D. Hutchison. 2004, March. Phytophagous preferences of the multicolored Asian lady beetle (Col., Coccinellidae) for autumn ripening fruit. Poster presentation, Meeting of the North Central Branch of the Entomological Society of America, Kansas City, MO.

13--Hutchison, W.D., E.C. Burkness, B. Jensen, B.R. Leonard, T.L. Rabaey, **R.L. Koch**, R.A. Weinzierl and J.L. Wedberg. 2004, March. Pyrethroid resistance to corn earworm in Midwestern U.S. sweet corn: Comparisons and implications with trends in the southern states. 10-minute paper presentation, Meeting of the North Central Branch of the Entomological Society of America, Kansas City, MO.

14--**Koch, R.L.**, M. Carrillo, R.C. Venette, C. Cannon and W.D. Hutchison. 2003, March. Cold hardiness of an exotic coccinellid, *Harmonia axyridis* (Pallas). 10-minute paper presentation, Meeting of the North Central Branch of the Entomological Society of America, Madison, WI.

15--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2002, November. Influence of aphids on the predation of immature monarch butterfly, *Danaus plexippus* (L.), by the multicolored Asian lady beetle, *Harmonia axyridis* (Pallas). 10-minute paper presentation, student competition, Annual Meeting of the Entomological Society of America, Ft. Lauderdale, FL.

16--**Koch, R.L.**, R.C. Venette and W.D. Hutchison. 2002, March. Potential North American range for an Exotic Invasive Coccinellid. Poster presentation, student competition, Meeting of the North Central Branch of the Entomological Society of America, East Lansing, MI.

17--**Koch, R.L.** 2002, October. Non-target effects of the multicolored Asian lady beetle, *Harmonia axyridis* (Pallas), on monarch butterfly, *Danaus plexippus* (L.), populations. Departmental Seminar, Department of Entomology, University of Minnesota, St. Paul, MN.

18--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2001, December. Functional response by *Harmonia axyridis* Pallas feeding on *Danaus plexippus* (L.). 10-minute paper presentation, student competition, Annual Meeting of the Entomological Society of America, San Diego, CA.

19--**Koch, R.L.**, W.D. Hutchison and R.C. Venette. 2001, March. Monarch larvae survive near Bt corn: two year field study. 10-minute paper presentation, student competition, Meeting of the North Central Branch of the Entomological Society of America, Ft. Collins, CO.

Extension Presentations:

1--**Koch, R.L.** and W.D. Hutchison. 2004, March. The multicolored Asian lady beetle in Midwestern grapes: A good lady with some bad habits. Minnesota Grape Growers Association Spring Symposium. Bloomington, MN.

2--Hutchison, W.D., E.C. Burkness, **R.L. Koch** and T.L. Rabaey. 2004, February. Insect management in processing snap beans with seed treatment insecticides: 2003 research update. Midwest Food Processors Association Conference. La Crosse, WI.

3--**Koch, R.L.**, E.C. Burkness, S.J. Wold Burkness and W.D. Hutchison. 2004, February. The multicolored Asian lady beetle: a recent invader and pest of fruit production. Upper Midwest Regional Fruit and Vegetable Growers Conference. St. Cloud, MN.

4--Hutchison, W.D., E.C. Burkness and **R.L. Koch**. 2004, February. Striped cucumber beetle in Minnesota: monitoring and control updates. Upper Midwest Regional Fruit and Vegetable Growers Conference. St. Cloud, MN.

5--Hutchison, W.D., E.C. Burkness and **R.L. Koch**. 2004, February. Update on European corn borer control in Minnesota sweet corn-2004. Upper Midwest Regional Fruit and Vegetable Growers Conference. St. Cloud, MN.

6--Hutchison, W.D., E.C. Burkness, **R.L. Koch** and T. Rabaey. 2003, February. Efficacy of systemic seed treatments in snap bean and sweet corn: 2002 update. Midwest Food Processors Association Conference. La Crosse, WI.

7--Burkness, E.C., P.K. O'Rourke, **R.L. Koch** and S.J. Wold. 2003, February. Integrated Pest Management Scout School. Upper Midwest Regional Fruit and Vegetable Growers Conference. St. Cloud, MN.

8--**Koch, R.L.** 2001, August. Assessing the risk of Bt corn and *Harmonia axyridis* having negative impacts on monarch populations. Vegetable IPM Field Day. Rosemount Agricultural Experiment Station, Rosemount, MN.

Outreach:

1--Big Bugs Exhibit. Landscape Arboretum, University of Minnesota. 2003, May. Chanhassen, MN.

2--"Fun with Bugs," Bell Museum *ScienceFest*. 2003, January. Minneapolis, MN.

3--"Fun with Bugs," Bell Museum *ScienceFest*. 2002, January. Minneapolis, MN.

4--Monarchs in the classroom: Insect Fair. 2002, November. Bell Museum of Natural History, Minneapolis, MN.

Photo Credits

1--Aggregation of overwintering *Harmonia axyridis*. In: Hemptinne, J.L., A. Margo and M. Majerus. 2005. Les Coccinelles: Description, Moeurs, Reproduction, Cohabitation, Observation. Delachaux et Niestlé, p. 140.

Media interviews about *Harmonia axyridis*: 2 television, 1 radio & 4 newspaper