

Russell L. Groves

Vegetable Extension Specialist & Associate Professor



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EDUCATION

2001	Ph.D.	Entomology	North Carolina State University, Raleigh, NC
1992	M.S.	Entomology	University of Arkansas, Fayetteville, AR
1989	B.S.	Forestry	Iowa State University, Ames, IA

PROFESSIONAL EXPERIENCE

2016-Present	Professor	University of Wisconsin, Madison, WI
2012-2016	Associate Professor	University of Wisconsin, Madison, WI
2006-2012	Assistant Professor	University of Wisconsin, Madison, WI
2003-2006	Research Entomologist	USDA-ARS, SJVASC, Parlier, CA
2001-2003	Adjunct Asst. Professor	University of Maine, Orono, ME
2001-2003	Research Associate	Cornell University, Ithaca, NY
1998-2001	Graduate Assistant	North Carolina State University, Raleigh, NC
1996-1998	Research Specialist	North Carolina State University, Raleigh, NC
1992-1996	Research Specialist	University of Arkansas, Fayetteville, AR
1989-1992	Graduate Assistant	University of Arkansas, Fayetteville, AR

ASSOCIATE APPOINTMENTS (University of Wisconsin)

- **Department of Plant Pathology**, (2006 – present), <http://www.plantpath.wisc.edu/>
- **Molecular and Environmental Toxicology Center**, (2013 – present), <http://www.agroecology.wisc.edu/>
- **Agroecology Program**, (2012 – present), <http://www.agroecology.wisc.edu/>

- **Co-Director, Center for Integrated Agricultural Systems**, (2009 – 2013),
<http://www.cias.wisc.edu/>

SPECIALIZATION and AREAS OF INTEREST

Applied Entomology / Integrated Pest Management
Plant – Pathogen – Vector Interactions
Insect Migration and Dispersal
Insecticide Resistance Management

PROFESSIONAL SOCIETIES

2001-present – Gamma Sigma Delta National Honor Society
2000-present – Phi Kappa Phi National Honor Society
1990-present – Entomological Society of America
1998-present – American Phytopathological Society

HONORS and AWARDS

2015 – UW ARS Researcher Award, University of Wisconsin, Agricultural Research Stations, College of Agricultural and Life Sciences (December 2015).

2014 – Second Mile Award. UWEX WACAA, LaCrosse, Wisconsin, Wisconsin Association of County Agricultural Agents Annual Meeting (February 2014).

2013 - Glen Pound Extension Award. College of Agriculture and Life Sciences, Madison, Wisconsin (April 24 2013).

2013 - American Society of Agronomy, Certificate of Excellence, 2013 Educational Materials Award. American Society of Agronomy, Cincinnati, OH– received in October 2013.

2012 - Team/ Workgroup Leadership and Responsiveness Award. ANRE, Wisconsin Dells, WI (2011).

2010 - 2011 Chicago/ Midwest Emmy Award for Outstanding Achievement for Children/ Youth/ Teen Programming. Chicago/ Midwest Chapter of the National Academy of Television Arts and Sciences, Chicago, IL.

2011 - Outstanding National Extension Project Award. Potato Association of America, 95th Annual PAA Meeting.

- 2009 – Researcher of the Year
Wisconsin Potato and Vegetable Growers Association, Antigo, WI.
- 2001 - Kenneth R. Keller Outstanding Doctoral Research Award
College of Agriculture and Life Sciences, N.C. State University
- 2001 - John Henry Comstock Award Nomination
Entomological Society of America
- 1985 – Freshman Scholar Award
Forestry Department, Iowa State University

PROFESSIONAL SERVICE

Department / CRIS Unit

- Plant Pathology Department, University of Wisconsin, Madison
Organic Pest Management Specialist Search Committee (2013)
Virologist Search Committee Member (2010)
Vegetable Extension Specialist Search Committee Member (2009)
- Entomology Department, University of Wisconsin, Madison
Charles Chesley Doane Distinguished Lecture Series, Chair (2008-2015)
ESA Annual Meeting Centennial Planning Committee, Co-Chair (2008)
ESA Annual Meeting Centennial Planning Committee, Co-Chair (2015)
Research Committee, Chair (2009-2015)
Colloquium Committee, Co-Chair (2007-2008)
Colloquium Committee, Co-Chair (2014-2015)
Extension and Applied Research Committee (2006-2015)
Entomology Website Committee (2014-2015)
Insect Research Collection – Curator Search Committee (2015)
Insect Diagnostician Search Committee (2014)
Molecular Ecologist Search Committee (2013)
Fruit Crops Extension Specialist Search Committee (2012)
USDA ARS Cranberry Entomologist Search Committee (2010)

USDA / UCKAC

- Brown Bag Lunch Seminar Series Coordinator (2004-2006)

Entomology Department, N.C. State University

- Mike Duke Seminar Committee Member (1999)

Entomology Department, University of Arkansas

- Graduate Student Assoc. Fund Raising Committee Member (1990-1992)
Graduate Student Assoc. Member (1990)

University / Agency

Agricultural Research Stations, Faculty Chairperson (2012-2015)

Agricultural Research Stations, Strategic Planning Priorities and Planning Committee (2014-2015)

Integrated Pest and Crop Management Program, University of Wisconsin
Steering Committee Member (2009-2015)
Advisory Committee Member (2006-2015)

Wisconsin Eco-Potato Collaboration (WWF, WPVGA, & UW)
Advisory Committee Member (2006-2015)
Executive Committee Member (2006-2015)

Center for Integrated Agricultural Systems, University of Wisconsin
Co-Director (2009-2013)

USDA-ARS, SJVASC, Parlier, CA. Cooperative Research Agreement with Department of Entomology,
University of California, Riverside
Administrator of Research Agreement (2003-2006)

Teaching Academy, University of Arkansas
Assistant Secretary (1993-1995)

State or Nation

Wisconsin Potato and Vegetable Growers Association
Research Board Member (2006-2015)
Annual Planning Conference Advisor (2006-2015)
Annual Planning Conference Chair (2013-2015)

Wisconsin Muck Farmers Association
Research Board Member (2009-2015)
Annual Planning Conference Advisor (2006-2015)
Committee Member (2006-2015)

Wisconsin Mint Growers Association
Research Board Member (2006-2015)
Annual Planning Conference Advisor (2013-2015)
Committee Member (2006-2015)

Wisconsin Fresh Fruit and Commercial Vegetable Growers Association
Planning Committee Member (2009-2015)
Research Board Member (2009-2015)

International Plant Virus Epidemiology Symposium & 3rd Workshop of the Plant Virus
Ecology Network
Planning Committee Member (2009)

Entomological Society of America
Subsection Cc (Insects in Relation to Plant Disease)

Network Organizer and Subsection Chair (2009)
Section Cc President (2008)
Section Cc Vice-President (2007)
Section Cc Secretary (2006)

Section Symposia Organizer and Section Moderator, Vegetable Session (2009, 2013, 2014)

Entomological Society of America / North Central Branch
Student Competition Judge (2009, 2010, 2011, 2014)

Entomological Society of America / National Meeting
Student Competition Judge (2007, 2010, 2014)
Section Symposium Co-Organizer, (2015) *P-IE Section Symposium: Insecticide Resistance Management (IRM) vs. Integrated Pest Management (IPM): Overlap and Conflicts*, IRAC US Symposium Series No. 11, Minneapolis, MN.

Co-State Liaison, IR-4 Project, Minor Crops Pest Management (2006-2015)

American Phytopathological Society of America
Disease Detection of Vegetable Crops, Session Moderator (2009)

Ecological Genomics Institute, Kansas State University
Grant Panel Reviewer (2008)

Citrus Research Development Foundation
Scientific Advisory Board Member and Research Grants Panelist (2010-2015)

National Science Foundation (ad hoc reviewer) (2009, 2012, 2013)

Binational Agricultural Research and Development Grants Program (ad hoc reviewer) (2008, 2013)

USDA NIFA
Specialty Crop Research Initiative, Citrus Disease Research and Extension Panelist (2015)
Microbial Genome Sequencing Program Grant Panel Reviewer (2007)
Special Grants Program (Citrus Tristeza Virus), Grant Panel Rev. (2007)
Special Grants Program (Tropical and Subtropical Ag Research), Grant Panel Member (2006-2008)
Strategic Wetland Mosquito Management Program, Planning Conference Secretary (1994-1995)

North Central Region Working Group
Pest Management Advisory Committee Member (2007-2015)

UW Extension, Vegetable Team Leader (2012-2015)

Frito-Lay North America, Plano, TX
Zebra Chip Technical Advisory Board Member (2006-2014)
Research Grant Panel Chairman (2006-2008)

CDFA / Pierce's Disease Research and Control Program, Sacramento, CA

Grants Program, Grant Panel Reviewer (2006-2015)

Symposium, Program Organizer and Session Moderator (2004-2006)

USDA APHIS

GWSS Area-wide Mgmt. and Trapping Planning Committee Member (2003-2006)

S-260 Regional Riceland Management Project

Conference Planning and Local Arrangements Chairperson (1993-1995)

USDA / CSREES

Riceland Mosquito Management Program and Regional City Abatement District (1992)

TEACHING

University of Wisconsin, Department of Entomology, Madison, WI			
Course Number	Course Title	Year	Enrollment
Ento 351	Principles Economic Entomology (4 lectures / semester)	Sp 15	32
		Sp 14	28
		Sp 13	25
		Sp 12	27
		Sp 11	24
		Sp 10	22
		Sp 09	18
		Sp 08	29
		Sp 07	25
Ento 570	Advanced IPM (2 lectures)	Sp 08	17
Ento 903	Seminar (16 week course)	Sp 14	9
		Sp 11	7
		Sp 08	6
METC 632	Environmental Toxicology (2 lectures)	Fall 15	38
PI Path 875	Applied Virology (3 lectures)	Sp 15	10
		Sp 12	8
		Sp 10	10
		Sp 08	14
		Sp 08	14
University of Wisconsin, College of Natural Resources, Stevens Point, WI			

Biology 498	Crop Scout Management School (3 hr IPM workshop)	Sp 15	22
		Sp 14	28
		Sp 13	21
		Sp 12	18
		Sp 11	26
		Sp 10	22
		Sp 09	21
		Sp 08	15
		Sp 07	18
		Sp 07	18
University of Arkansas, Department of Entomology, Fayetteville, AR (Teaching Asst)			
Agri 2003	Pest Management	Sp 94	27
		Sp 95	45
Ento 1031L	Insects and People Lab	Sp 94	37
		Sp 93	29
		Fall 95	51
Ento 2013L	Intro to App. Ento Lab	Fall 94	40
		Fall 93	64
		Fall 92	67

Graduate Students Supervised.

MS students supervised:

David Lowenstein (2012) – Department of Entomology, University of Wisconsin - Madison, Thesis title, “*Effects of landscape and time of season on wild pollinator populations in pickling cucumbers*”. Currently – Graduate Research Assistant (PhD), University of Illinois – Chicago, IL (<https://www.uic.edu/labs/minor/people.html>).

Chen Zhang (2014) - Department of Plant Pathology, University of Wisconsin – Madison, Thesis title, “Improved understanding of Potato virus Y resistance, disease expression and disease determination in selected potato varieties”. Currently - Research Associate, Michigan State University, East Lansing, MI (<http://potatobg.css.msu.edu/team.shtml>).

Chris Bloomingdale (2015) – Department of Entomology, University of Wisconsin - Madison, Thesis title, “*Monitoring Thrips (Thysanoptera) Dispersal in Wisconsin Soybean and Investigating Soybean vein necrosis virus, a New Pathogen in Soybean*”.

Natalie Hernandez (anticipated completion date 2016) - Department of Entomology, University of Wisconsin - Madison, Thesis title, "*Seasonal Flight Dynamics of Aphids in Occurrence Association with Potato Virus Y Spread in Wisconsin Seed Potatoes*".

Benjamin Z. Bradford (anticipated completion date 2016) - Department of Entomology, University of Wisconsin - Madison, Thesis title, "*Neonicotinoid Insecticide Contamination of Wisconsin's Central Sands Groundwater*".

Kathryn J. Prince (anticipated completion date 2016) - Department of Entomology, University of Wisconsin - Madison, Thesis title, "*Neonicotinoid concentrations in succulent snap bean, sweet corn and peas following at-plant concentrations of neonicotinoid insecticides following seed treatment application*".

PhD students supervised:

Dr. Tatjana Sikuljak (2005) – Department of Plant Science, California State University – Fresno, Thesis title, "*Seasonal population dynamics and incidence of Xylella fastidiosa in potential insect vectors of almond leaf scorch disease*". Currently - Research Scientist, BASF Corporation, Raleigh, NC (<http://www.rtp.org/location/basf-corporation/>).

Dr. Rodrigo Krugner (2007) – Department of Entomology, University of California – Riverside, Thesis title, "*Dispersal and Movement of the Glassy-winged Sharpshooter and Associated Natural Enemies in a Continuous, Deficit-irrigated Agricultural Landscape*". Currently – Research Entomologist, GS-14, USDA-ARS, Parlier, CA (<http://www.ars.usda.gov/pandp/people/people.htm?personid=41697>).

Dr. Shahideh Nouri (2012) – Department of Plant Pathology, University of Wisconsin – Madison, Thesis title, "*Characterization of a novel satellite RNA associated with natural populations of cucumber mosaic virus (CMV) in Wisconsin snap bean fields and the comparison of genetic diversity of CMV populations in snap bean and pepper fields*". Currently - Post-doctoral Research Associate, University of California, Davis, CA (http://plantpathology.ucdavis.edu/faculty/Falk_Bryce/Bryce_Falk_Lab/Lab_Members).

Dr. Kenneth E. Frost (2012) – Department of Plant Pathology, University of Wisconsin – Madison, Thesis title, "*Advancing our understanding of Aster Yellows epidemiology toward improved disease*". Currently - Assistant Professor, Oregon State University, Hermiston, OR (<http://oregonstate.edu/dept/hermiston/>).

Dr. Anders S. Huset (2013) – Department of Entomology, University of Wisconsin - Madison, Thesis title, "*Colonization patterns and diapause ecology of the Colorado potato beetle (Leptinotarsa decemlineata), interactions with neonicotinoid resistance*". Currently – Post-doctoral Research Associate, Department of Entomology, North Carolina State University, Raleigh, NC (<https://www.cals.ncsu.edu/entomology/huset>).

Dr. Jose Pablo Dundore-Arias (2015) - Department of Plant Pathology, University of Wisconsin – Madison, Thesis title, "*Investigating the mechanisms of how phytophagous insects enhance the epiphytic survival and transmission of Salmonella enterica in association with fresh produce*". Currently – Post-doctoral Research Associate,

University of Minnesota, Saint Paul, MN (<https://plpa.cfans.umn.edu/people/staff/jose-pablo-dundore-arias>).

Justin Clements (anticipated completion date 2016) – Molecular and Environmental Toxicology Center, University of Wisconsin – Madison, Thesis title, “*Uncovering molecular mechanisms of resistance to imidacloprid in Colorado Potato Beetles*”. (<http://labs.russell.wisc.edu/vegento/justin-clements/>).

Ryan Bower (anticipated completion date 2019) - Department of Plant Pathology, University of Wisconsin – Madison, Thesis title, “*Non-traditional partnerships: how phytophagous Hemipterans influence enteric human pathogen populations*”. (<http://labs.russell.wisc.edu/vegento/ryan-bower/>).

Graduate student (committees):

Erica Arcibal (2014) MS, Department of Plant Pathology

Ismael Badillo (2013) MS, Department of Entomology

Michael Crossley (2014) MS, Department of Entomology

Steve Damon (2014) MS, Department of Horticulture

Zhe Dun (2013) PhD, Department of Agricultural and Applied Economics

Chung Fu (2009), PhD Department of Entomology

Hannah Gaines (2013) PhD, Department of Zoology

Daniel Gerhardt (2011) MS, Department of Plant Pathology

Courtney Pfad-Greve (2015) MS, Department of Horticulture

Heidi Kraiss-Johnson (2010) PhD, Department of Horticulture

Il Hwan Kim (2015) PhD, Department of Entomology

Minsik Kim (2009) PhD, Department of Entomology

Ryan Larson (2010) MS, Department of Entomology

Rachel Mallinger (2013) PhD. Department of Entomology

Blair Miller (2013) MS, Department of Horticulture

Emily Mueller (2009) PhD, Department of Entomology

Eduardo Munaiz (2018) PhD, Department of Horticulture

Sarah Page (2014) MS, Department of Horticulture

Ana Christina Fuladolsa-Palma (2015) PhD, Department of Plant Pathology

Jolyn Rasmussen (2011) MS, Department of Horticulture

Amilcar Sanchez (2013) PhD, Department of Plant Pathology

Merritt Singleton (2010), MS Department of Entomology

Bryan Webster (2014) PhD, Department of Plant Pathology

Lindsey Wells (2016), PhD, Department of Plant Pathology

CONTRACTS AND GRANT-IN-AID

2015

Hatch Formula 142 Funds - “How phytophagous Hemipterans influence HEBPs”. (J.D. Barak and Groves, R.L.), **\$120,469**

Hatch Formula 142 Funds - “Molecular mechanisms of imidacloprid resistance”. (Q. Lan and Groves, R.L.), **\$40,694**

USDA-SCRI, Wisconsin Specialty Crop Block Grant - “Developing IPM for high tunnel tomatoes”. (A.J. Gevens and Groves, R.L.), **\$52,161**

USDA-SCRI, Wisconsin Specialty Crop Block Grant - “Developing web-based pest and disease forecasting tools”. (A.J. Gevens and Groves, R.L.), **\$46,673**

USDA-SCRI, Wisconsin Specialty Crop Block Grant - “Deficit irrigated potato and processing crops”. (Groves, R.L. and A.J. Bussan), **\$66,949**

USDA-SCRI, Wisconsin Specialty Crop Block Grant - “Insecticide contaminants in processing crops”. (Groves, R.L. and C. Gratton), **\$69,680**

USDA-SCRI, Wisconsin Specialty Crop Block Grant - “Neonicotinoid groundwater contaminations”. (Groves, R.L.), **\$35,860**

Ceres Trust - “Mature plant resistance to infection by Potato virus Y”. (Groves, R.L.), **\$10,000**

National Potato Council - “Resistance mechanisms in populations of the Colorado potato beetle”. (Groves, R.L.), **\$55,000**

Midwest Food Processors Association, Raw Products Committee - “Neonicotinoid concentrations in succulent snap bean, sweet corn and peas following at-plant seed treatment applications”. (Groves, R.L.), **\$18,000**

USDA-NIFA-Foundational - “Mechanisms which govern the human pathogen – phytophagous insect interactions”, (J.D. Barak, and Groves, R.L.), **\$385,762**

Human Frontiers in Science Program (HFSP) – “Predictive modeling of the impact of vir genes on dispersal within pathogen-vector-host interactions.” (S. Hogenhout, R. Immink, A. Maree, H. Pospieszny and Groves, R.L.), **\$450,000**.

USDA SCRI, Specialty Crop Block Grants Program (SCBG) – “Neonicotinoid concentrations in succulent snap bean, sweet corn and peas following at-plant concentrations of neonicotinoid insecticides following seed treatment application.” (Groves, R.L.), **\$43,540**.

Wisconsin Soybean Marketing Board- “Biological components of the SVN pathosystem”. (Smith, D. and Groves, R.L.), \$66,949

WPVGA- “Base funding proposal for integrated pest management of insect pests in potato and vegetable production systems”, (Groves, R.L. and S.A. Chapman), \$20,000

WPVGA- “Characterization of the resistance mechanisms in select populations of the Colorado potato beetle”, (Groves, R.L.), \$12,000

WPVGA- “Integrated pest management of potato insect pests”, (Groves, R.L. and S.A. Chapman), \$5,000

2014

University of Wisconsin, Center for Integrated Agricultural Systems - “Identifying Potato Varieties with Increased Levels of Mature Plant Resistance against Potato Virus Y in Organic Seed Potato Production”, (C. Zhang and Groves, R.L.), \$5,000.

USDA SCRI, “Necrotic viruses of seed potato” – 2014, (Gray, S.M., Charkowski, A.O., DeJong, W. and Groves, R.L.), \$8,880,331

Wisconsin Soybean Marketing Board- “Biological components of the SVN pathosystem”. (Smith, D. and Groves, R.L.), \$73,234

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Ginseng)-“Pest management strategies to replace mancozeb and diazinon for ginseng growers by refining and amending pesticide use with reduced-risk options”—2014, (Hausbeck, M., Groves, R.L., J. Heil, K. Baumann, and P. Hsu), \$19,245

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Potato Irrigation)-“Refining pest management through drip irrigation delivery in potato”—2014, (Bussan, A.J., and Groves, R.L.), \$78,070

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Carrot Disease Management)-“Pest and Disease forecasting for onion and carrot”—2014, (Geuens, A.J., and Groves, R.L.), \$46,040

USDA-OREI, “Organic seed potato production” – 2014, (Genger, R., Charkowski, A.O., Groves, R.L. and Rouse, D.), \$541,172

USDA-NRCS-CIG, “Preserving water resources” – 2014, (Groves, R.L., M.D. Ruark), \$700,000

WPVGA- “Base funding proposal for integrated pest management of insect pests in potato and vegetable production systems”—2014, (Groves, R.L. and S.A. Chapman), \$20,000

WPVGA- “Monitoring the migrations of the potato psyllid, *Bactericera cockerelli*”—2014, (Groves, R.L. and S. A. Chapman), \$12,000

2013

NSF Ecology of Infectious diseases, “Modeling transmission dynamics of Potato virus Y” - (A. Power, L.R Jones, R. L. Groves and S. M. Gray), \$1,885,432

FY13 State Cooperative, “Managing resistant Colorado potato beetles”-2012-2014, National Potato Council, (Z. Szendrei, T. Kuhar, S. Jansky, and Groves, R.L.), \$108,000

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Ginseng)-“Pest management strategies to replace mancozeb and diazinon for ginseng growers by refining and amending pesticide use with reduced-risk options”—2013, (Hausbeck, M., Groves, R.L., J. Heil, K. Baumann, and P. Hsu), **\$54,559**

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Potato Irrigation)-“Refining pest management through drip irrigation delivery in potato”—2013, (Bussan, A.J., and Groves, R.L.), **\$39,075**

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Carrot Disease Management)-“Pest and Disease forecasting for onion and carrot”—2013, (Geuens, A.J., and Groves, R.L.), **\$46,040**

USDA-OREI, “Organic seed potato production” – 2013, (Genger, R., Charkowski, A.O., Groves, R.L. and Rouse, D.), **\$541,172**

USDA-NRCS-CIG, “Preserving water resources” – 2013, (Groves, R.L., M.D. Ruark), **\$700,000**

WPVGA- “Base funding proposal for integrated pest management of insect pests in potato and vegetable production systems”—2013, (Groves, R.L. and S.A. Chapman), **\$20,000**

WPVGA- “Monitoring the migrations of the potato psyllid, *Bactericera cockerelli*”—2013, (Groves, R.L. and S. A. Chapman), **\$12,000**

2012

USDA-SBIR- “LEDs to disrupt insect/ host recognition”—2012, (Groves, R.L. and R. Morrow), **\$88,000**

Ceres Foundation- “Organic seed potato production and participatory breeding”—2012, (Charkowski, A.O., R. Genger, Groves, R.L. and S. Jansky), **\$59,950**

USDA-SCRI, Wisconsin Specialty Crop Block Grant (Ginseng)-“Pest management strategies to replace mancozeb and diazinon for ginseng growers by refining and amending pesticide use with reduced-risk options”—2012, (Hausbeck, M., Groves, R.L., J. Heil, K. Baumann, and P. Hsu), **\$70,336**

WPVGA- “Base funding proposal for integrated pest management of insect pests in potato and vegetable production systems”—2012, (Groves, R.L. and S.A. Chapman), **\$20,000**

WPVGA- “Salmonella and pathogenic *E. coli* persistence in the potato wash line”—2012, (Barak, J. and Groves, R.L.), **\$12,000**

2011

USDA-ARS – “Understanding and managing neonicotinoid resistance”—2011, (Groves, R.L.), **\$25,722**

Midwest Food Processors Association – “Novel insecticides delivered using multiple approaches to control European corn borer in snap bean”—2011, (Groves, R.L.), **\$9,866**

Wisconsin Potato & Vegetable Growers Association – “Wisconsin muck potato research” — 2011, (Bussan, A.J., B.D. Bowen, J.B. Colquhoun, and Groves, R.L.), **\$12,000**

Industry Research Gift Funds – Unrestricted gift funds — 2011, (Groves, R.L. and S.A. Chapman), **\$93,100**

2010

Ginseng Board of Wisconsin. – “Pest management strategies to replace mancozeb and diazinon for ginseng growers by refining and amending pesticide use with reduced-risk options” —2010, (Groves, R.L.), **\$32,872**

Xerces Society – “Develop and test pollinator habitat”—2010, (Miller, M., C. Gratton, R. Hirsch, and **R. Groves**), **\$32,928**

FY10 State Cooperative Potato Research Program National Potato Council – “Identification and characterization of new sources of resistance to PVY”—2010, (Groves, R.L., A.O. Charkowski, D. Halterman, and S. Jansky), **\$108,446**

FY10 State Cooperative Potato Research Program National Potato Council – “Understanding and managing imidacloprid and thiamethoxam resistance in the Colorado potato beetle (*Leptinotarsa decemlineata*)”—2010, (Dickens, R., E. Grafius, T. Kuhar, and Groves, R.L.), **\$25,024**

NCR-SARE – “Improved scouting procedures and deployment of physical control tactics for Colorado potato beetle in Wisconsin potato production”—2010, (Groves, R.L.), **\$9,742**

Midwest Food Processors Association – “Novel insecticides delivered using multiple approaches to control European corn borer in snap bean”—2010, (Groves, R.L.), **\$9,866**

Industry Research Gift Funds – Unrestricted gift funds — 2010, (Groves, R.L. and S.A. Chapman), **\$128,787.50**

2009

USDA-CREES SCRI – “Development of comprehensive strategies to manage Potato virus Y in potato and eradicate the tuber necrotic variants recently introduced into the United States”—2009-2012, (Gray, S.M., Charkowski, A.O., Groves, R.L., Karasev, A., Alvarez, J., Hutchinson, P., Nolte, P.), **\$2,426,174**

USDA-CRESS OREI – “Organic production of certified seed potatoes in the Midwest – Increasing access and diversity”—2009-2012, (Genger, R., Charkowski, A.O., and Groves, R.L.), **\$541,172**

USDA-CRESS PMAP – “Integration of reduced fertility and selective insecticides to advance onion thrips management in onion”—2009-2012, (Nault, B.A., Reiners, S., Hsu, C., Hoepting, C., and Groves, R.L.), **\$272,115**

Wisconsin Specialty Crop Block Grant – “Epidemiology of the aster yellows phytoplasma: factors affecting the spread and distribution of the pathogen in affected muck crops” — 2009-2012, (Groves, R.L., Bussan, A.J., Colquhoun, J.), **\$50,000**

FY09 State Cooperative Potato Research Program National Potato Council – “Identification and characterization of new sources of resistance to PVY”—2009-2011, (Groves, R.L., Charkowski, A.O., Halterman, D., and Jansky, S.), **\$103,530**

FY09 State Cooperative Potato Research Program National Potato Council –

“Understanding neonicotinoid insecticide resistance in the Colorado potato beetle”—2009-2011, (Dickens, R., Grafius, E., Kuhar, T., Groves, R.L.), **\$99,024**

Industry Research Gift Funds – “Commercial and fresh market vegetable insect management”—2009, (Groves, R.L. and S. A. Chapman), **\$147,750**

Greater Milwaukee Foundation – “Effect of landscape context and habitat improvements on native pollinators in Southern Wisconsin”—2009, (Gratton, C. and Groves, R.L.), **\$44,181**

Greater Milwaukee Foundation – “Bee Conservation in WI Agriculture”—2009, (Black, S., Mader, E., Gratton, C., Hirsch, R., Groves, R.L.), **\$44,181**

Wisconsin Potato Industry Board – “Overwintering habitats of the Colorado potato beetle”—2009, (Groves, R.L.), **\$23,500**

2008

EPA Region 5, American Farmland Trust – “Sustainable management solutions for the cucumber beetle - bacterial wilt pathosystem in Wisconsin” —2008-2010, (Groves, R.L.), **\$60,000**

University of Wisconsin, Madison – Unrestricted gift funds —2008, (Groves, R.L. and Chapman, S.A.), **\$84,570**

Wisconsin Potato and Vegetable Growers Association – “Integrated pest management of insect pests in potato and vegetable production systems” —2008, (Groves, R.L. and Chapman, S.A.), **\$20,000**

U.S. Small Business Administration, Small Business Innovative Research (SBIR) Grant – “Factors interacting with light to impact insect behavior” —2008, (Morrow, R., Peterson, W., and Groves, R.L.), **\$16,889**

Wisconsin Potato & Vegetable Growers Association – “Wisconsin Muck Potato Research” — 2008, (A.J. Bussan, J. Colquhoun, C. Kostichka, and Groves, R.L.), **\$12,000**

Wisconsin DATCP, Agric. Development, Diversification – “Feasibility study to evaluate the economic viability of curly (Savoy) spinach industry in Wisconsin”—2008, (Bussan, A.J., Colquhoun, J., Groves, R.L.), **\$12,000**

NCR-SARE, 2008 Graduate Student Grant Program – “Epidemiology of the aster yellows phytoplasma: the influence of non-crop hosts on geographic distribution and movement of the pathogen” —2008-2011 (Groves, R.L. and Frost, K. E.), **\$9,873**

Wisconsin Potato and Vegetable Growers Association – “Storability of Potato Virus Y infected tubers: interactions of different virus strains”—2008, (Groves, R.L., Charkowski, A.O., and Bussan, A.J.), **\$8,000**

Wisconsin Muck Farmers Association – “Developing a comprehensive onion thrips management strategy in Wisconsin” — 2008, (Groves, R.L. and S.A. Chapman), **\$2,250**

Wisconsin Mint Research Board – “Bud mite management in Wisconsin peppermint production” —2008, (Groves, R.L. and S.A. Chapman), **\$2,040**

2007

Hatch, McIntire-Stennis, & Animal Health Formula Funds (142-funds) – “Accurate identification of primary inoculum sources of Cucumber mosaic virus and Alfalfa mosaic virus; a focus on factors affecting pathogen distribution and movement” –2007-2011, (**Groves, R.L.**), **\$105,878**

University of Wisconsin—Madison – Unrestricted gift funds –2007, (**Groves, R.L.** and Chapman, S.A.), **\$113,098**

Pierce’s Disease Research Control Program – “Assessing the post-winter threat of glassy-winged sharpshooter populations” –2007, (Johnson, M.W., Lynn-Patterson, K., M. Sisterson, M., and **Groves, R.L.**), **\$42,737**

Wisconsin Potato Industry Board, Distinguished Graduate Fellowship -- “Overwintering habitats of the Colorado potato beetle, *Leptinotarsa decemlineata* (Say), in Wisconsin’s Central Sands Production Area” –2007, (Huseth, A.S. and **Groves, R.L.**), **\$32,590**

Wisconsin Potato and Vegetable Growers Association – “Integrated pest management of insect pests in potato and vegetable production systems” –2007, (**Groves, R.L.** and Chapman, S.A.), **\$20,000**

Wisconsin Potato and Vegetable Growers Association – “Storability of Potato Virus Y infected tubers: interactions of different virus strains” –2007, (**Groves, R.L.**, Charkowski, A.O., and Bussan, A.J.), **\$12,000**

Wisconsin Muck Farmers Association – “Development of an onion thrips management strategy and assessing the potential for the occurrence of Iris Yellow Spot Tospovirus in onion production areas of Wisconsin” –2007, (**Groves, R.L.** and Chapman, S.A.), **\$5,500**

Wisconsin Mint Research Board – “Bud mite management in Wisconsin peppermint production” –2007, (**Groves, R.L.** and Chapman, S.A.), **\$3,530**

2006

Wisconsin Alumni Research Foundation – Program start-up –2006-2010, (**Groves, R.L.**), **\$40,000**

Pierce’s Disease Research Grant Program – “Assessing the potential of forage alfalfa crops to serve as *Xylella fastidiosa*, primary inoculum sources in the San Joaquin Valley” –2006-2009, (**Groves, R.L.**, and Daane, K.), **\$150,182**

Almond Board of California – “Epidemiology of Almond Leaf Scorch Disease in the San Joaquin Valley of California” –2006, (Groves R.L., and Chen. J.), **\$29,900**

2005

University of California-DANR, Pierce’s Disease Research Grant Program – “Dispersal and movement of the glassy-winged sharpshooter and associated natural enemies in a continuous, deficit-irrigated agricultural landscape” –2005-2007, (**Groves, R.L.**, Johnson, M.W., Hagler, J.R., and Luck R.), **\$112,193**

Almond Board of California – “Epidemiology of Almond Leaf Scorch Disease in the San Joaquin Valley of California” –2005, (Groves, R.L. and Chen, J.), **\$41,400**

2004

California Department of Food and Agriculture – “Identifying key predators of the various GWSS lifestyles” –2004-2007, (Hagler, J. R., Henneberry, T., Daane, K., Fournier, V., de Leon, J., Groves, R., and Civerolo, E.), **\$172,050**

California Department of Food and Agriculture – “Spatial population dynamics and overwintering biology of the glassy-winged sharpshooter, *Homalodisca coagulata*, in California’s San Joaquin Valley” – 2004-2007, (Johnson, M., Groves, R., Daane, K., and Backus, E.), **\$162,283**

University of California-DANR, Pierce’s Disease Research Grant Program – “A novel immunological approach for quantifying predation rates on glassy-winged sharpshooter” – 2004-2006, (Hagler, J. R., Daane, K., Fournier, V., Groves, R., and Henneberry, T.), **\$161,354**

University of California-DANR, Pierce’s Disease Research Grant Program – “Quantifying landscape-scale movement patterns of glassy-winged sharpshooter and its natural enemies using a novel mark-capture technique” –2004-2006, (Hagler, J. R., Blackmer, J. L., Daane, K., Groves, R., and Henneberry, T.), **\$123,736**

University of California-DANR, Pierce’s Disease Research Grant Program – “Epidemiology of Pierce’s Disease in the Central San Joaquin Valley of California: Factors Affecting Pathogen Distribution and Dispersal” –2004, (Groves, R. L. and Chen, J.), **\$65,335**

Almond Board of California – “Epidemiology of Almond Leaf Scorch Disease in the San Joaquin Valley of California” – 2004, (Groves, R.L. and Chen, J.) **\$47,946**

1994-2003

University of California-DANR, Pierce’s Disease Research Grant Program – “Epidemiology of Pierce’s Disease in the Central San Joaquin Valley of California: Factors Affecting Pathogen Distribution and Dispersal” –2003, (Groves, R. L. and Chen, J.), **\$77,458**

National Potato Council, CSREES – “Genetic variation of Potato virus Y isolates in Maine and their differential ability to infect potato tubers” –2002, (Groves, R. L. and Gray, S. M.), **\$7,000**

National Potato Council, CSREES – “Knowledge of PVY movement into and distribution within potato tubers may improve accuracy and reliability of virus detection prior to a winter test” –2001, (Gray, S. M. and Groves, R. L.), **\$49,999**

Sandoz, Inc. – “Rate, formulation and ULV delivery testing of mosquito adulticides” –1996, (Meisch, M.V. and Groves, R. L.), **\$6,500**

AgroEvo Corporation – “Larvicide testing of *Bacillus thuringiensis* var. israelensis against floodwater mosquito species” –1995-1997, (Meisch, M.V. and Groves, R. L.), **\$7,500**

McLaughlin Gormley King – “Non-target effects of *Bacillus sphaericus* against *Daphnia* spp” –1994, (Meisch, M. V. and Groves, R. L.), **\$3,000**

American Cyanamid – “Efficacy and formulation testing of riceland mosquito adulticides” – 1994-1996, (**Groves, R.L.**, Meisch, M. V. and Dame D.), **\$26,050**

PUBLICATIONS (Refereed)

2016

Clements, J., Schoville, S., Peterson, N., Lan, Q. and **Groves, R.L.** 2015. Characterizing molecular mechanisms of imidacloprid resistance in select populations of *Leptinotarsa decemlineata* in the Central Sands region of Wisconsin. . PLoS ONE 11(1): e0147844. doi:10.1371/journal.pone.0147844.

2015

Dundore-Arias J.P., **Groves, R.L.** and Barak, J.D. 2015. Influence of prgH on the persistence of ingested *Salmonella enterica* in the leafhopper *Macrosteles quadrilineatus*. Appl. Environ. Microbiol., 81:6345–6354. doi:10.1128/AEM.01464-15.

Gratton, C., Casler, M., **Groves, R.L.** and Kim, T.N. 2015. Insecticide applications have minor effects on switchgrass biomass and yield. Agron. J. 107:2031–2037. doi:10.2134/agronj15.0066.

Lin, H., Islam, M., Cabrera-La Rosa, J.C., Civerolo, E.L. and **Groves, R.L.** 2015. Population structure of *Xylella fastidiosa* associated with almond leaf scorch disease in the San Joaquin Valley of California. Phytopathol. 105(6):825-832. <http://dx.doi.org/10.1094/PHYTO-09-14-0254-R>.

Huseth, A.S., **Groves, R.L.**, Chapman, S.A. and Nault, B.A. 2015. Evaluation of diamide insecticides co-applied with other agrochemicals at various times to manage *Ostrinia nubilalis* in processing snap bean. Pest Mgmt. Sci. 71(12):1649-1656. doi:10.1002/ps.3973.

Huseth, A.S., Peterson, J.D., Poveda, K., Szendrei, Z., Nault, B.A., Kennedy, G.G. and **Groves, R.L.** 2015. Spatial and temporal potato intensification drives insecticide resistance in the specialist herbivore, *Leptinotarsa decemlineata*. PLoS ONE 10(6):1-17. doi:10.1371/journal.pone.0127576.

Bloomingtondale, C., Bradley, C., Chilvers, M., Giesler, L., **Groves, R.L.**, Mueller, D., Smith, D., Tenuta, A. and Wise, K. 2015. Soybean Vein Necrosis Virus – Soybean Disease Management. Crop Protection Network. (CPN-1003), pp.1-7.

2014

Huseth, A.S., **Groves, R.L.**, Chapman, S.A., Alyokhin, A., Kuhar, T.P., McRae, I.V., Szendrei, Z. and Nault, B.A. 2014. Managing Colorado Potato Beetle Insecticide Resistance: New Tools and Strategies for the Next Decade of Pest Control in Potato. J. Integ. Pest Mgmt. 5(4):<http://dx.doi.org/10.1603/IPM14009>.

Soto-Arias, J. P., **Groves, R.L.** and Barak, J.D. 2014. Transmission and Retention of *Salmonella enterica* by Phytophagous Hemipteran Insects. Appl. Environ. Microbiol. 80(17):5447-5456. <http://doi:10.1128/AEM.01444-14>.

Nouri S., Arevalo, R., Falk, B.W., and **Groves R.L.** 2014. Genetic Structure and Molecular Variability of Cucumber mosaic virus isolates in the United States. PLoS ONE 9(5): e96582. <http://doi:10.1371/journal.pone.0096582>.

Huseth A.S. and **Groves, R.L.** 2014. Environmental Fate of Soil Applied Neonicotinoid Insecticides in an Irrigated Potato Agroecosystem. PLoS ONE 9(5): e97081. <http://doi:10.1371/journal.pone.0097081>.

Soto-Arias, J.P., **Groves, R.L.**, Barak, J.D. 2014. Interaction of Phytophagous Insects with *Salmonella enterica* on Plants and Enhanced Persistence of the Pathogen with *Macrostelus quadrilineatus* Infestation or *Frankliniella occidentalis* Feeding. PLoS ONE, doi: 10.1371/journal.pone.0079404.

Huseth, A.S., Lindholm, J., Groves, C.L., and **Groves, R.L.** 2014. Variable concentration of soil-applied insecticides in potato over time: implications for management of *Leptinotarsa decemlineata*. Pest Mgmt. Sci. 70:1863-1871.

Damon, S.J., **Groves, R.L.** and Havey, M.J. 2014. Variation for epicuticular waxes on onion foliage and impacts on numbers of onion thrips. J. Amer. Soc. Hort. Sci., 139(4):495–501.

2013

Huseth, A. S. and **Groves, R.L.** 2013. Effect of Insecticide Management History on Emergence Phenology and Neonicotinoid Resistance in *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). J. Econ. Entomol. 106:2267-2684.

Frost, K. E., Esker, P. D., Van Haren, R., Kotolski, L., **Groves, R.L.** 2013. Factors Influencing Aster Leafhopper (Hemiptera: Cicadellidae) Abundance and Aster Yellows Phytoplasma Infectivity in Wisconsin Carrot Fields. Environ. Entomol. 42: 477-490.

Frost, K. E., Esker, P. D., Van Haren, R., Kotolski, L., **Groves, R.L.** 2013. Seasonal Patterns of Aster Leafhopper (Hemiptera: Cicadellidae) Abundance and Aster Yellows Phytoplasma Infectivity in Wisconsin Carrot Fields. Environ. Entomol. 42:491-502.

Frost, K. E., Charkowski, A.O., **Groves, R.L.** 2013. Integrated Control of Potato Pathogens Through Seed Potato Certification and Provision of Clean Seed Potatoes. Plant Dis. 97:1268-1280.

Hagler, J.R., Blackmer, F., Krugner, R., **Groves, R.L.**, Morse, J.G., and Johnson, M.W. 2013. Gut content examination of the citrus predator assemblage for the presence of *Homalodisca vitripennis* remains. Biocontrol 58:341-349.

Soto-Arias, J.P., **Groves, R.L.**, Barak, J.D. 2013. Interaction of Phytophagous Insects with *Salmonella enterica* on Plants and Enhanced Persistence of the Pathogen with *Macrostelus quadrilineatus* Infestation or *Frankliniella occidentalis* Feeding. PLoS One, DOI: 10.1371/journal.pone.0079404

2012

Sisterson, M., K. Daane, C. Ledbetter, B. Higbee, J. Chen, and **Groves, R.L.** 2012. Management of almond leaf scorch disease: long term data on yield, tree vitality, and disease progress. *Plant Dis.* 96.

Lowenstein, D.M., A.S. Huseeth, and **Groves, R.L.** 2012. Response of wild bees (Hymenoptera: Apoidea: Anthophila) to surrounding land cover in Wisconsin pickling cucumber. *Environ. Entomol.* 41.

Mueller, E.E., **Groves, R.L.**, and C. Gratton. 2012. Crop and non-crop plants as potential reservoir hosts for alfalfa mosaic virus and cucumber mosaic virus for spread to succulent snap bean, *Phaseolus vulgaris*. *Plant Dis.* 96.

2011

Frost, K.E., D.K. Willis, and **R.L. Groves**. 2011. Variation in aster yellows phytoplasma (*Candidatus Phytoplasma asteris*) titer in its insect vector, *Macrosteles quadrilineatus*. *J. Econ. Entomol.* 104:1800-1815.

Nouri, S., B.W. Falk, **R.L. Groves**. 2011. A new satellite RNA is associated with natural infections of cucumber mosaic virus in succulent snap bean. *Arch. Virol.* 157(2):375-377.

Del Pilar Marquez-Villavicencio, M., **R.L. Groves**, and A.O. Charkowski. 2011. Soft rot disease severity is affected by potato physiology and *Pectobacterium taxa*. *Plant Dis.* 95: 232-241.

2010

Son, Y., **R.L. Groves**, K.M. Daane, D.J.W. Morgan, **R. Krugner**, and M.W. Johnson. 2010. Estimation of feeding threshold for *Homalodisca vitripennis* (Hemiptera: Cicadellidae) and its application to prediction of overwintering mortality. *Environ. Entomol.* 39:1264-1275.

Sisterson, M.S., **R.L. Groves**, S.R. Thammiraju, K. Lynn-Patterson, and K.M. Daane. 2010. Epidemiology of diseases caused by *Xylella fastidiosa* in California: evaluation of alfalfa as a source of vectors and inocula. *Plant Dis.* 94:827-834.

Sisterson, M.S., Thammiraju, S.R., Lynn-Patterson, K., **R.L. Groves**, and K.M. Daane. 2010. Epidemiology of diseases caused by *Xylella fastidiosa* in California: evaluation of alfalfa as a source of vectors and inocula. *Plant. Dis.* 94(7): 827-834.

Son, Y., **R.L. Groves**, K.M. Daane, D.J.W. Morgan, **R. Krugner**, and M.W. Johnson. 2010. Estimation of feeding threshold for *Homalodisca vitripennis* (Hemiptera: Cicadellidae) and its application to prediction of overwintering mortality. *Environ. Entomol.* 39(4):1264-1275.

Morsello, S.C., A.L.P. Beaudoin, **R.L. Groves**, B.A. Nault, and G.G. Kennedy. 2010. The influence of temperature and precipitation on spring dispersal of *Frankliniella fusca* changes as the season progresses. *Entomologia Experimentalis et Applicata* 134:260-271.

2009

Son, Y., **Groves, R.L.**, Daane, K.M., Morgan, D.J.W., Johnson, M.W. 2009. Influences of temperature on *Homalodisca vitripennis* (Hemiptera: Cicadellidae) survival under various feeding conditions. *Environmental Entomology.* 38:1485-1495.

Ledbetter, C.A., Chen, J., Livingston, S., **Groves, R.L.** 2009. Winter curing of *Prunus dulcis* cv 'Butte,' *P. webbii* and their interspecific hybrid in response to *Xylella fastidiosa* infections. *Euphytica*. 169:113-122.

Krugner, R., **Groves, R.L.**, Johnson, M.W., Flores, A.P., Hagler, J.R., Morse, J.G. 2009. Seasonal population dynamics of *Homalodisca vitripennis* (Hemiptera: Cicadellidae) in sweet orange trees maintained under continuous deficit irrigation. *J. Econ. Entomol.* 102:960-973.

2008

Fournier, V., Hagler, J., Daane, K., de León, J., and **Groves, R.L.** 2008. Identifying the predator complex of *Homalodisca vitripennis* (Hemiptera: Cicadellidae): a comparative study of the efficacy of an ELISA and PCR gut content assay. *Oecologia* 157:629-640.

Nadel, H., Seligmann, R., Johnson, M.W., Hagler, J.R., Stenger, D.C., and **Groves, R.L.** 2008. Effects of Citrus and Avocado Irrigation and Nitrogen-Form Soil Amendment on Host Selection by Adult *Homalodisca vitripennis* (Hemiptera: Cicadellidae). *Environ. Entomol.* 37:787-795.

Cabrera-La Rosa, J.C., Johnson, M.W., Civerolo, E.L.; Chen, J., and **Groves, R.L.** 2008. Seasonal Population Dynamics of *Draeculacephala minerva* (Hemiptera: Cicadellidae) and Transmission of *Xylella fastidiosa*. *J. Econ. Entomol.* 101:1105-1113.

Sisterson, M.S., Yacoub, R., Montez, G., Grafton-Cardwell, E.E., and **Groves, R.L.** 2008. Distribution and Management of Citrus in California: Implications for Management of Glassy-Winged Sharpshooter. *J. Econ. Entomol.* 101:1041-1050.

Morsello, S.C., **Groves, R.L.**, Nault, B.A., and Kennedy, G.G. 2008. Temperature and precipitation affect seasonal patterns of dispersing tobacco thrips, *Frankliniella fusca*, and onion thrips, *Thrips tabaci* (Thysanoptera: Thripidae) caught on sticky traps. *Environ. Entomol.* 37:79-86.

2007

Sisterson, M.S., Civerolo, E.L., Chen, J.C., Ledbetter, C.G. and **Groves, R.L.** 2007. Effects of almond leaf scorch disease on almond yield; implications for management. *Plant Dis.* 92:409-414.

Fritschi, F.B., Cabrera-LaRosa, J.C., Johnson, M.W., Lin, H., and **Groves, R.L.** 2007. Behavioral Traits of *Homalodisca vitripennis* (Hemiptera: Auchenorrhyncha: Cicadellidae) on Four *Vitis* Genotypes. *Environ. Entomol.* 36:926-937.

Krugner, R. Johnson, M.W., **Groves, R.L.**, and Morse, J.G. 2007. Host Specificity of *Anagrus epos*: A Potential Biological Control Agent of *Homalodisca vitripennis*. *Biocontrol* 53:439-449.

Chen, J., **Groves, R.L.**, Zheng, Y., Civerolo, E., Viveros, M., and Freeman, M. 2007. Colony morphology of *Xylella fastidiosa* almond leaf scorch strains. *Can. J. Plant Pathol.* 29:225-231.

Chen, J., **Groves, R.L.**, Zheng, Y., Civerolo, E., Viveros, M., and Freeman, M. 2007. Surface motility of *Xylella fastidiosa* visualized by oblique illumination. *Can J. Micro.* 53:435-439.

2006

Fournier, V., Hagler, J., Daane, K., **Groves, R.**, de Leon, J., Costa, H., and Henneberry, T. 2006. Development and application of a glassy-winged and smoke-tree sharpshooter egg-specific predator gut content ELISA. *Biological Control* 37:108-118.

2005

Chen, J., **Groves, R.**, Civerolo, E.L., Viveros, M., Freeman, M., and Zheng, Y. 2005. Two *Xylella fastidiosa* genotypes associated with almond leaf scorch disease on the same location in California. *Phytopathology* 95:708-714.

Groves, R.L., J. I. Chen, E. L. Civerolo, M. W. Freeman, and M. A. Viveros. 2005. Spatial analysis of almond leaf scorch disease in the San Joaquin Valley of California: factors affecting pathogen distribution and spread. *Plant Dis.* 89:581-589.

2003

Nault, B. A., J. Speese III, D. Jolly and **R.L. Groves**. 2003. Seasonal patterns of adult thrips dispersal and implications for management in eastern Virginia tomato fields. *Crop Prot.* 22:505-512.

Groves, R.L., J. F. Walgenbach, J. W. Moyer and G. G. Kennedy. 2003. Seasonal dispersal patterns of *Frankliniella fusca* (Thysanoptera: Thripidae) and tomato spotted wilt virus occurrence in central and eastern North Carolina. *J. Econ. Entomol.* 96:1-11.

2002

Groves, R.L., J. F. Walgenbach, J. W. Moyer and G. G. Kennedy. 2002. The role of weed hosts and tobacco thrips, *Frankliniella fusca*, in the epidemiology of Tomato spotted wilt virus. *Plant Dis.* 86:573-582.

2001

Faircloth, J. C., J. R. Bradley, Jr., J. W. Van Duyn, and **R.L. Groves**. 2001. Reproductive success and damage potential of tobacco thrips and western flower thrips on cotton seedlings in a greenhouse environment. *J. Agric. Urban Entomol.* 18:179-185.

Groves, R.L., J. F. Walgenbach, J. W. Moyer and G. G. Kennedy. 2001. Overwintering of *Frankliniella fusca* Hinds (Thysanoptera: Thripidae) on winter annual weeds infected with Tomato spotted wilt virus and patterns of movement of TSWV into susceptible hosts. *Phytopathology* 91:891-899.

Groves, R.L., C. E. Sorenson, J. F. Walgenbach and G. G. Kennedy. 2001. Effects of imidacloprid on transmission of tomato spotted wilt tospovirus to pepper, tomato and tobacco by *Frankliniella fusca* Hinds (Thysanoptera: Thripidae). *Crop Prot.* 20:439-445.

1995-1998

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Groves, R.L., and M. V. Meisch. 1996. Laboratory and field plot bioassay of *Bacillus sphaericus* against Arkansas mosquito species. J. Amer. Mosq. Control. 12(2):220-224.

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Groves, R.L., J. C. McAllister, C. L. Meek and M. V. Meisch. 1994. Evaluation of aerial and ground-applied adulticides against mosquito species in Arkansas and Louisiana. J. Amer. Mosq. Control Assoc. 10(3):407-412

Books and Book Chapters

Bussan, A., Knutson, D., Colquhoun, J., Binning, L., Jansky, S., Jiang, J., Mitchell, P., Stevenson, W., **Groves, R.**, Wyman, J., Ruark, M., and Kelling, K. 2012. A Case Study of Healthy Grown Potatoes and Sustainability in Wisconsin Potato Production. In: The Role of Biotechnology in a Sustainable Food Supply, (eds. J.S Popp, M. Jahn, M. Matlock, N. Kemper), Cambridge International Press, pps.192-207.

OTHER PUBLICATIONS (Non-refereed)

Technical Abstracts

2015

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Dundore-Arias, J.P., **Groves, R.L.** and Barak, J.D. 2015. Presence of *Salmonella enterica* in the alimentary canal of *Macrosteles quadrilineatus*, and role of prgH in persistence of the ingested bacteria. In Proceedings of the 2015 American Phytopathological Society of America, Annual Meeting Abstracts, Phytopathology 105(11):S4.39.

Genger, R.K., Rouse, D.I., **Groves, R.L.** and Charkowski, A.O. 2015. Improving the health and productivity of organic potato crops through participatory research. In Proceedings of the 2015 American Phytopathological Society of America, Annual Meeting Abstracts, Phytopathology 105(11):S4.68.

Groves, R.L. and Chapman, S.A. 2015. Insecticide resistance management fundamentals. In Proceedings of the 2015 University of Wisconsin - Wisconsin Potato and Vegetable Growers, Grower Education Conference, UW- Madison College of Agriculture and Life Sciences, Research Division and UWEX, Feb. 3-5, Steven's Point, WI, 22:2pps.

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Groves, R.L. and Prince, K.J. 2015. Neonicotinoid detection levels in processing vegetables. In Proceedings of the 2015 Midwest Food Processors Association Annual Meeting, Processing Crops Conference Abstracts, December 2-3, KI Convention Center, Green Bay, WI. 111: (<http://www.mwfpaconvention.org/#!/blank/p7zfa>).

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Frost, K.E., Gevens, A.J. and **Groves, R.L.** 2015. Web-based pest and disease forecasting tool for enhanced processing vegetable crop management. In Proceedings of the 2015 Wisconsin Crop Management Conference Abstracts, January, 13-15, Alliant Energy Center, Madison, WI.

Groves, R.L., Frost, K.E. and Huseeth, A.S. 2015. Modeling Potato virus Y incidence in seed potato production using grower-driven data and landscape analyses. In Proceedings of the 2015 AFRI NIFA Sponsored Workshop: Enhancing Risk Index-Driven Decision Tools for Managing Insect Transmitted Plant Pathogens, Conference Abstracts, May 14-16, Asilomar Conference Grounds, Pacific Grove, CA. (<http://ucanr.edu/sites/tospo/>).

Groves, R.L., Bloomingdale, C. and Smith, D. 2015. Seasonal Occurrence of Thrips Species Prevalent in Soybean and the Economic Impact of Soybean Vein Necrosis Virus in Wisconsin. In Proceedings of the 2015 Xth International Symposium on Thysanoptera and Tospoviruses, May 16-20, Asilomar Conference Grounds, Pacific Grove, CA. (<http://ucanr.edu/sites/ISTT10/files/199026.pdf>).

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Conference Proceedings

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2014

ESA Program Symposium, Agricultural Intensification and Insect Communities: Production Trade-Off Challenges with 9 Billion on the Horizon, "Insecticide resistance in a specialist herbivore shows a hidden cost of agricultural intensification", Huseeth, A.S., Petersen, J.D., Poveda, K., Szendrei, Z., Nault, B.A., Kennedy, G.G. and **Groves, R.L.** University of Wisconsin, ESA Annual Meeting, Portland, OR, November 16, 2014.

ESA Section Symposium, Effects of Cropping System Landscapes on the Ecology and Management of Insect Vectors and Transmitted Pathogens, "Influence of regional landscapes on Potato virus Y incidence in seed potato", **Groves, R.L.**, E.J. Duerr, A.O. Charkowski, A.B. Crockford, and A.S. Huseeth. University of Wisconsin, ESA Annual Meeting, Portland, OR, November 18, 2014.

ESA Graduate Student TMP Competition, “Molecular mechanisms of imidacloprid resistance in Colorado potato beetles (*Leptinotarsa decemlineata*) in the Central Sands region of Wisconsin”, J. Clements and **Groves, R.L.** University of Wisconsin, ESA Annual Meeting, Portland, OR, November 17, 2014.

ESA Graduate Student TMP Competition, “Spatial variation in thiamethoxam detections in groundwater resources in Wisconsin's Central Sands vegetable production region”, B. Bradford and **Groves, R.L.** University of Wisconsin, ESA Annual Meeting, Portland, OR, November 17, 2014.

ESA PI-E Section, Ten minute paper, “Monitoring thrips populations and soybean vein necrosis virus (SVNV) in Wisconsin soybean”, C. Bloomingdale, **Groves, R.L.**, and D. Smith. University of Wisconsin, ESA Annual Meeting, Portland, OR, November 17, 2014.

Oral Technical Session, Ecology and Epidemiology – “Phytophagous hemipterans as vectors of *Salmonella enterica*.” J.P. Soto-Arias, **Groves, R.L.** and J. Barak. APS National Meeting, 9-13 August 2014, Minneapolis, MN.

Special Session - What's App? Using Apps and Technology in Integrated Plant Disease Management Programming, “Integrating grower-driven and publically held data for improved plant protection.” **Groves, R.L.**, K.E. Frost and A.S. Huseh. APS National Meeting, 9-13 August 2014, Minneapolis, MN.

Poster Session - Ecology and Epidemiology - Cropping Systems / Sustainability, “Participatory evaluation of potato varieties on organic farms: opportunities for education and research.” R.K. Genger, D.I. Rouse, **Groves, R.L.**, S.H. Jansky, and A.O. Charkowski. APS National Meeting, 9-13 August 2014, Minneapolis, MN.

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German, T.L. and **Groves, R.L.** 2014. New directions in pest management. *In* Proceedings of the 2014 University of Wisconsin - Wisconsin Potato and Vegetable Growers, Grower Education Conference, UW- Madison College of Agriculture and Life Sciences, Research Division and UWEX, Feb. 4-6, Steven's Point, WI, 27:3pps.

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Newsletters and Trade Journals

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Dundore-Arias, J.P., Barak, J.D. and **Groves, R.L.** 2015. Badger CommonTater magazine, The Badger Beat, "A New Twist on Controlling Insects – Limiting Food-borne Pathogens. March 2014 Issue.

Wisconsin Crop Manager / Vegetable Newsletters:

The Wisconsin Crop Manager, Vegetable Crop Update newsletters provide timely crop and pest management information for potato and vegetable growers, Extension agents, and consultants in Wisconsin, regionally and nationally. The newsletter is published online at the University of Wisconsin-Madison Integrated Pest and Crop Management (IPCM) and at the University of Wisconsin-Madison Vegetable Entomology web portals that provide information for Wisconsin's agricultural community from the UW plant sciences outreach programs (<http://ipcm.wisc.edu>) and (<http://www.plantpath.wisc.edu/wivegdis/>).

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Groves, R.L. 2007. The Badger Beat, Pest management planning for the future: an emphasis on resistance management. The Badger CommonTater 59 (3):10-12.

Other Media

UW-Madison Vegetable Entomology website (<http://labs.russell.wisc.edu/vegento/>). Russ Groves hosts this website which provides primary web presence of the Potato and Vegetable Entomology research and extension program to stakeholders.

UW-Vegetable Production Team Website (<http://vegetables.wisc.edu/>). Team members regularly contribute UWEX Vegetable Crop Updates newsletters to this site, in addition to other Vegetable Pathology, Entomology, Horticulture, Soil Science, and Organic production content. Website is maintained by Eileen Nelson, Outreach Specialist to UWEX Vegetable Production Team.

The University of Wisconsin Potato & Vegetable Pathology Facebook page was established on July 2, 2013. Archived monthly statistics are unavailable from establishment to current. However, typical weekly statistics are available and yielded 182 “likes”, 100 “reaches”, and 20 people “engaged” in the content during the week from 10 Aug to 17 Aug 2015.

Groves, R.L. 2013. Plant Management Network Educational Module, “Rotating New Chemistries in Potato Pest Management”. July 2013, Invited Speaker, <http://www.plantmanagementnetwork.org/edcenter/seminars/potato/PestManagement/>.

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Groves, R.L. and M.F. Holm. 2011. Pest Management Solutions for Resistant CPB. R.D. Offutt Corporation and DuPont Crop Protection, Plankinton, SD. October, 2011. (Webinar)

Groves, R.L., C. Sheppard, C. Baer, and M.F. Holm. 2011. Maintaining the Effectiveness of the Neonicotinoid Insecticides. Frito Lay North America and DuPont Crop Protection, Rhinelander, WI. December 2011. (Webinar)

Groves, R.L. 2010. “Advanced Insect Pest Management”, Wisconsin Potato and Vegetable Growers Association, Project: Into The Outdoor Series, Amy Wallace Producer, Discover Mediaworks, Inc., filmed 14 September 2010. “Tater Tales” episode aired January 15-16, 2011.

Groves, R.L. 2009. “Treatment Window Series: Building a Treatment Window for Potatoes; Colorado potato beetle and potato leafhopper”. American Vegetable Grower Magazine, Insect Control Channel, (<http://growingproduce.com/gptv/index.php?vid=85>), Invited Session Speaker.

Invited Presentations

2015

Groves, R.L. 2015. Potato Exposition. Seed Sector Breakout Session. “PVY and Other Emerging Viruses: Best Management Practices to Minimize Virus Levels in Seed Crops”. January 7, Orlando, FL. Invited Speaker.

Groves, R.L., Frost, K.E., Charkowski, A.O., Duerr, E.J., Crockford, A.B. and Huseh, A.S. 2015. Wisconsin Seed Potato Industry Association. “Influence of regional landscapes on Potato virus Y incidence in seed potato”. January 28, Antigo, WI. Invited Speaker.

Groves, R.L. 2015. Michigan Potato Industry Commission. “Controlling Potato virus Y through Aphid Management”. February 10, Bellaire, MI. Invited Speaker.

Groves, R.L. 2015. Michael Fields Institute, “Vegetable insect pest management”. February 19, East Troy, WI. Invited Speaker.

Groves, R.L., Frost, K.E. and Huseh, A.S. 2015. “Modeling Potato virus Y incidence in seed potato production using grower-driven data and landscape analyses”. 2015 AFRI NIFA Sponsored Workshop: Enhancing Risk Index-Driven Decision Tools for Managing Insect Transmitted Plant Pathogens, May 14-16, Asilomar Conference Grounds, Pacific Grove, CA.

Groves, R.L., Bloomingdale, C. and Smith, D. 2015. “Seasonal Occurrence of Thrips Species Prevalent in Soybean and the Economic Impact of Soybean Vein Necrosis Virus in Wisconsin”. Xth International Symposium on Thysanoptera and Tospoviruses, May 16-20, Asilomar Conference Grounds, Pacific Grove, CA.

Groves, R.L., Frost, K.E., Charkowski, A.O., Duerr, E.J., Crockford, A.B. and Huseh, A.S. 2015. University of Minnesota, Department of Entomology Seminar Series. “Producer-Driven and Publically Held Data – Solutions for Management of Potato virus Y”. September 29, Saint Paul, WI. Invited Speaker.

Groves, R.L., Frost, K.E., Charkowski, A.O., Duerr, E.J., Crockford, A.B. and Huseh, A.S. 2015. Molecular and Environmental Toxicology Center “Producer-Driven and Publically Held Data Can Reveal IPM Solutions in Agriculture”. October 15, Madison, WI. Invited Speaker.

Groves, R.L. 2015. Wednesday Night at the Lab, “Insect Pest Management in Wisconsin’s Specialty Crops – Environmental Impacts”. October 28, Madison, WI. Invited Speaker.

2014

Groves, R.L., K. E. Frost, E.J. Duerr, D. Voegtlin, and S.M. Gray. 2014. Potato Exposition. Predicting Aphid Vector Flights: Implications for Timely Management of Potato virus Y, January 7, San Antonio, TX. Invited Speaker.

Groves, R.L. 2014. Frito Lay North America, Seed Seminar, “*Aphid Modeling: and Management of Potato virus Y*”. February 18, FLNA Headquarters, Plano, TX. *Invited Speaker.*

Groves, R.L. 2014. Organic Valley Produce Pool Annual Pest Management Seminar, “*Organic Insect Pest Management*”. April 9, LaFarge, WI. *Invited Speaker.*

Groves, R.L. 2014. Colorado Potato Seed Producers, “*Managing Spread of Potato virus Y: A Wisconsin Perspective*”. June 9, Colorado Seed Potato Certification, Alamosa, CO. *Invited Speaker.*

Groves, R.L. and K.E. Frost. 2014. Entomology Colloquium Series Speaker, “*Using Grower-Driven and Publically Held Data to Resolve IPM Issues in Vector-Borne Diseases of Plants*”. October 3, Entomology Department, University of Wisconsin, Madison, WI. *Invited Speaker.*

Groves, R.L. and A.S. Huseth. 2014. Monsanto Corporation, Colloquium Series. “*Insect Resistance Management—the Road to Resistance is Paved with Good Intentions*”, October 9, Chesterfield Research Center, Chesterfield, MO. *Invited Speaker.*

Groves, R.L. 2014. Iowa State University, Harold Gunderson Memorial Lecture. “*Data can Resolve IPM Problems in Agriculture*”, November 3, Ames, IA. *Invited Speaker.*

2013

Groves, R.L. 2013. 36th International Carrot Conference, “*Integrated Pest Management and Insect Control in Wisconsin Carrot*”. August 15, Monona Conference Center, Madison, WI. *Invited Speaker.*

Groves, R.L. 2013. Great Lakes Fruit and Vegetable Exposition. “*Incorporating Reduced-Risk Insecticides into Carrot Pest Management*”, December 11, Amway Convention Center, Grand Rapids, MI. *Invited Speaker.*

Groves, R.L. 2013. Great Lakes Fruit and Vegetable Exposition. “*Insecticide Rotation Options for the Control of Resistant Colorado Potato Beetles*”, December 10, Amway Convention Center, Grand Rapids, MI. *Invited Speaker.*

Groves, R.L. 2013. Manitoba Potato Production Days, “*Understanding the migration and control of the aster leafhopper*”. January 23, Manitoba Convention Center, Brandon, MB. *Invited Speaker.*

Groves, R.L. 2013. Manitoba Potato Production Days, “*Novel strains of Potato virus Y: A new plague for seed and commercial growers*”. January 23, Manitoba Convention Center, Brandon, MB. *Invited Speaker.*

Groves, R.L. 2013. Montana Seed Potato Seminar, “*Integrated pest management in potato: PVY, CPB, and Psyllids*”. February 5, Bozeman Convention Center. Bozeman, MT. *Invited Speaker.*

Groves, R.L. 2013. Wisconsin Natural Resources Conservation Service – Central Wisconsin Water Management Seminar, “*Land use changes in the Central Sands, 2002-2013*”. February 12, Hancock Agricultural Experiment Station. *Invited Speaker.*

Groves, R.L. 2013. Organic Valley Produce Pool Annual Pest Management Seminar, “*Insect Pest Priorities for 2013*”. March 4, LaFarge, WI. *Invited Speaker.*

Groves, R.L. 2013. Plant Management Network Educational Module, “*Rotating New Chemistries in Potato Pest Management*”. July 2013, *Invited Speaker,*
<http://www.plantmanagementnetwork.org/edcenter/seminars/potato/PestManagement/>.

Groves, R.L. 2013. Syngenta Agronomy Associates, Educational Training Program. “Potato IPM – an IRM update” Syngenta Midwest Regional Center, March 25, Minneapolis, MN. *Invited Speaker.*

Groves, R.L. 2013. Potato Pest Management Updates. 2013 RD Offutt Agronomy Meeting, March 29, Park Rapids, MN. *Invited Speaker.*

2012

Groves, R.L. 2012. Potato virus Y research project. 2012 Potato Expo, Jan. 5, Orlando, FL. *Invited Speaker.*

Groves, R.L. 2012. Drip irrigation delivery of water-soluble insecticides: increasing our application options. Illinois Specialty Crops, Agritourism and Organic Conference, Jan. 12, Springfield, IL. *Invited Speaker.*

Groves, R.L. 2012. Using novel insecticides: pest spectrum and delivery options. Illinois Specialty Crops, Agritourism and Organic Conference, Jan. 12, Springfield, IL. *Invited Speaker.*

Groves, R.L. 2012. Modeling aphid flights for accurate timing of PVY management. 27th Annual Maine Potato Conference, Jan. 19, Caribou, ME. *Invited Speaker.*

Groves, R.L. 2012. Neonicotinoid resistance and Colorado potato beetle management. 27th Annual Maine Potato Conference, Jan. 19, Caribou, ME. *Invited Speaker.*

Groves, R.L. 2012. Managing and controlling whiteflies, aphids and thrips in high tunnels. Minnesota Statewide High Tunnel Conference, Feb. 9, Brainerd, MN. *Invited Speaker.*

Groves, R.L. 2012. Managing Colorado potato beetle resistance. International Crop Expo, Feb. 16, Grand Forks, ND. *Invited Speaker.*

Groves, R.L. 2012. Managing Colorado potato beetle resistance. 2012 RD Offutt Agronomy Meeting, Feb. 17, Park Rapids, MN. *Invited Speaker.*

Groves, R.L. 2012. Insect pest management in mint. 2012 Midwest Mint Growers Meeting, Feb. 24, Plymouth, IN. *Invited Speaker.*

Groves, R.L. 2012. New in-furrow and fertilizer pre-mix insecticides for use in snap bean. Ozark Food Processors Association 106th Annual Convention & Exposition, Apr. 4, Springdale, AR. *Invited Speaker.*

Groves, R.L. and A.S. Huseeth 2012. ESA Member Symposium, IRAC US Symposium Series: No.8, Do Crises Drive Innovation? Insect Resistance Management: Proactive or Reactive?, “Interaction of insecticide resistance and delayed emergence in the Colorado potato beetle - New challenges for an old pest”, University of Wisconsin, ESA Annual Meeting, 13-15 November, Knoxville, TN.

Groves, R.L. and K. E. Frost. 2012. Program Symposium, “Modeling aphid vector flights and improved control of Potato virus Y”, R. L. Groves and K. E. Frost. APS National Meeting, 4-8 August 2012, Providence, RI.

2011

Groves, R.L. 2011. Potato virus Y: a continued risk for seed potato production and emerging threat to commercial potato storage. PVY Symposium, 2011 Idaho Potato Conference and Agriculture Expo, Jan. 19-20, Pocatello, ID. *Invited Symposium Speaker.*

Groves, R.L. 2011. New tools and technologies for managing potato insect pests: Wisconsin perspective. 2011 Idaho Potato Conference and Agriculture Expo, Jan. 19, Pocatello, ID. *Invited Speaker.*

2010

Groves, R.L., A. Charkowski, A. Crockford, R. Coltman, R. Hafner, and K. Bula. 2010. Controlling PVY levels in seed. 2010 Potato Expo, January 4-6, Orlando, FL. *Invited Speaker.*

Groves, R.L. 2010. Potato virus Y: a continuing risk for seed potato production and emerging threat to commercial potato storage. Entomology Department Seminar, Penn State University, April 26, State College, PA. *Invited Departmental Seminar Speaker.*

Groves, R.L., A. Charkowski, and A. Crockford. 2010. Modeling vector flights to increase effectiveness of foliar protectant programs. 11th International Plant Virus Epidemiology Symposium and 3rd Workshop of the Plant Virus Ecology Network, June 24, Cornell University, Ithaca, NY. *Invited Speaker.*

Groves, R.L. 2010. Novel delivery systems for water soluble insecticides in potato. 94th Annual Meeting of the Potato Association of America, August 16, Oregon State University, Corvallis, OR. *Invited Speaker.*

Groves, R.L., and B. Flood. 2010. Novel seed treatment and in-furrow uses of anthranilic diamides. DuPont Crop Protection Meeting, September 29-30, Wilmington, DE. *Invited Speaker and Educator.*

Groves, R.L. 2010. Storage losses associated with potato virus Y in potato. Entomological Society of America Annual Meeting, Dec. 14, San Diego, CA. *Invited Symposium Speaker.*

2009

Groves, R.L. 2009. Biogeography of aster yellows phytoplasma: epidemiological significance of local versus long distance migrants. Entomological Society of America Annual Meeting, P-IE Section Symposium: Plant Disease Vector Movement and Spatial Dynamics in Greenhouse and Cropping Systems. December 13-16, Indianapolis, IN. *Invited Section Speaker.*

Groves, R.L. Adoption of Biologically-Based, Reduced-Risk Pesticides as important IPM Tools in Vegetable Pest Management. BASF Corporation BioPesticide Symposium, Oral presentation. August 11, 2009. Research Triangle Park, NC. *Invited Seminar Speaker.*

Groves, R.L. Influence of Potato virus Y on storage quality of potato. Wisconsin Potato Storage Research Conference, Oral presentation. August 21, 2009. Hancock, WI. *Invited Seminar Speaker.*

Groves, R.L., K.E. Frost, and Van Haren, R. 2009. Biogeography of aster yellows phytoplasma: epidemiological significance of local versus long distance migrants.

Entomological Society of America Annual Meeting, P-IE Section Symposium: Plant Disease Vector Movement and Spatial Dynamics in Greenhouse and Cropping Systems. December 13-16, Indianapolis, IN. Invited Section Symposium Speaker.

Krugner, R., Johnson, M.W., Hagler, J., Morse, J.G., and **Groves, R.L.** 2009. Quantification of movement and spatiotemporal distribution of *Homalodisca vitripennis* (Germar) (Hemiptera: Cicadellidae) in a citrus orchard using a protein marking technique. Entomological Society of America Annual Meeting, P-IE Section Symposium: Plant Disease Vector Movement and Spatial Dynamics in Greenhouse and Cropping Systems. December 13-16, Indianapolis, IN. Invited Section Symposium Co-author.

Groves, R.L. 2009. Insect pest management in vegetable crops. Center for Integrated Agricultural Systems, School for Beginning Market Gardeners and Growers, January 16-17, 2009. Invited speaker and educator.

Zsendrei, S., Frost, K., and **Groves, R.L.** 2009. Aster leafhopper index: What is it and how do you use it? Great Lakes Agricultural Exposition, December 8-10, 2009. Invited speaker and educator.

2008

Groves, R.L. 2008. Managing Colorado Potato Beetle: Recognizing Neonicotinoid Insensitivity. Syngenta Crop Protection Results Meeting, February 21, 2008, Las Vegas, NV. Invited Session Speaker.

Groves, R.L. 2008. Vegetable Entomology & Extension: Learning the Ropes and Traveling Wisconsin, University of Wisconsin, Department of Entomology, Seminar Speaker, October 3, 2008, Madison, WI. Invited Seminar Speaker.

Groves, R.L. 2008. Potato Virus Y; a continuing risk to seed potato production and emerging threat to commercial potato storage. University of Wisconsin, Department of Plant Pathology, Seminar Speaker, October 21, 2008, Madison, WI. Invited Seminar Speaker.

Groves, R.L. and E.L. Civerolo. 2008. Current Progress and Future Directions; Status of Zebra Chip in the Mid-South. Frito Lay North America, Zebra Chip Research and Planning Meeting, December 4, 2008, Dallas, TX. Invited Seminar Speaker.

Johnson, M.W. and **Groves, R.L.** 2008. Cool weather impacts on glassy-winged-sharpshooter: a ten year perspective. 2008 Pierce's Disease Research Symposium, December 15-17, San Diego, CA. Invited Session Speaker.

2007

Groves, R.L. 2007. The importance of non-crop weed species in the establishment and persistence of Tomato spotted wilt Tospovirus. Empire State Fruit and Vegetable Exposition, February 15, 2007, Syracuse, NY. Invited Symposium Speaker

Groves, R.L., E.L. Civerolo, Chen, J., Cabrera LaRosa, J.C., and Lin, H. 2007 Epidemiology of almond leaf scorch: factors affecting pathogen distribution and movement. 125th Annual Entomology and Plant Pathology Seminar Series Speaker, February 13, 2007, Cornell University, Geneva, NY. Invited Seminar Speaker.

Groves, R.L. 2007. Epidemiology of almond leaf scorch: factors affecting pathogen distribution and movement. Michigan State University, Department of Entomology, Symposia Speaker, February 19, 2007. East Lansing, MI. Invited Seminar Speaker.

Groves, R.L., Son, Y., Lynn-Patterson, K., Daane, K., and Johnson, M.W. Spatial population dynamics of glassy-winged sharpshooter, implications for future management. North Carolina State University, Department of Entomology, Symposia Speaker, March 26, 2007. Raleigh, NC. Invited Seminar Speaker.

Groves, R.L. 2007. Introduction and overview of emerging, vector-transmitted diseases. North Carolina Plant Pathology Society, Annual Meeting, March 27, 2007, North Carolina State University, Faculty Club, Raleigh, NC. Invited Seminar Speaker.

Groves, R.L. 2007. Host plant use patterns, dispersal, and detection of *Xylella fastidiosa* in *Homalodisca vitripennis*, implications for the future management of glassy-winged sharpshooter. North Carolina Plant Pathology Society, Annual Meeting, March 27, 2007, North Carolina State University, Faculty Club, Raleigh, NC. Invited Keynote Speaker.

2006

Groves, R.L. 2006. Re-emergence of almond leaf scorch disease in California: identification of inoculum sources and insect vectors. Entomological Society of America, Pacific Branch Meeting, Mar 5-8, 2006, Wailea Maui, HI. Invited Symposium Speaker

Sisterson, M. and **Groves, R.L.** 2006. Assessing the “when and where” of glassy winged sharpshooter vectored Pierce’s disease. VIIth European Congress of Entomology, September 17-22, 2006, Izmir, Turkey. Invited Symposium Speaker.

Groves, R.L., E.L. Civerolo, and Lin, H. 2006. Detection and Characterization of *Xylella fastidiosa* in Potato; Relationship to the Occurrence of the Zebra Chip Defect. Frito-Lay North America, Research Results Conference on Zebra Chip, November 15, 2006, Dallas, TX. Invited Speaker.

2005

Groves, R.L., and Chen, J. 2005. Spatio-temporal Analysis of ALS: Implications for Secondary Spread of ALS. Geospatial Technologies in Agriculture, Bakersfield, CA. Invited symposium speaker.

Groves, R.L. 2005. Probable Vectors of Almond leaf Scorch Disease, Xf Detection in Sharpshooter Insects. Copesan Annual Meeting, Fresno, CA. Invited speaker.

Groves, R.L., and Chen J., 2005, Epidemiology of Pierce’s Disease in the central San Joaquin Valley of California: factors affecting pathogen distribution and movement. Pierce’s Disease Research Symposium, 5-7 December, California Department of Food and Agriculture, San Diego, CA. Invited symposium speaker.

2004

Groves, R.L. 2004. Epidemiology of Almond Leaf Scorch Disease in the Central San Joaquin Valley of California: Factors Affecting Pathogen Distribution and Dispersal. University of California, Davis, CA. Invited departmental seminar speaker.

Groves, R.L. 2004. Spatial and Temporal Patterns of Insect Movement: Implications for Disease Spread. California State University, Fresno, Plant Science Department. Invited departmental lecture.

Groves, R.L. 2004. Almond Leaf Scorch Disease. Pacific Nut Producers, Almond Exposition. Ripon, CA. Invited speaker.

2002

Groves, R.L. 2002. North Carolina Tospoviruses and Maine Potyviruses. University of Georgia, Athens, GA. Invited seminar speaker.

Groves, R.L., Kennedy, G. G., and Walgenbach, J. W. 2002. Epidemiological importance of weeds in the Tomato spotted wilt virus pathosystem and implications for managing the disease. ESA National Meeting. Ft. Lauderdale, FL. Invited symposia speaker.

Gray, S., **Groves, R.L.**, and Perry, K. 2002. Tuber necrosis viruses: emerging threat-manageable problem? National Potato Council Seed Seminar. Portland, ME. Invited symposia speaker.

2001

Groves, R.L. 2001. Non-crop hosts of tomato spotted wilt tospovirus and its principal insect vectors in North Carolina. North Carolina State University, Raleigh, NC. Invited departmental seminar speaker.

Groves, R.L. 2001. The role of weed hosts and thrips vectors in the epidemiology of Tomato spotted wilt tospovirus. Texas A&M University, College Station, TX. Invited seminar speaker.

1998

Groves, R.L. 1998. Lincoln Memorial Seminar. Overwintering biology of Tomato spotted wilt virus and its vector, *Frankliniella fusca*, in winter annual weeds. University of Arkansas, Fayetteville, AR. Invited speaker.

EXTENSION PRESENTATIONS, WORKSHOPS, AND FIELD DAYS

Date	Role	Event and Location	Attendance
2015			
Jan 6-8	Speaker/Educator	<i>Potato Exposition</i> , Orlando, FL	2,200
Jan 9	Speaker/Educator	<i>Wisconsin Scholl for Beginning Market Gardeners</i> , Madison, WI	40
Jan 13-15	Speaker/Educator	<i>Vegetable crop updates. Wisconsin Crop Management Conference</i> , Madison, WI. Alliant Energy Center.	1,500

Jan 21	Speaker/Educator	MWFPA Processing Vegetable SCRI , Sun Prairie, WI	18
Jan 25-27	Speaker/Educator	Vegetable crop updates. Wisconsin Fresh Fruit and Vegetable Growers Conference , Wisconsin Dells, WI. Kalahari Conv. Center.	550
Jan 28	Speaker/Educator	Managing PVY. Wisconsin Seed Potato Improvement Association . Antigo, WI.	55
Feb 4-6	Speaker/Educator	Wisconsin potato management updates . UW & WPVGA, Grower Education Conference, Stevens Point, WI. Holiday Inn Conv. Center.	200
Feb 9-11	Speaker/Educator	Management of PVY . Michigan Winter Potato Mtg., Bellaire, MI	200
Feb 17	Speaker/Educator	Insect pest management . Farmers Market Workshop. UWEX Waukesha, Walworth, Racine, and Kenosha Counties. Govt. Center. Elkhorn, WI.	40
Feb 17	Speaker/Educator	Neonicotinoid registration status . Lomira Processing Crops Conference, Lomira, WI.	50
Feb 19	Speaker/Educator	IPM in Brassica and Cucurbit crops . Michael Fields Institute, East Troy, WI	23
Feb 26	Speaker/Educator	IPM in Wisconsin mint . Midwest Mint Meeting. Chula Vista Conference Center. Wisconsin Dells, WI.	60
Mar 4	Speaker/Educator	Snap bean and sweet corn IPM . Central Wisconsin, Processing Crops Conference. HARS, Hancock, WI.	65
Mar 5	Speaker/Educator	Insect pest management . UWEX Clark County Thorp Fire House. Thorp, WI.	14
Mar 6	Speaker/Educator	Squash and tomato IPM . UWEX Green Lake County. Dalton, WI.	45
Mar 14	Speaker/Educator	Insecticide registrations and IPM updates in ginseng . Wausau, WI	85
Mar 27	Speaker/Educator	Sweet corn and tomato IPM . WFFVGA Veggie School. HARS. Hancock, WI.	60
May 11	Speaker/Educator	Integrated pest management in sustainable potato production . Healthy Grown. HARS. Hancock, WI.	25
Jul 15	Speaker/Educator	Potato and vegetable research updates . Hancock Field Day. HARS. Hancock, WI.	140
Jul 31	Speaker/Educator	Vegetable updates . UWEX Horticulture Updates. Madison, WI.	35
Aug 12	Speaker/Educator	Vegetable updates . Twilight Field Tour. UWEX Green Lake County. Montello, WI.	60
Aug 14	Speaker/Educator	Managing Wisconsin hop insect pests . UWEX & WI DATCP, Hop Management Meeting. Davali Ridge Farm. Waterloo, WI.	65
Aug 15	Speaker/Educator	Managing Wisconsin hop insect pests . UWEX & WI DATCP, Hop Management Meeting. Albers Hop Farm. Arkensaw, WI.	50
Aug 20	Speaker/Educator	Potato IPM updates . Langlade County Airport Research Station Field Day. Antigo, WI.	65
Aug 25-27	Speaker/Educator	IPM, insect mgmt, diagnostics and general information, Plant Doctors Booth . Farm Technology Days. Cottage Grove, WI.	2000

Sep 8	Speaker/Educator	Organic Field Day. University of Wisconsin. West Madison Agricultural Research Station Field Day. Verona, WI.	75
Oct 28	Speaker/Educator	Specialty crop production and environmental contamination. Department of Biochemistry, Wednesday night at the Lab, Madison, WI	60
Nov 12	Speaker/Educator	Analysis of the Conservis well database. Research sub-committee of the WPVGA, Water Task Force, HARS, Hancock, WI	16
Dec 2-3	Speaker/Educator	Midwest Food Processors Annual Convention. Processing Crops Conference. Green Bay, WI.	100
2014			
Jan 11	Speaker/Educator	Insect pest management-vegetable crops. Wisconsin School for Beginning Market Growers, Madison, WI.	34
Jan 15	Speaker/Educator	Organic vegetable workshop. Dane County Cooperative Extension, Madison, WI.	26
Jan 16	Speaker/Educator	Diamide insecticides in processing vegetables. Wisconsin Crop Management Conference, Madison, WI.	550
Jan 21	Speaker/Educator	Tolerant varieties for pest suppression. Wisconsin Fresh Fruit and Vegetable Conference, Wisconsin Dells, WI.	400
Jan 21	Speaker/Educator	Insect control through drip irrigation. Wisconsin Fresh Fruit and Vegetable Conference, Wisconsin Dells, WI.	400
Feb 6	Speaker/Educator	PVY management. Wisconsin Seed Improvement Association Annual Meeting, Antigo, WI.	80
Feb 12	Speaker/Educator	Resistance management fundamentals for potato insects. UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	425
Feb 25	Speaker/Educator	Insect management in carrots and onions. Wisconsin Muck Farmers Association Annual Meeting, Stevens Point, WI.	425
Feb 27	Speaker/Educator	Insect pest management in vegetable crops. Southern Wisconsin Vegetable Workshop, Madison, WI.	45
Mar 7	Speaker/Educator	Vegetable pest updates for 2014. Vegetable Grower's Meeting 2012, Dalton, WI.	18
Mar 22	Speaker/Educator	Pollinator impacts associated with processing vegetables. Central Wisconsin Processing Crops Meeting, Plover, WI.	40
Mar 25	Speaker/Educator	Vegetable insect pests in 2014. Dodge County Master Gardeners Meeting, Juneau, WI.	22
Apr 9	Speaker/Educator	Pest management options in organic produce. Organic Valley produce Pool Meeting, LaFarge, WI	135
Jul 24	Speaker/Educator	Potato and vegetable insect research. AAES Field Day,	115
Aug 1	Speaker/Educator	Potato and vegetable insect research. Antigo Field Day, Antigo, WI	75
Aug 8	Speaker/Educator	Potato and vegetable insect research. HAES Field Day, Hancock, WI.	125
2012			

Jan 14	Speaker/Educator	<i>Insect pest management-vegetable crops.</i> Wisconsin School for Beginning Market Growers, Madison, WI.	22
Jan 16	Speaker/Educator	<i>Reduced risk IPM in veg crops.</i> Wisconsin Fresh Fruit and Vegetable Conference, Wisconsin Dells, WI.	450
Jan 17	Speaker/Educator	<i>Managing whiteflies, aphids and other insect pests in the high tunnel.</i> Wisconsin Fresh Fruit and Vegetable Conference, Wisconsin Dells, WI.	450
Jan 25	Speaker/Educator	<i>PVY management and CPB resistance.</i> Wisconsin Seed Improvement Association Annual Meeting, Antigo, WI.	70
Jan 31	Speaker/Educator	<i>Management of disease and insects with seed applied pesticides.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	375
Jan 31	Speaker/Educator	<i>Management of potato insect pests with in-furrow and seed-applied insecticides.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	375
Feb 1	Speaker/Educator	<i>Insect management in onions: new and special registration updates.</i> Wisconsin Muck Farmers Association Annual Meeting, Stevens Point, WI.	25
Feb 2	Speaker/Educator	<i>Environmental fate of neonicotinoids.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	375
Feb 2	Speaker/Educator	<i>Emerging issues: zebra chip.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	375
Feb 7	Speaker/Educator	<i>Insect pest management in vegetable crops.</i> 2012 Southern Wisconsin Vegetable Workshop, Madison, WI.	20
Feb 10	Speaker/Educator	<i>Transmission of plant pathogens by insects: management of vector-borne diseases of plants.</i> Vegetable Grower's Meeting 2012, Dalton, WI.	15
Mar 7	Speaker/Educator	<i>New in-furrow and fertilizer pre-mix insecticides for use in snap beans.</i> Central Wisconsin Processing Crops Meeting, Plover, WI.	35
2011			
Jan 3	Speaker/Educator	<i>Reduced risk insecticides through drip irrigation delivery systems.</i> Wisconsin Fresh Fruit and Vegetable Conference, Wisconsin Dells, WI.	77
Jan 11-13	Speaker/Educator	<i>Irrigation delivery of water-soluble insecticides.</i> Wisconsin Crop Management Conference, Madison, WI.	59
Feb 1	Speaker/ Educator	<i>Virus update and new management systems for seed potatoes; water quality; and modeling vector flights and timing of foliar protectants.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	40

Feb 2	Speaker/Educator	<i>Insect pest management and Colorado potato beetle: Wisconsin muck grown potato.</i> Wisconsin Muck Crops Research Meeting, Stevens Point, WI.	13
Feb 3	Speaker/Educator	<i>Patterns of resistance in Colorado potato beetle: implications for future management.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	113
Feb 4	Speaker/ Educator	<i>Insect control in drip irrigation and pest management.</i> Fresh Market Vegetable Grower Workshop, Dalton, WI.	48
Feb 8	Speaker/Educator	<i>Advanced IPM – onion insect pest management.</i> 2011 Southern Wisconsin Fresh Produce Workshop, Madison, WI.	44
Feb 14	Speaker/ Educator	<i>Insect control through drip irrigation delivery systems.</i> Fresh Market Vegetable Grower Workshop, Ontario, WI.	65
Feb 14-15	Speaker/Educator	<i>Advanced IPM: onion insect pest management.</i> Grant, Monroe, and Vernon Counties Fresh Produce Workshop.	52
Feb 15	Speaker/ Educator	<i>Insect pest management: brassica vegetable crops.</i> Organic Valley, LaFarge, WI.	79
Feb 16	Speaker/ Educator	<i>Integrated pest management with drip irrigation: 2010 updates.</i> Fresh Market Produce Workshop, Lancaster, WI.	16
Feb 24	Speaker/ Educator	<i>Insect pest management in mint.</i> 2011 Midwest Mint Growers Annual Meeting. Wisconsin Dells, WI.	69
Mar 9	Speaker/ Educator	<i>Revising the aster yellows index.</i> Central Wisconsin Processing Crops Meeting. Plover, WI.	73
Mar 10	Speaker/Educator	<i>Biologically-based, insect pest management in solanaceous crops.</i> Vegetable IPM Conference. Michael Fields Institute. East Troy, WI.	14
Mar 10	Speaker/Educator	<i>Insect pest management in cucurbit vegetable crops.</i> Vegetable IPM Conference. Michael Fields Institute. East Troy, WI.	14
Mar 19	Speaker/Educator	<i>Reduced-risk insecticide options for shade grown ginseng.</i> 2011 Spring Ginseng Growers Meeting. Wausau, WI.	83
Mar 22	Speaker/ Educator	<i>Insect pest management in cabbage.</i> Wisconsin Cabbage Grower's Meeting. Bear Creek, WI.	16
Mar 23	Speaker/ Educator	<i>Insect pest management in vegetable crops.</i> Fresh Market Commercial Vegetable Production. Stanley, WI.	22
Mar 26	Speaker/ Educator	<i>Insect pest management in vegetable crops.</i> Brown County Fresh Market Vegetable Workshop. Green Bay, WI.	17
Jun 1	Attendee/Speaker	<i>Research update: insect pest management in processing vegetables.</i> Midwest Food Processors Association, Haltick Meeting. Wisconsin Dells, WI.	31
Jul 15	Speaker/Educator	<i>Potato and vegetable insect research.</i> AAES Field Day,	36
Jul 18	Speaker/Educator	<i>Potato and vegetable insect research.</i> Halfman Field Day,	19
Jul 26	Speaker /Educator	<i>Potato and vegetable insect research.</i> HAES Field Day, Hancock, WI.	83

Aug 2	Speaker/Educator	<i>Insect pest management in vegetables.</i> Organic Valley Field Visit, Hillsboro, WI.	16
Aug 4	Speaker/Educator	<i>Potato and vegetable insect research.</i> Antigo Field Day, Antigo, WI.	48
Aug 11	Attendee/Speaker	<i>Research update: insect pest management in processing vegetables.</i> Midwest Food Processors Association, Haltvick Meeting. HAES Snap bean and Sweet Corn Tour, Hancock, WI.	33
Aug 25	Attendee/Educator	<i>Insect control through drip irrigation delivery systems.</i> Groundwater outreach Summer Event, Hancock, WI.	62
Sep 15	Attendee/Speaker	<i>Research update: insect pest management in processing vegetables.</i> Midwest Food processors Association, Haltvick Meeting. WMRS, Madison, WI.	31
Oct 12	Attendee/Participant	Southern Wisconsin Produce Workshop, Madison, WI.	112
Oct 27	Attendee/Participant	Agriculture and Natural Resources Extension (ANRE) Conference, Wisconsin Dells, WI.	43
Nov 8	Speaker/ Educator	<i>Preparing the farm post-harvest for enhanced insect control in 2012.</i> Wisconsin Fresh Market Vegetable Growers Association Fall Field Day, Sheboygan, WI.	15
2010			
Jan 3-5	Speaker/Educator	<i>Pest management in cucurbits: protecting native and domestic pollinators.</i> Wisconsin Fresh Fruit and Vegetable Conference, Wisconsin Dells, WI.	500
Jan 6	Speaker/Educator	<i>Novel seed treatment and in-furrow uses for cucurbit insect pests.</i> Midwest Pickle Growers Association, Green Bay, WI.	45
Jan 12-14	Speaker/Educator	<i>Vine crop pest management and pollinators.</i> Wisconsin Crop Management Conference, Madison, WI.	85
Jan 15	Speaker/Educator	<i>Insect control – new use and delivery of water soluble compounds.</i> Bio-IPM Healthy Grown Field Day, Hancock, WI.	25
Jan 27	Speaker/Educator	<i>Foliar protectants and management of potato virus Y in potato seed.</i> WI Seed Potato Improvement Association, Antigo, WI.	60
Feb 3	Speaker/Educator	<i>Early season onion thrips control and soil insecticides in muck grown crops.</i> UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference, Stevens Point, WI.	30
Feb 19	Speaker/Educator	<i>Biologically-based insect pest management in solanaceous crops.</i> Michael Fields Institute, Vegetable IPM Conference, East Troy, WI.	18
Feb 24	Speaker/Educator	<i>Insect pest management in cucurbit vegetables: new tools and delivery systems.</i> UWEX Fresh Market Produce Workshop, Cashton, WI.	45
Mar 6	Speaker/Educator	<i>Biologically-based insect pest management in vegetable crops.</i> Lake Superior Farming Conference, Superior, WI.	40
Mar 10	Speaker/Educator	<i>Foliar control for viruses.</i> Central Wisconsin Processing Crops Meeting, Plover, WI.	58

Mar 20	Speaker/Educator	Integrated pest management of ginseng. 2010 Spring Ginseng Growers Meeting, Wausau, WI.	60
Mar 24	Speaker/Educator	Important insect pests and new insecticide use patterns. UWEX Fresh Market Vegetable Growers Workshop, Montello, WI.	12
Mar 31	Speaker/Educator	Important insect pests and new insecticide use patterns. UWEX Fresh Market Vegetable Growers Workshop, Stevens Point, WI.	18
Jun 6	Speaker/Educator	Potato and vegetable insect research. Worchota Farms CAC Meeting, Appleton, WI.	35
Jun 22	Speaker/Educator	Insect pest management in vegetable crops. Pierce County Field Walk, Baldwin, WI.	50
Jul 6	Speaker/Educator	Insect pest management in vegetable crops. Tipi Farm Tour, Evansville, WI.	35
Jul 12	Speaker/Educator	Insect pest management in vegetable crops. Columbia County Field Walk, Dalton, WI.	90
Jul 16	Speaker/Educator	Potato and vegetable insect research. Rhinelander Field Day, Rhinelander WI.	75
Jul 22	Speaker/Educator	Industry Field Research Tour. Syngenta Crop Protection, Hancock Agricultural Research Station, Hancock, WI.	8
Jul 26	Speaker/Educator	Industry Field Research Tour. DuPont Crop Protection, Arlington Agricultural Research Station, Arlington, WI.	6
Jul 27	Speaker/Educator	Effects of biotic factors on stored potato quality. Hancock Agricultural Research Station Field Day, Hancock, WI.	38
Jul 28	Speaker/Educator	Best management practices for cucurbit insect pests. West Madison Research Station Organic Field Day, Madison, WI.	50
Aug 11	Attendee/Speaker	Research update: insect pest management in processing vegetables. Midwest Food Processors Association, Haltvick Meeting, Hancock, WI.	60
Aug 12	Speaker/Educator	Potato and vegetable insect research. Antigo Agricultural Research Station Field Day, Antigo, WI.	70
Aug 21	Speaker/Educator	Impacts of potato virus Y on long term potato storage. Potato Storage Research Field Day, Hancock Agricultural Research Station, Hancock, WI.	45
Sep 9	Attendee/Speaker	Research update: insect pest management in processing vegetables. Midwest Food Processors Association, Haltvick Meeting, Hancock, WI.	25
Oct 13	Speaker/Educator	Insect pest management in vegetables. Cashton Fresh Market Produce & Bedding Plant Auction, Cashton, WI.	19
Oct 19-21	Attendee/Participant	Agriculture and Natural Resources Extension (ANRE) Conference, Monona Terrace, Madison, WI.	120
Nov 30	Speaker/Educator	Refining insect pest management in snap beans: new seed treatment technologies. Midwest Food Processors Annual Meeting, Green Bay, WI.	60

Dec 7	Speaker/Educator	<i>Insect pest management in potatoes.</i> Bio-IPM Healthy Grown Meeting, Baraboo, WI.	20
Dec 17	Speaker/Educator	<i>Organic strategies for managing common insect pests on vegetable farms.</i> Madison Area Community Supported Agriculture Coalition (MACSAC) Winter Grower Gathering, West Madison Research Station, Madison, WI.	45
2009			
Jan 4	Speaker/Educator	Wisconsin Fresh Fruit & Vegetable Annual Meeting. Wisconsin Dells, WI.	420
Jan 13-15	Speaker/Educator	Wisconsin Crop Management Conference. Madison, WI.	70
Jan 16	Speaker/Educator	Eco-Potato Collaboration Annual Meeting. Madison, WI.	19
Jan 17	Speaker/Educator	Wisconsin School for Beginning Market Farmers. Madison, WI.	50
Jan 28	Speaker/Educator	Wisconsin Seed Potato Improvement Assoc. Meeting. Antigo, WI.	52
Feb 3-5	Speaker/Educator	UWEX & Wisconsin Potato and Vegetable Grower Association Grower Education Conference. Stevens Point, WI.	330
Feb 4	Speaker/Educator	Wisconsin Muck Farmers Annual Meeting. Stevens Point, WI.	40
Feb 12	Speaker/Educator	Processing Vegetable Growers Clinic. Hancock, WI.	29
Feb 11-13	Attendee/Educator	UWEX Garden Expo	750
Feb 19	Speaker/Educator	Midwest Mint Growers Annual Meeting. Wisconsin Dells, WI.	18
Mar 11	Speaker/Educator	Central Wisconsin Processing Crops Conference. Hancock, WI.	39
Mar 17	Speaker/Educator	Fresh Market Produce & Bedding Plant Workshop. Cashton, WI.	36
Mar 18	Speaker/Educator	Fresh Market Produce & Bedding Plant Workshop. Fennimore, WI.	12
Mar 30	Speaker/Educator	Hancock Diagnostic Workshop. Hancock, WI.	46
Mar 31	Speaker/Educator	Growing for Local Markets. UW Barron, Rice Lake, WI.	38
Apr 1	Speaker/Educator	Fresh Market Vegetable Field Diagnostic Workshop. Fond du Lac, WI.	29
Apr 16	Speaker/Educator	Badgerland Coop Field School. Montello, WI.	34
Jun 17	Speaker/Educator	Hoeskstra's Spring Market Workshop. Randolph, WI.	78
Jun 29	Speaker/Educator	Badgerland Coop Field Twilight Tour. Portage, WI.	27
Jul 10	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Rochester, MN.	27
Jul 14	Speaker/Educator	Badgerland Coop Field Twilight Tour. Pardeeville, WI.	41
Jul 21	Attendee/Educator	Farm Technology Days. Dodge County, WI.	2,500
Jul 22	Host/Speaker	Valent Biosciences Field Day. Hancock, WI	9
Jul 28	Speaker/Educator	Direct Market Field Tour & Workshop. River Falls, WI.	48
Aug 6	Speaker/Educator	Hancock Agricultural Research Station Field Day. Hancock, WI.	120
Aug 7	Speaker/Educator	Antigo Agricultural Research Station Field Day. Antigo, WI.	45

Aug 11-12	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Hancock, WI.	85
Aug 19	Speaker/Educator	Direct Market Field Tour & Workshop. Cashton, WI.	48
Aug 26	Speaker/Educator	Arlington Agricultural Research Station Field Day. Arlington, WI.	12
Sep 9	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Madison, WI.	34
Sep 15-16	Attendee/Co-Liaison	IR-4 Food Use Workshop. Cleveland, OH.	300
Sep 22	Speaker/Educator	UWEX Master Gardener Training. Madison, WI.	18
Nov 2	Speaker/Educator	UWEX Master Gardener Training. Palmyra, WI	13
Nov 5	Speaker/Educator	Wisconsin Fresh Fruit & Vegetable Fall Field Day. Wisconsin Dells, WI.	59
Nov 15	Speaker/Educator	Eco-Apple Collaboration Annual Meeting. Madison, WI.	26
Dec 8	Speaker/Educator	Midwest Food Processors Association Meeting. Rochester, MN	230
Dec 14	Speaker/Educator	Bio-IPM Healthy Grown Field Day. Hancock, WI	27
2008			
Jan 2	Speaker/ Educator	Eco-Potato Collaboration Annual Meeting. Madison, WI.	23
Jan 8	Speaker/ Educator	Fresh Market. Produce and Bedding Plant Workshop. Fennimore, WI.	70
Jan 9	Speaker/ Educator	Fresh Market. Produce and Bedding Plant Workshop. Cashton, WI.	29
Jan 18-19	Speaker/ Educator	Wisconsin Fertilizer, Aglime and Pest Management Conference. Madison, WI.	54
Jan 19	Speaker/ Educator	Wisconsin School for Beginning Market Farmers. Madison, WI.	40
Jan 30	Speaker/ Educator	Wisconsin Seed Potato Improvement Association. Antigo, WI.	58
Feb	Speaker/ Educator	UWEX & Wisconsin Potato and Vegetable Grower Association. Grower Education Conference. Stevens Point, WI.	200
Feb 6-8	Attendee/Educator	UWEX Garden Expo. Madison, WI.	500
Feb 18-20	Speaker/ Educator	North American Farmers Direct Market Conference. Wisconsin Dells, WI.	300
Feb 28	Speaker/ Educator	Midwest Mint Growers Annual Meeting. Wisconsin Dells, WI.	65
Mar 4	Speaker/ Educator	Wisconsin Muck Farmers Annual Meeting. Portage, WI.	28
Mar 6	Speaker/ Educator	Michael Fields Institute. Vegetable IPM Course. East Troy, WI.	13
Mar 11	Speaker/ Educator	Central Wisconsin Processing Crops Conference. Hancock, WI.	28
Mar 11	Speaker/ Educator	Fresh Market. Spring School. Hancock, WI	21
Jun 17	Speaker/ Educator	Organic Valley, Grower Field Tour and Diagnosis. LaFarge, WI	18
Jul 1	Speaker/ Educator	Arlington ARS Field Day. Arlington, WI.	95
Jul 2	Attendee/Speaker	Bio-IPM Healthy Grown Field Day. Hancock, WI.	24
Jul 2	Host/Speaker	United Phosphorus Field Day. Hancock, WI	12

Jul 3	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Arlington, WI.	31
Jul 15-17	Attendee/Educator	Farm Technology Days. Green County, WI.	500
Jul 17-19	Attendee/Educator	Farm Technology Days. Green County, WI.	500
Jul 23	Speaker/ Educator	Hancock ARS Field Day. Hancock, WI.	125
Jul 24	Speaker/ Educator	Antigo ARS Field Day. Antigo, WI.	50
Jul 29	Host/Speaker	Valent Biosciences Field Day. Hancock, WI.	16
Aug 11	Attendee/Co-liaison	IR-4 NCR Liaisons Committee Meeting. Madison, WI	15
Aug 13	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Hancock, WI.	45
Aug 20	Speaker/ Educator	Arlington, WI Troubleshooting Diagnostic Workshop. Arlington, WI.	65
Sep 9	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Madison, WI.	25
Sept 15-17	Attendee/Co-liaison	IR-4 Food Use Workshop. Sacramento, CA	225
Nov 9-12	Speaker/ Educator	Midwest Food Processors Association. Madison, WI	27
2007			
Jan 16	Speaker/ Educator	Eco-Potato Collaboration Annual Meeting. Madison, WI.	25
Jan 24	Speaker/ Educator	Fresh Market. Produce and Bedding Plant Workshop. Cashton, WI.	23
Jan 31	Speaker/ Educator	Wisconsin Seed Potato Improvement Association. Antigo, WI.	45
Feb 7-8	Speaker/ Educator	UWEX & Wisconsin Potato and Vegetable Grower Association. Grower Education Conference. Stevens Point, WI.	250
Feb 9	Moderator/Attendee	North Central Extension Research Activity 205. Potato IPM Working Group. Stevens Point, WI.	25
Feb 10	Attendee/Educator	UWEX Garden Expo. Madison, WI.	500
Feb 27	Speaker/ Educator	Wisconsin Muck Farmers Annual Meeting. Portage, WI.	35
Mar 1	Speaker/ Educator	Midwest Mint Growers Annual Meeting. South Bend, IN.	50
Apr 19	Speaker/ Educator	International Pickle Packers Annual Meeting. Milwaukee, WI.	55
May 8	Speaker/ Educator	Organic Valley, Grower Field Tour and Diagnosis. LaFarge, WI	8
Jun 18	Attendee/Speaker	Bio-IPM Healthy Grown Field Day. Hancock, WI.	18
Jun 21	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Hancock, WI.	35
Jul 18	Speaker/ Educator	Hancock ARS Field Day. Hancock, WI.	75
Jul 19	Speaker/ Educator	Antigo ARS Field Day. Antigo, WI.	45
Jul 26	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Arlington, WI.	26
Aug 21	Speaker/ Educator	Arlington, WI Troubleshooting Diagnostic Workshop. Arlington, WI.	40

Aug 30	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Madison, WI.	29
Nov 27-28	Speaker/ Educator	Midwest Food Processors Association. Milwaukee, WI	44
2006			
Sept 26-28	Attendee/Co-liaison	IR-4 Food Use Workshop. Indianapolis, IN	195
Oct 11	Speaker/ Educator	UWEX Master Gardener Training. Milwaukee, WI	65
Oct 12	Speaker/ Educator	UWEX Master Gardener Training. Fond du Lac, WI	45
Oct 21	Speaker/ Educator	UWEX Master Gardener Training. Madison, WI	180
Nov 13	Attendee/Speaker	Midwest Food Processors Association, Haltvick Meeting. Madison, WI	40
Nov 29-30	Speaker/ Educator	Midwest Food Processors Association. Appleton, WI	35
Dec 8-9	Attendee	National Potato Council Potato Seed Seminar. Chicago, IL	350