

2016 Curriculum vitae



NAME: Greg Loeb (Name changed from English-Loeb to Loeb in September 06)

DEPARTMENT/UNIT: Entomology

TITLE: Professor

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BACKGROUND

EDUCATION

<u>Year</u>	<u>Degree</u>	<u>Institution</u>
1989	Ph.D.	University of California at Davis
1982	M.S.	San Diego State University
1977	B.A./B.S.	University of California at Davis

ACADEMIC RANKS (year achieved)

Professor:	July 2008
Associate Professor:	January 2001
Assistant Professor:	January 1995

PRIMARY DEPARTMENTAL/UNIT PROGRAM AREA*

Research-35%, Ecology and management of arthropod pests of small fruits and grapes.

Administration-35%, Program Leader Entomology at NYSAES in Geneva

Extension-20%, Grapes and small fruit.

Teaching-10%, Co-instructor for Ent/PP 420, Grape Pest Management.

*In 2012 became Associate Chair and added 35% administration coupled with reducing of Extension to 20% and Research to 35%. In 2015 administrative role changed to Program Leader for Entomology at NYSAES.

AREAS OF EXPERTISE (key words)

Insect ecology, integrated pest management, biological control, agricultural entomology, small fruit crops, plant-insect interactions

PROFESSIONAL EXPERIENCE

<u>Year</u>	<u>Experience</u>
2008	Professor, Dept. Entomology, Cornell University, NYSAES
2001	Associate Professor, Dept. Entomology, Cornell University, NYSAES
1995	Assistant Professor, Dept. Entomology, Cornell University, NYSAES
1993	Lecturer, University of California at Davis
1989-91, 1992-94	Post-doctoral Research Associate, UC Davis
1991-92	NSF Post-Doctoral Fellow in Environmental Biology-Stanford University

SABBATICALS AND STUDY LEAVES (year, project, location)

None.

HONORS AND AWARDS

Entomological Society of America Award for Excellence in Integrated Pest Management, June 2016.

Entomological Society of America Eastern Branch Award for Excellence in Integrated Pest Management, January 2016.

New York Wine & Grape Foundation, Research Award for Major Contributions in Research and Education. April 2011.

Excellence in IPM Award, NYS IPM Program award for exceptional achievement in IPM

USDA CSREES Organismal and Population Biology of Arthropods and Nematodes panel member in 2006 and 2007

USDA CSREES Northeast IPM Program – panel member, IPM Center Grants in 2004

USDA Viticultural Consortium West – panel member in 2003

American Society for Enology and Viticulture, best paper of the year published in American Journal of Enology and Viticulture in 1997 (co-author)

USDA CSREES Entomology/Nematology -panel member in 1997

NSF Postdoctoral Fellow, 1991-1992.

GRANT SUPPORT

Below I provide, in table form, a summary of grants obtained for my program since coming to Cornell in 1995 through mid 2016 (starting with the most recent awards). Starting in 2011, I also include submitted but not funded proposals.

PIs	Agency	Title (Role)	Status	Years
M.Fuchs/K.Perry/T. Martinson/G.Loeb	USDA AFRI	Developing and implementing management solutions for red blotch disease to protect grape production.	\$150,000 FUNDED	5/15/2015-5/14/2017
G.Loeb/K. Cox	Apple Research & Development Program	The role of insect vectors in the spread of fire blight (<i>Erwinia amylovora</i>) in New York apple production	\$14,000 FUNDED	7/1/16-6/30/17
G.Loeb/K. Cox	Federal Formula Funds Initiative Program	Molecular and behavioral effects of <i>Erwinia amylovora</i> on apple trees and insect vectors commonly found in apple orchards	\$93,000 FUNDED	10/1/16-9/30/19

PIs	Agency	Title (Role)	Status	Years
G.M. Loeb/ P.J. Jentsch/ J. Carroll/ M. Pritts	NY Farm Viability Institute FOC-16-002	Biology & Management of Spotted Wing Drosophila & Other Production Practices in New York Berry Crops	\$252,000 FUNDED	7/1/16- 6/30/17
M. Fuchs/ M. Gomez/ G.M. Loeb	NY Farm Viability Institute – Specialty Crops Block Grant #SCG-15-012	Integrated Management of Mealybugs and Leafroll Disease in Vineyards	\$112,149 FUNDED	10/1/15- 9/30/17
C. Rodriguez/ G.M. Loeb	USDA NIFA Crop Protection & Pest Management (CPPM)	Managing an Invasive Drosophilid Species in Agriculture Using Innovative Behavioral Manipulation Strategies	\$99,556 (Loeb Portion) FUNDED	10/1/15- 9/30/18
H. Barrack/ G.M. Loeb/ M. Gomez	North Carolina State University/USDA NIFA SCRI	Sustainable Spotted Wing Drosophila Management for United States Fruit Crops	\$497,103 (Loeb portion) FUNDED	9/1/15- 8/31/19
G.M. Loeb/ P.J. Jentsch/ A.M. Agnello/ A.J. Landers/ J. Carroll/ M. Pritts	NY Farm Viability Institute FOC-15-002	Biology & Management of Spotted Wing Drosophila & Other Production Practices in New York Berry Crops	\$290,000 FUNDED	1/1/15- 6/30/16
G.M. Loeb/ T. Weigle/ E. Shields/ T.R. Bates	NY Wine/Grape Foundation – Viticulture Program APPENDIX I-33	Managing Grape Rootworms in NY Vineyards	\$16,155 FUNDED	4/1/15- 3/31/16
M. Fuchs/ K. Perry/ G.M. Loeb	Federal Formula Funds Initiative #2015-16-212	Epidemiology & Spread of Grapevine Red Blotch Virus	\$60,000 FUNDED	10/1/15- 9/30/18
R. Raguso/ A. Douglas/ G. Loeb	Federal Formula Funds Initiative #2015-16-163	Identification of Fruit Fly Volatiles for Improved Management of the Invasive Spotted Wing Drosophila	\$89,999 FUNDED	10/1/15- 9/30/18
G.M. Loeb	Federal Formula Funds Initiative #2015-16-180	Developing a Decision Tool & Management Alternatives for Spotted Wing Drosophila, a Major New Invasive Pest of Berry Crops	\$90,000 FUNDED	10/1/15- 9/30/18
G.M. Loeb/ N. Buchon	Federal Formula Funds Initiative #2015-16-195	Developing an Auto Dissemination System for Microbial Control of Spotted Wing Drosophila	\$81,000 NOT FUNDED	10/1/15- 9/30/18
Buchon, N./G. Loeb	NYS DAM, C200825	Biological control of spotted wing drosophila	\$125,000 FUNDED	9/1/14- 8/31/15
G.M. Loeb/ H. Connelly	Atkinson Center for a Sustainable Future	The Role of Landscape Context in Mediating Biodiversity and Ecosystem Services Management in Agroecosystems	\$6,922 FUNDED	5/1/14- 12/31/15
W. Wilcox/G. Loeb	NY Wine & Grape Foundation	Developing management programs for sour rot	\$36,000 FUNDED	4/1/14- 3/31/15
W. Wilcox/G. Loeb	NYS Dept. of Agric. & Markets – Specialty Crops Block Grant	Sour rot: Defining and managing a disease threatening the profitability of New York State vineyards	\$94,444 FUNDED	11/1/14- 10/31/16
Loeb, G.	Kaplan Fund, Internal	Understanding the role of drosophila species in spreading sour rot in grapes	\$3,404 FUNDED	6/14 – 5/15
G.M. Loeb/ J. Carroll/ C.Rodriguez-Saona/ D. Polk/Nielson	Northeast IPM Center – IPM Partnership Grant Program	Spotted Wing Drosophila Working Group to Identify & Prioritize Research & Extension Needs	\$9,999 FUNDED	4/1/14- 3/31/15
W.F. Wilcox/ G.M. Loeb	NY Wine/Grape Foundation – Viticulture Program	Developing Management Programs for Sour Rot	\$11,972 FUNDED	4/1/14- 3/31/15

PIs	Agency	Title (Role)	Status	Years
M. Fuchs/R. Almeida/K. Daane/ A. Douglas/N. Dokoozian/D. Golino/ M. Gomez/ G. Jander/ G. Loeb/ T. Martinson/ N. Jure/ N. Rayapati/ et al	USDA NIFA Specialty Crops Research Initiative	Epidemiology and Integrated Management of Grapevine Leafroll-Associated Viruses and their Mealybug Vectors	\$6,500,000 NOT FUNDED	11/1/14-10/31/19
H. Burrack/Z. Brown/ G. Loeb/J. Chiu/K. Daane/ K. Dong/M. Gomez/K. Hoelmer/R. Isaacs/ G. Loeb/ C. Rodriguez/ P. Shearer/M. Scott/A. Shial/ Z. Syed/ F. Zalom	USDA NIFA AFRI Food Security	Developing Sustainable Strategies to Manage Spotted Wing Drosophila in United States Fruit Crops	\$7,433,353 NOT FUNDED	11/1/14-10/31/19
H. Burrack/Z. Brown/ G. Loeb/J. Chiu/K. Daane/ K. Dong/M. Gomez/K. Hoelmer/R. Isaacs/ G. Loeb/ C. Rodriguez/ P. Shearer/M. Scott/A. Shial/ Z. Syed/ F. Zalom	USDA NIFA Specialty Crops Research Initiative	Developing and Implementing Sustainable Strategies to Manage Spotted Wing Drosophila in United States Fruit Crops	\$8,500,000 NOT FUNDED	11/1/14-10/31/19
C. Rodriguez/T. Lesky/R. Cowles/G. Loeb/ A. Zhang/A. Nielsen/V. Walton/A. Mafra-Neto/T. Dekker	USDA NIFA AFRI Food Security	Managing an Invasive Drosophilid Species in Agriculture Using Innovative Behavioral Manipulation Strategies	\$6,500,000 NOT FUNDED	10/1/14-9/30/18
G.M. Loeb/J. Carroll	NY Farm Viability Institute OAR 14-003	Establishing Common Sense Action Thresholds for Control of Spotted –Wing Drosophila in New York Fruit Production in Coordination with a Regional Alert System	\$149,950 NOT FUNDED	10/1/14-9/30/16
A.M. Agnello/ A.J. Landers/ G.M.Loeb	NY Farm Viability Institute OAR-14-007	Improving a Fixed Spraying System for Optimized Management of Spotted Wing Drosophila in High Tunnel Small Fruit Production	\$72,045 NOT FUNDED	3/1/15-2/28/17
G. Loeb, Carroll, Jentsch, Pritts	NY Farm Viability Institute	Spotted wing drosophila	\$170,000 FUNDED	10/13-12/15
N. Buchon/ G.M. Loeb	Federal Formula Funds Initiative #2013-14-458	Developing a Biocontrol Strategy to Manage an Emerging Pest: The Spotted Wing Drosophila (SWD)	\$90,000 FUNDED	10/1/13-9/30/16
G.M. Loeb/ J. Carroll/ C.Rodriguez-Saona/ D. Polk	Northeast IPM Center – IPM Partnership Grant Program	Spotted Wing Drosophila Working Group to Identify & Prioritize Research & Extension Needs	\$9,983 FUNDED	4/1/13-3/31/14
G. M. Loeb/ J. Carroll/ A.M. Agnello	Northeast IPM Center – IPM Issues Grant	Spotted Wing Drosophila as an Emerging Critical Issue for Berry and Stone Fruit Crops in the Northeast (This Proposal)	\$49,953 FUNDED	4/1/13-3/31/14
G. Loeb/A. Agnello/A. Landers/M. Pritts	NY Farm Viability	Testing of Fixed Sprayer System for Optimizing Management of Spotted Wing Drosophila in High Tunnel Small Fruit Production	\$81,600 FUNDED	4/1/13-3/31/14

PIs	Agency	Title (Role)	Status	Years
G. Loeb/T. Weigle	New York Wine & Grape Foundation Special Grant	The Re-emergence of Grape Rootworm as a Significant pest of Grapevines in New York	\$31,000 FUNDED	4/1/13-3/31/14
W. Wilcox/G. Loeb	New York Wine & Grape Foundation Special Grant	Developing management programs for sour rot	\$30,000 FUNDED	4/1/13-3/31/14
G.M. Loeb J. Carroll	NYS IPM Program	Phenology and Spatial Distribution of Adult & Larval Spotted Wing Drosophila in Small Fruit, Stone Fruit and Wild Hosts in New York	\$5,000 FUNDED	6/1/12-2/28/13
G.M. Loeb/ H. Connelly	Northeast SARE Graduate Student Proposal #GNE12-036	The Use of Native Perennial Wildflowers & Alfalfa Trap Crops to Increase Pollination & Biological Control in Strawberry	\$14,534 FUNDED	8/1/12-3/31/15
G.M. Loeb	North American Strawberry Grower's Association	Seasonal Phenology & Management of Spotted Wing Drosophila in Strawberry Crops in New York	\$7,000 FUNDED	4/1/12-3/31/13
G.M. Loeb	North American Bramble Growers Association	Seasonal Phenology & Management of Spotted Wing Drosophila in Raspberry Crops in NY	\$5,000 FUNDED	4/1/12-3/31/13
G.M. Loeb/ J. Carroll/ D. Polk/ C. Rodriguez/Saona	Northeast IPM Partnership Grants Program #2011-51120-31159	Spotted Wing Drosophila Working Group to Identify & Prioritize Research & Extension Needs	\$14,969 FUNDED	4/1/12-3/31/13
Loeb, G	Federal Formula Funds Initiative #2012-13-195	Biology, Impact & Management of Spotted Wing Drosophila in Fruit Crops	\$60,000 FUNDED	10/1/12-9/30/14
Loeb, G	NYS Dept. of Agric. & Markets – Specialty Crops Block Grant	Spotted Wing Drosophila: New Threat to Profitability of Fruit Crops in New York State	\$99,694 FUNDED	1/1/13-12/31/14
Cowles, DeWei, Landolt, Rodriguez-Saona, Alm, Loeb	USDA Regional IPM Competitive Grants Program – Northeast Region	Spotted wing drosophila management	\$161,985 FUNDED	9/1/12-8/21/14
Douglas, Jaenike, Loeb	NSF	Dimensions: Animal-microbial interactions as an engine of phyletic and functional diversity: insights from interactions between drosophilids and their resident microbiota.	\$1,968,342 FUNDED	1/1/13-12/31/18
Linn, C. E./ Loeb, G.M./ Cha, D.	USDA NIFA AFRI	Olfactory-Based Host Locations & Specialization in Phytophagous Insects	\$400,000 FUNDED	2/1/12-1/31/15
G.M. Loeb/ T.R. Bates/ P. Cousins	Lake Erie Regional Grape Research & Extension and NY Wine & Grape Foundation	Growing Phylloxera-Susceptible Grapes on Their Own Roots in Cool Climates: Costs and Benefits	\$6,321 FUNDED	4/1/12-3/31/13
G.M. Loeb/ T. Weigle	Lake Erie Regional Grape Research & Extension and NY Wine & Grape Foundation	Managing Insect Pests in Labrusca Grapes Without Carbaryl	\$10,609 FUNDED	4/1/12-3/31/13
G.M. Loeb	Director Controlled Endowment Funds	Impact of the Invasive Brown Marmorated Stink Bug on Grapes	\$3,200 FUNDED	7/1/12-6/30/13
Burrack/Isaacs/ Loeb/Rodriguez-Saona/Polk/	USDA NIFA SCRI Competitive Grants Program	eFly: Integrated management of spotted wing drosophila in eastern US agriculture	\$2,940,019 (\$495,578 To Cornell)	9/1/12-6/30/16

PIs	Agency	Title (Role)	Status	Years
Pfeiffer/Horton/ Heboyan			NOT FUNDED	
Fuchs/Loeb/ Gomez/Martinson Almeida/Daane/ Douglas/Jander/ Cooper	USDA AFRI ompetitive Grants Program	Developing and disseminating a decision support system for the integrated management of mealybug-Vectored leafroll disease-associated viruses in grapevines	\$3,750,000 NOT FUNDED	9/1/12-8/31/17
Almeida/Daane/ Cooper/Walsh/ Rayapati/Walton/ Fuchs/Loeb/ Gomez/Martinson	USDA NIFA SCRI Competitive Grants Program	Epidemiology and control of grapevine leafroll-associated viruses and their mealybug vectors in north American vineyards	\$2,087,060 (\$383,474 To Cornell) NOT FUNDED	9/1/12-6/30/14
Loeb/Weigle	Lake Erie Regional Grape Research & Extension and NY Wine & Grape Foundation	Understanding risks to wine and juice production from new insect invasive species brown marmorated stink bug and spotted wing drosophila	\$20,673 NOT FUNDED	6/1/12-5/31/13
Loeb, G.M./ Shields, E./ Weigle, T.	NYS Dept. of Agric. & Markets – Specialty Crops Block Grant	Managing Japanese Beetle in Eastern Vineyards by Reducing Grub Populations in Sod Row Middles with Persistent Entomopathogenic Nematodes	\$79,998 FUNDED	1/1/12- 12/31/13
G.M. Loeb/ E. Shields/ T. Weigle	Federal Formula Funds Initiative Program #2011-12-197	Managing Japanese Beetle in Vineyards by Reducing Larval Populations in Sod Row Middles Using Entomopathogenic Nematodes	\$79,000 FUNDED	10/1/11- 9/30/14
G. M. Loeb/ T.L. Bates/ P. Cousins	USDA Viticulture Consortium – East & NY Wine & Grape Foundation	Growing Phylloxera-Susceptible Grapes on Their Own Roots in Cool Climates: Costs and Benefits	\$8,401 FUNDED	9/1/11- 8/31/12
G.M. Loeb	Kaplan Fund	Monitoring for invasive pests in vineyards	\$3,700 FUNDED	4/10-3/11
Loeb, G. M./ Petersen, M. (I assumed management of project in 2011 due to tenure denial)	USDA AFRI #2009-85320-20424	Mitigating the Current Threat & Anticipating the Future Trajectory of European Crane Flies in Perennial Grass- Based Agroecosystems	\$454,000 FUNDED	
Loeb	Other, industry	Various chemical trials	\$10,500	1/11-12/11
G.M. Loeb/ E. Shields/ D. C. Peck T. Weigle	USDA Viticulture Consortium – East & NY Wine & Grape Foundation	Managing Japanese Beetle in Northeast Vineyards by Reducing Grub Populations in Sod Row Middles with Persistent Entomopathogenic Nematodes	Requested: \$51,172 NOT FUNDED	9/1/11- 8/31/12
G. M. Loeb/ C. E. Linn, Jr.	NSF	The Chemical Ecology of Eavesdropping: Olfactory-Based Host Location & Specialization in Phytophagous Insects	Requested: \$529,363 NOT FUNDED	8/1/11- 7/31/14
G.M. Loeb/ L.B. Smart/ G. Hudler	Northeast Sun Grant Initiative	Managing Arthropod & Fungal Pests for Sustainable Production of Short-Rotation Willow Feedstock Crops for Improved Conversion to Biofuels	Requested: \$150,000 NOT FUNDED	7/1/11- 6/30/14
G.M. Loeb/ E. Shields/ D.C. Peck/T. Weigle	USDA Pest Management Alternatives Program (PMAP)	Managing Japanese beetle in Northeast vineyards by reducing grub populations in sod row middles with persistent entomopathogenic nematodes	Requested: \$197,244 NOT FUNDED	8/1/11- 7/31/14
D.M. Gadoury/ W.F. Wilcox/ R.C. Seem/ M. Fuchs/ T.J. Burr/ A.J. Landers/ G.M. Loeb	USDA NIFA AFRI	Pest Management on a Continental Scale: A Coordinated Agricultural Project for Viticulture East of the Rockies	Requested: \$5,982,135 Made final review but NOT FUNDED	3/1/11- 2/28/16

PIs	Agency	Title (Role)	Status	Years
Carroll, Handley, Loeb, Pritts, Shaw, McDermott, Faubert	USDA Regional IPM Comp. Grants Program – Northeast Region	Addressing emerging cyclamen mite problems in strawberry IPM programs	Requested: \$175,000 NOT FUNDED	3/1/11-2/28/14
G.Loeb/E. Shields/ M. Saunders/D. Peck	USDA Regional IPM Comp. Grants Program – Northeast Region	Managing Japanese beetle in Northeast vineyards by reducing grub populations in sod row middles with persistent entomopathogenic nematodes	Requested: \$175,000 NOT FUNDED	4/1/11-3/31/14
M.Fuchs/G.Loeb/ T. Martinon/M.Gomez	NY State Ag & Markets	Integrated Management Strategies of Leafroll Disease in Vineyards	\$53,494 (Loeb Portion = \$20,001)	9/10-8/12
M. Fuchs/ G.M. Loeb	Federal Formula Funds Initiative #2010-11-294	Management of Leafroll Disease and Mealybug and Soft Scale Vectors in Grapes	\$60,000 (Loeb's portion = ?)	10/1/10-9/30/13
Loeb	Other, Industry	Various trials	\$6,500	1/10-12/10
M. Saunders/ G. Loeb/ T. Weigle	USDA Regional IPM Competitive Grants Program – Northeast Region	Improved Timing of Control of the Grape Berry Moth <i>Paralobesia viteana</i> using a Degree-Day Model	\$175,000 (Loeb's portion = \$79,186)	4/1/10-3/31/12
G. M. Loeb/ M. Pritts/ K. Demchack/ R. Marini/	USDA Regional IPM Competitive Grants Program – Northeast Region	A Trap Crop System for Managing Tarnished Plant Bug Damage in Northeast Strawberries	\$80,756	9/10-7/11
G.M. Loeb/ R. Isaacs/ M. Saunders/ T. Weigle	USDA Viticulture Consortium East and NYS Wine/Grape Foundation	Testing the Use of a Degree Day Model to Time Control of Grape Berry Moth	\$35,000 \$6,000	9/1/10-8/31/11 4/1/10-3/31/11
G.M. Loeb	Hatch	Biological Interactions & Integrated Management of Arthropod Pests of Grape & Small Fruits	\$4,500	10/1/10-9/30/15
G. Loeb/M. Pritts	North American Strawberry Grower's Association	Winter canola as a trap crop for controlling tarnished plant bug damage in strawberries	\$6,242	3/10/2/11
M. Fuchs/ G.M. Loeb/ H.C. Hoch	USDA Viticulture Consortium East #2009-34360-19879 and NY Wine/Grape Foundation	Monitoring the Natural Spread of Ampeloviruses in Leafroll-Affected Vineyards, Determining the Phenology of Soft Scales & Mealybugs, Developing Management Strategies Against Insect Vectors, and Evaluating the Economic Implications of Controlling Leafroll Disease in the Finger Lakes Region in New York	\$17,000 \$3,490	9/09-8/10 4/09-3/10
G.M. Loeb	Kaplan Fund	Controlling a Mealybug Vector of Grape Leafroll Disease	\$1,600	4/10-3/11
Loeb	Other, industry	Various trials	\$14,950	1/09-12/09
M. Pritts/Loeb	NYS IPM Program	A Trap Crop System for Managing Tarnished Plant Bug Damage in Strawberries	\$5,000	9/09/6/10
G. Loeb/ M. Pritts	Federal Formula Funds Initiative	Winter Canola as a Trap Crop for Controlling Tarnished Plant Bug Damage in Strawberries	\$60,000	10/09-9/12
Loeb/Pritts	North American Strawberry	Winter canola as a trap crop for controlling tarnished plant bug damage in strawberries	\$5,000	2/09-1/10

PIs	Agency	Title (Role)	Status	Years
	Growers Assoc.			
Loeb	Other, industry	Various trials	\$15,000	1/08-12/08
G.M. Loeb/ R. Isaacs/ M. Saunders/ T. Weigle	USDA Viticulture Consortium East (New) and NY Wine/Grape Foundation and Kaplan Funds	Testing the Use of a Degree Day Model to Time Control of Grape Berry Moth	\$35,280	9/10-8/11
			\$20,000	9/09-8/10
			\$24,986,	9/08-8/10
			\$6,000	4/10-3/11
			\$5,235	4/09-3/10
			\$5,995,	4/08-3/09
\$2,150	4/09-3/10			
			\$2,500	4/08-3/09
G.M. Loeb	USDA Viticulture Consortium East NY Wine/Grape Foundation – Total Quality Focus & Sustainability Program and NY Wine/Grape Foundation	Growing Phylloxera-Susceptible Grapes on Their Own Roots in Cool Climates: Costs & Benefits	\$2,450	9/10-8/11
			\$2,500	4/10-3/11
			\$28,135	4/1/08-3/31/09
			\$3,490	4/09-3/10
G.M. Loeb	NYS IPM Program	Contributions to the NYS IPM Program	2,000	4/1/08-2/28/09
M. Fuchs/ G.M. Loeb/ H.C. Hoch	USDA Viticulture Consortium East (New) and NY Wine/Grape Foundation	Determining the Natural Spread of Ampeloviruses Associated with Leafroll Disease in New York & Confirming Viral Disease Impact on Fruit Yield & Quality	\$10,000	7/1/08-6/30/09
			\$7,994	4/1/08-3/31/09
G.M. Loeb/ M. Pritts	North American Strawberry Growers Assoc.	Winter canola as a trap crop for controlling tarnished plant bug damage in strawberries	\$4,000	4/1/08-3/31/09
Loeb/Bergh/ Isaacs/Jentsch/ Muza/Roelofs/ Saunders/Weigle	Viticulture Consortium/NY Wine & Grape	Optimizing GBM Pheromone Traps: Understanding Regional Variation in GBM Pheromone Trap Captures. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project and data collection in central NY)	Funded \$41,083	6/1/07-9/30/08
Loeb	NY Wine & Grape Foundation	Growing phylloxera susceptible grapes on their own roots in cool climates: costs and benefits	Funded \$20,000	4/1/07-3/31/08
Fuchs/Loeb/Hoch	Viticulture Consortium/NY Wine & Grape	Evaluating the incidence and potential natural spread of <i>Grapevine leafroll-associated virus 1</i> in New York. (I will be responsible for coordinating the insect vector portion of the research project)	Funded \$41,068	6/1/07-9/30/08
Loeb/Cha/Zhang/ Roelofs	North American Strawberry	Field Testing of the Sex Pheromone of the Tarnished Plant Bug <i>Lygus lineolaris</i> (Lead PI,	Funded \$5,000	4/1/07-3/31/08

PIs	Agency	Title (Role)	Status	Years
	Growers Assoc.	wrote bulk of the proposal, responsible for overall administration of project)		
Loeb/Cha/Zhang/Roelofs	NYS IPM Program	Use of semiochemicals by tarnished plant bug <i>Lygus lineolaris</i>	Funded \$5,000	4/1/07- 3/31/08
Loeb	Kaplan	Optimizing GBM Pheromone Traps: Understanding the Role of Release Rate and Plant Odors	Funded \$2,500	4/1/07- 3/31/08
Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$24,000	1/1/07- 12/31/08
English-Loeb/Roelofs/ Linn	USDA NRICGP	Defining key grape volatiles used for host location as a basis for assessing phenology & management of grape berry moth. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$363,000	8/1/05- 7/31/09
Isaacs/Weigle/Saunders/English-Loeb	USDA CREES IREECGP-IPM	Development and delivery of alternative insect management strategies for eastern US vineyards. (Helped write proposal and responsible for conducting New York aspects of project)	Funded \$365,874	9/15/05- 9/14/08
English-Loeb/Martinson	USDA Viticulture Consortium East	Impact and Management of Grape Cane Borer in Eastern US Vineyards. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$31,174	7/1/05- 6/30/07
English-Loeb/Martinson	NY Wine & Grape Foundation	Impact and Management of Grape Cane Borer in Eastern US Vineyards. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$16,895	4/1/05- 3/31/07
Nyrop/English-Loeb/Reisch/Simons	USDA NRICGP	Overcoming Limitations in Mite Biological Control Imposed by Leaf Archi-tecture. (Wrote significant part of proposal, work on population level parts of project)	Funded \$397,000	9/1/04- 8/31/07
English-Loeb/Roelofs/Linn	USDA Viticulture Consortium East	Identification of Plant Host Volatiles Used by Female Grape Berry Moth for Oviposition. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$29,000	7/1/03- 6/30/05
English-Loeb/Demchak/Schloemann	USDA NE IPM	Landscape Ecology & Management of Strawberry Sap Beetle in the Northeast. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$127,355	5/1/04- 10/15/06
Fuchs/English-Loeb/Hoch	USDA Viticulture Consortium East	Evaluating the Incidence and Potential Natural Spread of Grapevine leafroll-associated virus 1 in New York. (Wrote insect part of proposal and conducted research on insect vectors)	Funded \$16,439	7/1/06- 6/30/07
Fuchs/English-Loeb/Hoch	NY Wine & Grape Foundation	Evaluating the Incidence and Potential Natural Spread of Grapevine leafroll-associated virus 1 in New York. (Wrote insect part of proposal and conducted research on insect vectors)	Funded \$6,000	4/1/06- 3/31/07
English-Loeb/Carroll/Cha	North American Strawberry Grower's	Understanding Habitat Colonization by Tarnished Plant Bug as Basis for Developing an Attraction-Based Management System for	Funded \$3,000	4/1/06- 3/31/07

PIs	Agency	Title (Role)	Status	Years
	Association	Berry Crops. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)		
English-Loeb/ Carroll/Cha	NYS IPM Program	Understanding Habitat Colonization by Tarnished Plant Bug as Basis for Developing an Attraction-Based Management System for Berry Crops. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$6,880	4/1/06- 3/31/07
English-Loeb/ Roelofs/Linn	USDA Viticulture Consortium East	Identification of Plant Host Volatiles Used by Female Grape Berry Moth for Oviposition. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$21,000	7/1/04- 6/30/05
English-Loeb	Kaplan Funds	The role of the host plant in mediating mating in grape berry moth	Funded \$2,500	4/1/06- 3/31/06
Weigle/Hoffmann / English-Loeb/ Muza/Shaffer	USDA Viticulture Consortium East	Addressing Late-Season Grape Berry Moth Damage. (Input on experimental design and data analysis)	Funded \$31,947	7/1/04- 6/30/07
Weber/English- Loeb	Initiative Project Federal Formula Funds	Development of Black Raspberry for Diversified & Sustainable Agricultural Systems in the Northeast. (Responsible for evaluating aphid populations in the field)	Funded \$43,500	10/1/06- 9/30/09
G. English-Loeb/ Wilcox/ Gadoury /Seem/Dunst	USDA Viticulture Consortium East	Optimizing Impact of Tydeid Mites Against Grape Powdery Mildew for Commercial Viticulture in the East. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,000	7/1/04- 6/30/07
English-Loeb/ Roelofs	Initiative Project Federal Formula Funds	Managing strawberry sap beetle using semiochemicals. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$60,000	10/1/06- 9/30/09
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$15,000	1/1/06- 12/31/06
English- Loeb/Gadoury/ Seem/Wilcox	USDA NRICGP	Biological Control of Grape Powdery Mildew Using Mycophagous Mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$225,034	10/1/01- 5/31/05
English- Loeb/Gadoury/ Seem/Wilcox	USDA Viticulture Consortium East	Biological Control of Grape Powdery Mildew Using Tydeid Mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$7,000	7/1/03- 6/30/05
English-Loeb/ Roelofs/Linn	NY Wine and Grape Foundation	Identification of Plant Host Volatiles Used by Female Grape Berry Moth for Oviposition. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,786	4/1/04- 3/31/05
English- Loeb/Gadoury/ Seem/Wilcox	USDA Viticulture Consortium East	Optimizing Impact of Tydeid Mites Against Grape Powdery Mildew for Commercial Viticulture in the East. (Lead PI, wrote bulk of the proposal, responsible for overall	Funded \$4,000	7/1/04- 6/30/05

PIs	Agency	Title (Role)	Status	Years
		administration of project)		
English-Loeb/ Burr	Kaplan Funds	Use of Epiphytic Yeast to Enhance Population Growth of the Fungal-Feeding Mite, <i>O. lambi</i> . (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$3,008	5/1/04- 4/30/05
Turechek/ English-Loeb/ Weber/Pritts	Initiative Project Federal Formula Funds	Redefining IPM for Strawberry Production Under the Emerging Threat of Anthracnose & Strawberry Sap Beetle. (Wrote insect parts of proposal, conducted insect-related parts of research. Became PI of project when Turecheck left Cornell for last 1.5 years of project)	Funded \$60,000	10/1/02- 9/30/05
Weigle/English- Loeb/Hoffmann	NY Wine and Grape Foundation	Addressing Late-Season Grape Berry Moth Damage. (Assisted with proposal and assessment of results)	Funded \$6,203	4/1/04- 3/31/05
Martinson/ English-Loeb	Kaplan	Controlling Cane Borer Injury Through Chemical & Cultural Methods. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$2,000	5/1/04- 4/30/05
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$27,000	1/1/05- 12/31/05
Lander/Wilcox/ English-Loeb/ Reissig/Turechek	NYSERDA	Energy reduction by the effective application of pesticides in orchards & vineyards. (Reviewed proposal and conducted evaluations of insect pest densities in vineyards)	Funded \$100,031	6/13/02- 6/12/04
English- Loeb/Gadoury/ Seem/Wilcox	NY Wine & Grape Foundation	Biological control of Grape Powdery Mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$1,854	4/1/03- 3/31/04
English-Loeb/ Roelofs/Linn	NY Wine & Grape Foundation	Identification of Plant Host Volatiles Used by Female Grape Berry Moth for Oviposition. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$6,689	4/1/03- 3/31/04
English-Loeb	North American Strawberry Growers Assoc.	Economic Threshold for Two-Spotted Spider Mites (<i>Tetranychus urticae</i>) on Strawberries Grown as a Perennial. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,000	4/1/03- 3/31/04
English-Loeb/ Burr	Kaplan	Use of Epiphytic Yeast to Enhance Population Growth of the Fungal-Feeding Mite, <i>O. lambi</i> . (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$2,900	6/1/03- 5/30/04
English-Loeb/ Loughner	NYS IPM Program	Determining Potential of Crop Residue in Diverse Production Systems to Increase Strawberry Sap Beetle Populations in Strawberry Fields. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$3,725	4/1/03- 2/29/04

PIs	Agency	Title (Role)	Status	Years
Weigle, English-Loeb, Hoffmann	USDA Viticulture Consortium East	Addressing Late-Season Grape Berry Moth Damage. (Assisted with proposal and assessment of results)	Funded \$20,573	4/1/03-3/31/04
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$21,000	1/1/04-12/31/04
English-Loeb/Gadoury/Seem/Wilcox	USDA Viticulture Consortium East	Biological control of Grape Powdery Mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$3,800	4/1/02-3/31/03
English-Loeb/Gadoury/Seem/Wilcox	NY Wine & Grape Foundation	Biological control of Grape Powdery Mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$1,500	7/1/02-6/30/03
English-Loeb/Roelofs/Linn	NY Wine & Grape Foundation	Identification of Plant Host Volatiles Used by Female Grape Berry Moth for Oviposition. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$10,000	7/1/02-6/30/04
English-Loeb	North American Strawberry Growers Assoc.	Economic Threshold for Two-Spotted Spider Mites (<i>Tetranychus urticae</i>) on Strawberries Grown as a Perennial. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$5,000	4/1/02-3/31/03
English-Loeb/Reisch	Kaplan	Breeding for Domatia in Grapes to Enhance Natural Enemy Mites & Developing a Method for Monitoring Grape Berry Moth Females. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$2,909	6/1/02-5/30/03
Turecek/English-Loeb	NYS Ag & Mkts – Specialty Crops Projects	Redefining IPM for Strawberry Production Under the Emerging Threat of Anthracnose & Strawberry Sap Beetle. (Wrote insect parts of proposal, conducted insect-related parts of research)	Funded \$45,000	8/15/02-7/15/03
Turecek/English-Loeb	NYS IPM Program	Redefining IPM for Strawberry Production Under the Emerging Threat of Anthracnose & Strawberry Sap Beetle. (Wrote insect parts of proposal, conducted insect-related parts of research)	Funded \$8,556	4/1/02-2/28/03
Martinson/English-Loeb	Kaplan	Controlling Cane Borer Injury Through Chemical & Cultural Methods. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$2,000	6/1/02-5/30/03
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$18,500	1/1/03-12/31/03
English-Loeb/Gadoury/Seem/Wilcox	USDA Viticulture Consortium East	Biological control of grape powdery mildew using mycophagous mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$33,000	7/1/00-6/30/02

PIs	Agency	Title (Role)	Status	Years
English-Loeb/ Gadoury/Seem/ Wilcox	Wine and Grape Foundation	Biological control of grape powdery mildew using mycophagous mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,926	4/1/01- 3/31/02
English-Loeb/ Reisch	Kaplan	Breeding for Domatia in Grapes to Enhance Natural Enemy Mites & Developing a Method for Monitoring Grape Berry Moth Females. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$3,250	5/1/01- 4/30/02
English-Loeb/ Rhainds	North American Strawberry Growers Assoc.	Mechanisms Underlying Resistance of Strawberry Cultivars to Tarnished Plant Bugs, <i>Lygus lineolaris</i> (Hemiptera: Miridae). (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$5,000	4/1/01- 3/31/02
English-Loeb	North American Strawberry Growers Assoc.	Economic threshold for two-spotted spider mites (<i>Tetranychus urticae</i>) on strawberries grown as a perennial. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$5,000	4/1/01- 3/31/02
Nyrop/English- Loeb	USDA Viticulture Consortium East	Biological control of spider mites in northeast vineyards. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$13,357	7/1/00- 6/30/02
Nyrop/English- Loeb	NY Wine & Grape Foundation	Biological control of spider mites in northeast vineyards. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$4,926	4/1/01- 3/31/02
Bates/English- Loeb	USDA Viticulture Consortium East	Impact of root feeding phylloxera on labrusca grapes. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$3,331	4/1/01- 3/31/02
Bates/English- Loeb	NY Wine & Grape Foundation	Impact of root feeding phylloxera on labrusca grapes. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$2,000	4/1/01- 3/31/02
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$8,500	1/1/02- 12/31/02
English-Loeb	NY Wine & Grape Foundation	Impact and control of the plant bug <i>Lygocoris inconspicuus</i> on labrusca grapes. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,500	4/1/00- 3/31/01
English-Loeb/ Gadoury/Wilcox/ Seem	USDA Viticultural Consortium-East	Biological control of grape powdery mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$8,000	7/1/00- 6/30/01
English-Loeb/ Gadoury/Wilcox/ Seem	NY Wine & Grape Foundation	Biological control of grape powdery mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$7,500	4/1/00- 3/31/01
Landers/Wilcox/ English-Loeb/ Martinson/Dunst	USDA Viticultural Consortium-East	Evaluation of a controlled droplet sprayer to control disease and insects on grapes in new york. (Wrote methods for insect sampling and collected and evaluated data on insect	Funded \$4,250	7/1/00- 6/30/01

PIs	Agency	Title (Role)	Status	Years
		abundance).		
English-Loeb/ Gadoury/Seem	NRI Competitive Grants Program	Influence of leaf domatia in mediating interactions among beneficial mites and grape pests. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$125,000	1999-2001
English-Loeb/ Kovach	Sustainable Agric. Research & Educ. Program (SARE)	A strawberry IPM systems comparison demonstration. (Originally funded from 1997 with Kovach as PI for \$105,000 and me as a cooperator. In 1999 I took over the administration of the grant when Kovach moved to Ohio State University)	Funded \$65,000 remaining in 1999	1999-2000
English-Loeb/ Gadoury/Seem	Viticultural Consortium Research Grants Program (USDA)	Biological control of grape powdery mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$15,000	1999
English-Loeb/ Gadoury/Wilcox/ Seem	Wine & Grape Foundation	Biological control of grape powdery mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$6,316	1999
English-Loeb/ Norton/Gadoury/ Wilcox/Seem	NYIPM	Biological control of grape powdery mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$5,000	1999
Weigle/English- Loeb/Wilcox/ Shaffer/Dunst/ Bixby	NYIPM	Addressing the food quality protection act in lake erie region vineyards. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$4,600	1999
English-Loeb	Wine & Grape Foundation	Biology and impact of the plant bug <i>Lygocoris inconspicuus</i> on labrusca grapes. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,737	1999
English-Loeb	Viticultural Consortium Research Grants Program (USDA)	Biology and impact of the plant bug <i>Lygocoris inconspicuus</i> on labrusca grapes. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,134	1999
English-Loeb/ Gadoury/Wilcox/ Seem	Viticultural Consortium Research Grants Program (USDA)	Biological control of grape powdery mildew using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$10,000	1998-1999
Weigle/Dunst/ English-Loeb/ Shaffer	NYIPM	Demonstration of a post emergence weed management strategy and re-examination of grape berry moth management practices in the Lake Erie region (year 2). (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$6,700	1998
English-Loeb/ Norton/Gadoury/ Seem	NYIPM	Biological control of powdery mildews of greenhouse ornamentals. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$3,000	1998
English-Loeb/ Seem	NYIPM	Biological control of grape powdery mildew	Funded	1998

PIs	Agency	Title (Role)	Status	Years
Norton/Gadoury/ Wilcox/Seem		using tydeid mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	\$5,000	
English-Loeb/ Weigle	Wine & Grape Foundation	Within and among vineyard distribution of the banded grape bug and the development of a monitoring program. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$3,100	1998
English-Loeb/ Weigle	Wine & Grape Foundation	Understanding variation in grape berry moth flight activity and implications for pest management. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$10,000	1998
English-Loeb/ Saunders/ Muza/Katti	Wine and Grape Foundation	Increasing the effectiveness of native egg parasites and biorational insecticides for grape berry moth and eastern grape leafhopper control. (Lead PI, wrote half of the proposal, focused mostly on leafhopper research and had responsibility for overall administration of project)	Funded \$10,400	1997-98
English-Loeb/ Nyrop/ Wilcox/ Reissig/Agnello	NEPIAP (USDA)	Integrating disease and mite management in apples and grapes. (Lead PI, wrote bulk of the proposal)	Funded-not accepted \$20,000	
English-Loeb/ Nyrop/ Wilcox/ Reissig/Agnello	NEIPM (USDA)	Integrating disease and mite management in apples and grapes. (Lead PI, wrote bulk of the proposal, focused on research in grapes and had responsibility for overall administration of project)	Funded \$86,885	1997-1999
Nyrop/English- Loeb/Wilcox/ Wise	NYIPM	Biological control of spider mites in Long Island vineyards. (Worked on proposal and collected data in Long Island for project)	Funded \$2,000	1997-98
Weigle/Dunst/ English-Loeb/ Shaffer	NYIPM	Demonstration of a postemergence weed management strategy and re-examination of grape berry moth management practices in the Lake Erie region. (Wrote parts of proposal, worked on data collection and interpretation)	Funded \$4,934	1997-98
English-Loeb/ Saunders/ Martinson/ Muza/Katti	Viticultural Consortium Research Grants Program (USDA)	Increasing effectiveness of two egg parasitoids, <i>Anagrus epos</i> and <i>Trichogramma minutum</i> , for biological control of grape berry moth and <i>Erythroneura</i> leafhoppers in the northeast. (Lead PI, wrote half of the proposal, focused mostly on leafhopper research and had responsibility for overall administration of project)	Funded \$15,000	1997-98
Norton/English- Loeb (as faculty sponsor)	NSF Program in Environmental Biology (post- doctoral fellowship)	Top-down and bottom-up effects on terrestrial plant-arthropod communities. (Assisted with proposal preparation and supervised postdoctoral associate)	Funded \$80,000	1996-98
English-Loeb/ Saunders/ Martinson/	Viticultural Consortium Research Grants	Increasing effectiveness of two egg parasitoids, <i>Anagrus epos</i> and <i>Trichogramma minutum</i> , for biological control of grape berry moth and	Funded \$10,000	1996-97

PIs	Agency	Title (Role)	Status	Years
Muza/Katti	Program (USDA)	<i>Erythroneura</i> leafhoppers in the northeast. (Lead PI, wrote half of the proposal, focused mostly on leafhopper research and had responsibility for overall administration of project)		
English-Loeb/ Villani/ Martinson/Lakso	Viticultural Consortium Research Grants Program (USDA)	Impact of root-feeding phylloxera on concord grapes and potential of biological agents for its control. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$15,000	1996-97
English-Loeb/ Gadoury/Seem	NRI Competitive Grants Program	Leaf domatia in grapes and fungaceous and predaceous mites. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$100,000	1996-98
English-Loeb/ Martinson/ Saunders/Muza/ Katti	Wine and Grape Foundation	Increasing the effectiveness of native egg parasites and biorational insecticides for grape berry moth and eastern grape leafhopper control. (Lead PI, wrote half of the proposal, focused mostly on leafhopper research and had responsibility for overall administration of project)	Funded \$10,307	1996-97
English-Loeb/ Martinson/Lakso/ Saunders	Wine and Grape Foundation	Re-evaluating the impact of root-feeding phylloxera on concord grapes. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$4,500	1996-97
English-Loeb/ Kovach/ Martinson/ Rieckenberg	New York Berry Growers Association	Alternative control tactics for root weevils in strawberries. (Lead PI, wrote bulk of the proposal, responsible for overall administration of project)	Funded \$1,385	1996
English-Loeb/ Kovach	North American Strawberry Growers Assoc.	Selective control of plant bugs using the fungal pathogen <i>Beauveria bassiana</i> . (Lead PI, wrote half of the proposal and shared responsibility for overall administration of project)	Funded \$3,100	1996
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$1,800	1996
English-Loeb /Martinson	Wine and Grape Foundation	Integrating biological and chemical control for leafhopper management and evaluating the impact of banded grape bug feeding on cluster development. (Lead PI, wrote part of the proposal, responsible for overall administration of project)	Funded \$9,500	1995-96
Wilcox /English-Loeb/Pool/Travis	National IPM Implementation Program	Development and implementation of an expanded IPM program for grapes in the great lakes states. (Help prepare proposal and organize IPM meeting)	Funded \$14,000	1995
English-Loeb	Other (Industry gifts)	Management of selected grape pests	Funded \$3,000	1995

REPRESENTATIVE ACADEMIC RESPONSIBILITIES

ADMINISTRATIVE RESPONSIBILITIES

Program Leader, NYSAES & Dept. Entomology, Cornell Univ (April 2015 - current)
Associate Chair, Department of Entomology, Cornell University (July 2012 - April 2015)

RESEARCH RESPONSIBILITIES

- **Current Postdoctoral Associates (list names)**
Dr. Anna Wallingford, 2013-current
- **Past Postdoctoral Associates (list names and dates)**
Dr. Andrew Norton, 1996-2000
Dr. Marc Rhainds, 2000-2002
Dr. Rebecca Loughner, 2008-2009
Dr. Dong Cha (2006-2011)
Dr. Matthew Pettersen (2013)
Dr. Ash Sial (2013)
- **Other Current Research Professionals Supervised (list names)**
Steve Hesler, Research Support Specialist, Entomology (NYSAES), Cornell University,
Gabrielle Brind 'Amour, Research Technician I, Entomology, Cornell University
ShinYoung Park, Research Technician I, Entomology, Cornell University

TEACHING AND ADVISING RESPONSIBILITIES

- **Active Grants/Contracts/Gifts (format according to provided sample)**
none
- **Pending Grants/Contracts/Gifts (format according to provided sample)**
none
- **Administrative Leadership (positions related to teaching/education/advising)**
none
- **Teaching Prizes, Awards Received**
None
- **Courses Taught (course number and name)**
Entomology 707, Diseases and pests of NY crops. Two units, with multiple instructors.
I co-lead two all-day field excursions (small fruit and grapes).
Entomology/Plant Pathology 0320, Grape Pest Management. Three unit lecture and lab
with three instructors. I teach 1/3 of the course.
Horticulture 444, Viticulture. In past, have given a lecture on IPM for this course, but not
2012
Horticulture 442, Small Fruit. In past, have given a lecture/lab on IPM (offered every

other year), but not 2012

Entomology 241, Insect pest management for practitioners. I ran a guest lab in 2012.
Finger Lakes Community College Viticulture. I give a guest lecture and lab each year.

- **Educational Innovations Developed Including; Web-Based Materials; New Courses Developed, etc.**
Helped develop a new course for the new viticulture and enology program focused on grape pest management (see above, Ent/PP 320).
- **Current Undergraduate Students Mentored in Independent Research**
 - Sophia Schmidt, Williams College, Cornell Entomology summer intern, 2016
 - Priscilla Glenn, University of Texas, Cornell Entomology summer intern, 2016
- **Current Student Organizations for Which Served as Faculty Advisor**
none
- **Current Undergraduate Advisees**
- **Current Teaching Assistants and Other Teaching Support Professionals**
none
- **Other Relevant Teaching and Advising Activities, Accomplishments, etc.**
- **Former Undergraduate Students Mentored in Independent Research**
 - Nolan Anon, Cornell University, Cornell Entomology summer intern, 2015
 - Nathan Watson, Cornell University, Cornell Cooperative Extension summer intern, 2015
 - Ellie McCabe, University of Wisconsin, Cornell Entomology summer intern, 2014
 - Anna Long, Cornell University, Cornell Cooperative Extension summer intern, 2014
 - Haley Stranbro, SUNY Osewgo, Cornell Entomology summer intern, 2013
 - Jeff Smith, University of Delaware, Cornell Entomology summer intern, 2012
 - Nate Martin, Hobart & William Smith undergrad intern program, 2012
 - Jane Petzolt, Wesleyan University, Cornell summer intern, 2012. Co-advised with Larry Smart in Dept. Horticulture.
 - Amanda Schenk, William Smith College, Cornell summer intern, 2011

EXTENSION RESPONSIBILITIES

- **Extension Prizes, Awards Received**
none
- **Current Program Work Team(s)/Program Councils, Administrative Leadership (positions related to Extension, i.e., DEL, program leader, etc.)**
Tree-fruit and Berry Crop Program Work Team
Grape Work Team
- **Extension/Outreach Workshops, Field Days, and Conferences (development, participation—list date and duration, title, constituency [i.e., stakeholder group, etc.] and size of audience, i.e., number of attendees and your role, i.e., principal organizer,**

co-chair, speaker, etc.). Report state, national and international activities.

Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University. I led the planning effort to develop a day-long workshop on the biology and management of spotted wing drosophila, including presentation, hands on experiential learning on biology and management, and a resource guide. This workshop was designed for NY berry growers, as well as Cornell Extension Educators and was approved by NYS DEC for pesticide education credits (5.5). Three workshops were held, one in Syracuse, NY on 17 December 2014 (attendance about 35), a second in Albany, NY on 14 January 2015 (attendance about 40) and a third in Batavia, NY on 4 March 2015 (attendance about 40).

Spotted wing drosophila identification workshop. Co-leader of 3-hour workshop, held in Geneva, NY on 15 May 2014, to provide training on the processing of adult monitoring traps and identification of SWD verses other drosophilids. This workshop was developed for extension educators who are participating in a statewide monitoring program for SWD administered by Julie Carroll (NYS IPM Fruit Coordinator). We had 12 participants in the training session, which involved hands on experience with processing samples and identifying SWD, including samples we spiked with male and female SWD.

Spotted Wing Drosophila Working Group. Lead organizer of 2 day meeting held in Highland, NY on 15 September-16 September 2014 involving researchers, extension educators, growers, industry groups, and regulators to develop research, extension, educations and regulatory priorities to address this new invasive pest. This conference had about 40 people attended. I was PI on grant to fund this meeting and one of the princip[al organizer. Conference content and participant list at <http://www.northeastipm.org/working-groups/spotted-wing-drosophila/>

Spotted Wing Drosophila Working Group. Lead organizer of 2 day meeting held in Bridgeton, NJ, on 30 October – 31 October, 2013 involving researchers, extension educators, growers, industry groups, and regulators to develop research, extension, educations and regulatory priorities to address this new invasive pest. This conference had about 40 people attend in person and additional 10 who participated through internet. I was PI on grant to fund this meeting and one of the princip[al organizer. Conference content and participant list at <http://www.northeastipm.org/working-groups/spotted-wing-drosophila/>

Spotted Wing Drosophila Working Group. Lead organizer of 2 day meeting held in Geneva, NY on 31 October-1 November 2012 involving researchers, extension educators, growers, industry groups, and regulators to develop research, extension, educations and regulatory priorities to address this new invasive pest. This conference had about 40 people attend in person and additional 10 who participated through internet. I was PI on grant to fund this meeting and one of the princip[al organizer. Conference content and participant list at <http://www.northeastipm.org/working-groups/spotted-wing-drosophila/>

Extension Presentations and Other Activities (2016-1995)

2016

Fredonia, NY. 22 March 2016. Grape berry moth from A to Z. 60 minutes presentation as part of 2016 Lake Erie Region Grape Growers' Conference. Approximately 90 growers, extension educators and industry representatives in attendance. Contact hours = 90.

Lockport, NY. 1 March 2016. Key arthropod pests of berry crops. 45 minute presentation during the Niagara County Small Fruit Grower Meeting held in Lockport, NY. Approximately 20 growers, extension educators and industry representatives in attendance. Contact hours = 15.

Kingston, NY. 18 February 2016. Workshop on Network for Environment and Weather Applications (NEWA) Hands on Lab organized by J. Carroll (NYS IPM). I contributed to workshop with emphasis on grape berry moth forecast model. Workshop was 1.5 hours. Approximately 15 growers, etc. in attendance. Contact hours = 20.

Kingston, NY. 18 February 2016. Research update: Grapevine leafroll and grape mealybugs. 35 minute presentation in the grape session at the 2016 Hudson Valley Commercial Fruit Growers' School, held in Kingston, NY on 18 February 2016. Approximately 25 growers, extension educators and industry representatives in audience. Contact hours = 14.6.

Kingston, NY. 18 February 2016. Research update: Invasive insects in berry crops (SWD, BMSB). 30 minute presentation in the berry session at the 2016 Hudson Valley Commercial Fruit Growers' School, held in Kingston, NY on 18 February 2016. Approximately 30 growers, extension educators and industry representatives in audience. Contact hours = 15.

Hershey, PA. 3 February 2016. Spotted wing drosophila: When do I really need to start spraying? 30 minute presentation in the berry session at the 2016 Mid-Atlantic Fruit and Vegetable Convention, held in Hershey, PA on 3 February 2016. Approximately 100 growers, extension educators and industry representatives in audience. Contact hours = 50.

Syracuse, NY. 21 January 2016. Strategies to control arthropod pests in high tunnels. 25 minute presentation at the 2016 Empire State Producers Expo, held January 19-21 in Syracuse, NY. I spoke during the afternoon portion of the day-long berry session. Approximately 100 growers, extension educators and industry representatives in audience. Contact hours = 42.

2015

Geneva, NY. 9 November 2015. Efficacy of exclusion netting for managing spotted wing drosophila in blueberries. (D. Riggs, L. McDermott, S. Hesler coauthors). 20 minute talk

at the Great Lakes Fruit Workers Meeting. Approximately 30 researchers and extension educators in attendance. Contact hours = 10.

Bath, NY. 27 October 2015. Top three insect pests of strawberry, raspberry and blueberry and how to identify. 0.5 hr talk at regional small fruit meeting held in Bath, NY. Approximately 30 growers, industry and CCE in attendance. Contact hours = 15.

Bath, NY. 27 October 2015. Managing Insects in Small Fruit Plantings. 0.5 hr talk at regional small fruit meeting held in Bath, NY. Approximately 30 growers, industry and CCE in attendance. Contact hours = 15.

Stephentown, NY. 2 September 2015. SWD research update and demonstrations. Three hours in total. Part of a twilight meeting held at The Berry Patch focused on research results on SWD management. 15 growers and industry representatives in the audience. Contact hours = 45.

Geneva, NY. 12 May 2015. Grape entomology update, spring 2015. 0.33 hour talk at the 2015 Spring Pest Management Finger Lakes Grape Program Meeting. Approximately 150 growers and industry representatives in audience. Contact hours = 49.5

Riverhead, NY. 31 March 2015. Grape entomology update: mealybugs, leafroll and other entomological issues. Part of Grape Pest Management Spring Meeting, held on Long Island. Approximately 25 growers and extension educators in attendance. Contact hours = 25.

Niagara Falls, Ontario, Canada. 19 February 2015. Greg Loeb and Anna Wallingford. SWD research updates from the Northeast working group. Invited speaker as part of the spotted wing drosophila session at the 2015 Ontario Fruit and Vegetable Conference held in Niagara Falls, Ontario. Presented a 30 minute talk to approximately 40 growers and industry representatives. Contact hours = 20.

Niagara Falls, Ontario, Canada. 19 February 2015. Anna Wallingford, J. Elsensohn, and G. Loeb. What you need to know. Postdoc Anna Wallingford was invited speaker as part of the spotted wing drosophila session at the 2015 Ontario Fruit and Vegetable Conference held in Niagara Falls, Ontario. Presented a 30 minute talk to approximately 40 growers and industry representatives. Contact hours = 20.

Syracuse, NY. 22 January 2015. G. Loeb and D. Riggs. Spotted wing drosophila research update. 25 minute joint presentation at the 2015 Empire State Producers Expo, held January 19-22 in Syracuse, NY. We spoke during the afternoon portion of the day-long berry session. Approximately 75 growers, extension educators and industry representatives in audience. Contact hours = 31.2.

Albany, NY. 14 January 2015. Biological control primer: hummingbirds, parasitoids, microbe entomopathogens and commercially available formulations studies. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS

BGA and Cornell University and held in Albany, NY on 14 January 2015. I spoke for 15 minutes. Approximately 45 growers, extension educators, and industry representatives in audience. Contact hours = 11.25.

Albany, NY. 14 January 2015. Sprayer configurations and using water sensitive cards to assess spray droplet distribution and uniformity. Hands on experiential learning module developed by Steve Hesler (Research Support Specialist in Loeb Program) and Dr. Andrew Landers (Dept Entomology, Cornell University) consisting of displays and demonstrations of sprayers, spray coverage, nozzles, etc. over a 30 minute period. Approximately 45 growers, extension educators, and industry representatives participated. Contact hours = 22.5.

Albany, NY. 14 January 2015. Insecticide efficacy, sugar synergists. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Albany, NY on 14 January 2015. I spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 11.25.

Albany, NY. 14 January 2015. Trap content processing and identifying SWD adults from trap contents. Presentation and hands on experiential learning was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Albany, NY on 14 January 2015. Anna Wallingford (postdoc in Loeb Program), who developed this learning module, spoke for 10 minutes and then Anna and others from Loeb Lab led a hands on exercise with attendees focused on adult SWD identification using prepared samples, dissecting scopes and hand lenses for 25 minutes. Approximately 45 growers, extension educators, and industry representatives in audience and participated. Contact hours = 26.2.

Albany, NY. 14 January 2015. Advances in monitoring and role in management decisions. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Albany, NY on 14 January 2015. I spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 11.25.

Albany, NY. 14 January 2015. Wild hosts and SWD seasonal dynamics. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Albany, NY on 14 January 2015. I spoke for 15 minutes. Approximately 45 growers, extension educators, and industry representatives in audience. Contact hours = 11.25.

Albany, NY. 14 January 2015. SWD life cycle, overwintering, and cold tolerance. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Albany, NY on 14 January 2015. Anna Wallingford (postdoc in Loeb Program) spoke for 15 minutes. Approximately 45 growers, extension educators, and industry representatives in audience. Contact hours = 11.25.

2014

Syracuse, NY. 17 December 2014. Biological control primer: hummingbirds, parasitoids, microbe entomopathogens and commercially available formulations studies. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Syracuse, NY on 17 December 2014. I spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 10.

Syracuse, NY. 17 December 2014. Sprayer configurations and using water sensitive cards to assess spray droplet distribution and uniformity. Hands on experiential learning module developed by Steve Hesler (Research Support Specialist in Loeb Program) and Dr. Andrew Landers (Dept Entomology, Cornell University) consisting of displays and demonstrations of sprayers, spray coverage, nozzles, etc. over a 30 minute period. Approximately 40 growers, extension educators, and industry representatives participated. Contact hours = 20.

Syracuse, NY. 17 December 2014. Insecticide efficacy, sugar synergists. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Syracuse, NY on 17 December 2014. I spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 10.

Syracuse, NY. 17 December 2014. Trap content processing and identifying SWD adults from trap contents. Presentation and hands on experiential learning was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Syracuse, NY on 17 December 2014. Anna Wallingford (postdoc in Loeb Program), who developed this learning module, spoke for 10 minutes and then Anna and others from Loeb Lab led a hands on exercise with attendees focused on adult SWD identification using prepared samples, dissecting scopes and hand lenses for 25 minutes. Approximately 40 growers, extension educators, and industry representatives in audience and participated. Contact hours = 23.3

Syracuse, NY. 17 December 2014. Advances in monitoring and role in management decisions. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Syracuse, NY on 17 December 2014. I spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 10.

Syracuse, NY. 17 December 2014. Wild hosts and SWD seasonal dynamics. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop sponsored by NYS BGA and Cornell University and held in Syracuse, NY on 17 December 2014. I spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 10.

Syracuse, NY. 17 December 2014. SWD life cycle, overwintering, and cold tolerance. Presentation was part of the Spotted Wing Drosophila Winter Regional Workshop

sponsored by NYS BGA and Cornell University and held in Syracuse, NY on 17 December 2014. Anna Wallingford (postdoc in Loeb Program) spoke for 15 minutes. Approximately 40 growers, extension educators, and industry representatives in audience. Contact hours = 10.

Grand Rapids, MI. 9 December 2014. Chemical control of spotted wing drosophila for raspberries in high tunnels and the field. Invited presentation at the Great Lakes Expo as part of the Berries session. Spoke for 25 minutes. Approximately 75 growers, extension educators, and industry representatives in audience. Contact hours = 31.2

Grand Rapids, MI. 9 December 2014. Vectors of grape leafroll disease in the northeast. Invited presentation at the Great Lakes Expo as part of the Grape session. Spoke for 30 minutes. Approximately 50 growers, extension educators, and industry representatives in audience. Contact hours = 25 contact hours.

Highland, NY. 16 September 2014. SWD research objectives and progress in the Loeb Program. 0.33 hours talk as part of the Spotted Wing Drosophila IPM Working Group meeting held in Highland, NY. Approximately 30 researchers, extension educators, growers, industry leaders, students and regulators present in meeting room. Contact hours = 9.9

Stephentown, NY. 3 hour field meeting on biology and management of spotted wing drosophila with a focus on results of a netting exclusion experiment with blueberries and test of a fixed sprayer system for raspberries. On farm visit in eastern NY with approximately 20 growers and extension educators in attendance. Contact hours = 60

Hector, NY. 22 May 2014. Spring insect update. 0.33 hour talk at the 2014 Spring Pest Management Finger Lakes Grape Program Meeting. Approximately 100 growers and industry representatives in audience. Contact hours = 33

Geneva, NY. 15 May 2014. Drosophila monitoring and identification for pest management practitioners. Workshop for Cornell Cooperative Extension personnel involved with grower education on *Drosophila suzukii* monitoring and management. There were 11 participants who received hands on training during the four-hour workshop. Contact hours = 33

Fredonia, NY. 20 March 2014. Grape rootworm/Japanese beetle project. 30 minute talk at the Lake Erie Regional Grape Program Winter Grape Grower Conference held in Fredonia, NY on 20 March 2014. There were approximately 75 growers and industry representatives in attendance. Contact hours = 37.5.

Geneva, NY. 3 February 2014. SWD overwintering, early-season monitoring and use of wild host plants. 45 minute web x presentation hosted by Pam Fisher with Ontario Ministry of Agriculture and Food. There were approximately 20 researchers and extension educators participating, mainly from Canada. Contact hours = 15.

Hershey, PA. 27 January 2014. Spotted wing drosophila biology and management. 30 minute talk at the annual meeting of the National Raspberry and Blackberry Association.

Audience included about 75 growers, industry representatives and extension educators.
Contact hours = 37.5.

Hershey, PA. 27 January 2014. Understanding insecticides and how they work in the age of SWD. 30 minute talk at the annual meeting of the National Raspberry and Blackberry Association. Audience included about 75 growers, industry representatives and extension educators.

Syracuse, NY. 23 January 2014. A fixed-sprayer system for SWD management in high tunnel raspberries. 30 minute talk as part of the spotted wing drosophila symposium held at the Empire State 2014 Producers Expo. A. Agnello presented with co-authors Andrew Landers, and Greg Loeb. Audience included about 100 growers, extension educators and industry representative.

Syracuse, NY. 23 January 2014. Enhancing insecticide efficacy with phagostimulants. 30 minute talk as part of the spotted wing drosophila symposium held at the Empire State 2014 Producers Expo. G. Loeb presented with co-authors Steve Hesler, and Johanna Elsensohn. Audience included about 100 growers, extension educators and industry representative.

Syracuse, NY. 23 January 2014. Assessment of lures for monitoring adult SWD. 30 minute talk as part of the spotted wing drosophila symposium held at the Empire State 2014 Producers Expo. G. Loeb presented with co-authors Steve Hesler, Johanna Elsensohn, and Ash Sial. Audience included about 100 growers, extension educators and industry representative.

Niagara on the Lake, Ontario, Canada. 21 January 2014. Vectors of grape leafroll disease in the northeast. 1 hour talk + discussion as part of a special workshop on grapevine viruses hosted by Grape Growers of Ontario and Ontario Ministry of Ontario. Approximately 150 growers, government, extension and industry representatives in audience.

Geneva, NY. 15 January 2014. Overview of ongoing research investigating SWD biology and management. 1 hour webinar on invasive pests of small fruit and vegetable crops hosted by PSU and Cornell as part of a series of webinars on vegetables and small fruit crops. There were 38 participants (growers, extension educators, master gardeners) on the webinar. Go to <https://meeting.psu.edu/p5xe3m3grk8/?launcher=false&fcsContent=true&pbMode=normal> to hear full webinar.

Geneva, NY. 7 January 2014. Funding strategies—working with stakeholders and state agencies. 30 minute talk at eFly: Spotted wing drosophila working group meeting. Held in Savannah, Georgia. I made presentation using video chat system. Approximately 30 growers, researchers, extension educators in audience or participating online.

2013

Bridgeton, NJ. 30 October 2013. SWD overwintering biology and alternative hosts. 15 min talk as part of the Spotted Wing Drosophila IPM Working Group meeting held in Geneva, NY. Approximately 40 researchers, extension educators, growers, industry leaders, students and regulators present in meeting room and 10 attending remotely through webex.

- Stephentown, NY. 10 September 2013. 3 hour field meeting on biology and management of spotted wing drosophila. On farm visits in eastern NY with approximately 15 growers and extension educators in attendance.
- Geneva, NY. 1 August 2013. 20 minute talk at NYSAES 2013 Fruit Open House. Title of talk: Biology and management of spotted wing drosophila, a major new pest of fruit crops. Co-authors Steve Hesler and Johanna Elsensohn. GL presented. Approximately 80 growers, extension educators, and industry representatives in attendance.
- Geneva, NY. 1 August 2013. 15 minute talk at NYSAES 2013 Fruit Open House. Title of Talk: Local and landscape diversity influences on insect biodiversity and ecosystem services to strawberry (*Fragaria ananassa*). Co-author Heather Connelly. HC presented. Approximately 80 growers, extension educators, and industry representatives in attendance.
- Geneva, NY. 1 August 2013. 20 minute talk at NYSAES 2013 Fruit Open House. Title: Using netting to exclude spotted wing drosophila from blueberries. Co-authors Marvin Pritts and Cathy Heidenrich. GL presented. Approximately 80 growers, extension educators, and industry representatives in attendance.
- Portland, NY. 25 July 2013. 10 minute talk at CLEREL summer meeting and open house to discuss ongoing grape entomology research. Approximately 30 growers and industry representative present as part of tour of the research farm at CLEREL.
- Trumansburg, NY. 18 June 2013. Twilight meeting at Silver Queen Farm to discuss current situation with spotted wing drosophila and berry crops. Two hour session. Approximately 20 growers present for meeting that involved demonstrations, show and tell and question and answer session. Sponsored by CCE in southern Tier Kat.
- Jerusalem, NY. 16 May 2013. Spring insect update. 20 minute talk at the 2013 Spring Pest Management Finger Lakes Grape Program Meeting. Approximately 100 growers and industry representative in audience.
- Hamden, NY. 11 April 2013. Insects and mites: identification and management. 60 minute talk + 20 minute discussion on pests of blueberries with emphasis on invasive species. Approximately 60 growers, home gardeners, and extension educators in audience.
- Rochester, NY. 8 February 2013. Managing phylloxera on own-rooted vinifera and use of entomopathogenic nematodes for management of Japanese beetle. 20 min talk to growers, industry representatives and extension educators as part of NY State viticulture and enology meeting held every three years. Approximately 100 people in the audience for talk.
- Syracuse, NY. 22 January 2013. Spotted wing drosophila in NY: where have we been and where are we going. 20 min talk as part of symposium on spotted wing drosophila at the New York Fruit and Vegetable Expo held in Syracuse, NY. Approximately 150 growers, industry reps, and extension educators in the audience.
- Riverhead, NY. 11 January 2013. Risks to grapes from new invasive insects. 45 minute talk as part of Long Island Agriculture Forum Viticulture session. Approximately 40 people in attendance.

2012

- Geneva, NY. 1 November 2012. Northeast ipm spotted wing drosophila damage assessment for 2012. 15 min talk as part of the Spotted Wing Drosophila IPM Working Group meeting held in Geneva, NY, with co-authors Cathy Heidenreich, Laura McDermott, and Juliet Carroll (Loeb presented). Approximately 40 researchers, extension educators, growers, industry leaders, students and regulators present in meeting room and 10 attending remotely through webex.
- Geneva, NY. 1 November 2012. Research update from NY. 15 min talk as part of the Spotted Wing Drosophila IPM Working Group meeting held in Geneva, NY. Approximately 40 researchers, extension educators, growers, industry leaders, students and regulators present in meeting room and 10 attending remotely through webex.
- Walcot, NY. 23 July 2012. Update on spotted wing drosophila. 15 min talk as part of Lake Ontario Fruit Team summer tour. Approximately 100 people in attendance.
- Geneva, NY. 6 June 2012. Grape entomology update with focus on grape berry moth. Webinar, approximately 1.5 hours in length delivered remotely to about 30 growers, industry reps, and extension educators. About 20 people were in a central room at Long Island Hort Center and the remainder were attending via the web.
- Himrod, NY. 16 May, 2012. Spring Entomology Update. 20 minute talk on upcoming issues for insect and mite management for grapes. Audience approximately 125 growers, industry reps, and extension educators.
- Geneva, NY. 27 April, 2012. Getting ready for spotted wing drosophila: Understanding risks for small fruit crops and current management strategies. Webinar, approximately 2 hours in length delivered remotely to about 35 extension educators, researchers, and growers. Archived on web. See Cornell Fruit, Berry crops.
- Portland, NY. 8 March 2012. Underground battles – Japanese beetle and phyloxera. 30 min talk at the 2012 Lake Erie Regional Grape Growers' Conference. Audience approximately 100 growers, industry reps, and extension educators.
- Waterloo, NY. 3 March 2012. Managing root-form phylloxera in NY and update on invasive species. 30 minute talk at the 60th Annual Finger Lakes Grape Grower's Conference and New York Wine Industry. Audience approximately 200 growers, industry reps, and extension educators.
- Albany, NY. 29 February 2012. Spotted wing drosophila: What to expect in 1012. 25 minute presentation at the Capital District Small Fruit & Vegetable Growers Winter Meeting. Approximately 70 growers, extension educators and industry representatives in attendance.
- Lockport, NY. 27 February 2012. Update on spotted wing drosophila, new threat to NY berry crops. 20 minute talk to berry growers sponsored by CCE in Niagara County and the Lake Ontario Fruit Team. Approximately 30 growers, extension educators, and industry representative.
- Benton, NY. 16 January 2012. Grape entomology update. 20 minute talk as part of a meeting organized by Crop Protection Services (CPS) on pest management for grape growers,

including pesticide certificates. Approximately 115 growers, extension educators, and industry representatives.

Syracuse, NY. 25 January 2012. The spotted wing drosophila in small fruit and grape. 30 minute talk in special session of the Empire State Fruit & Vegetable Expo entitled "Facing New Threats in NY Fruit and Vegetable: Brown Marmorated Stink Bug & Spotted Wing Drosophila." Approximately 100 growers, extension educators, and industry representatives.

Syracuse, NY. 26 January 2012. Arthropod pest management in day neutral strawberry systems. 30 minute talk in morning berry session at the Empire State Fruit & Vegetable Expo entitled "Berries- Plasmid Culture Strawberries." Approximately 120 growers, extension educators, and industry representatives.

Syracuse, NY. 26 January 2012. Pest management update. 10 minute talk in afternoon berry session at the Empire State Fruit & Vegetable Expo entitled "Berries-High Tunnel Production" on changes to insecticide and miticide availability for the 2012 field season. Approximately 100 growers, extension educators, and industry representatives.

Syracuse, NY. 26 January 2012. Managing arthropods in high tunnels. 30 minute talk in afternoon berry session at the Empire State Fruit & Vegetable Expo entitled "Berries-High Tunnel Production." Approximately 100 growers, extension educators, and industry representatives.

Candor, NY. 12 January 2012. Update on invasive species of insects affecting small fruit crops. 60 minute talk to berry growers in southern tier area. Approximately 22 people in attendance, including mostly growers, with 60% men. Meeting sponsored by Molly Shaw.

2011

Belfast, NY. 12 October 2011. Overview of arthropod pests of berry crops. 60 minute talk to berry growers in the southern tier area of NY. Approximately 50 people in attendance, with about even split between men and women. Meeting sponsored by CU and CEE of Allegany/Cattaraugus Counties. Colleen Cavagna is the contact person.

Portland, NY. 24 August 2011. Entomology summer update. I presented the same 15 min. talk twice to two groups of grape growers, industry reps and extension educators. First group was about 50 people and second group was about 15.

Shamong, NJ. 1 June 2011. Sustainable winegrape twilight meeting for New Jersey Grape Growers. I presented two talks/discussions at Valenzano Winery. Talk 1: Grape Berry Moth Biology and Timing of Management Decisions, 25 minutes. Talk 2: Mid-Season Grape Insect Pests of Vineyards, 15 minutes. Approximately 15 growers in attendance.

Heightstown, NJ. 31 May 2011. Sustainable winegrape twilight meeting for New Jersey Grape Growers. I presented two talks/discussions at Silver Decoy Winery. Talk 1: Grape Berry Moth Biology and Timing of Management Decisions, 25 minutes. Talk 2: Mid-Season Grape Insect Pests of Vineyards, 15 minutes. Approximately 20 growers in attendance.

Hammondsport, NY. 19 May 2011. Spring Entomology Update. 15 minute talk on upcoming issues for insect and mite management for grapes. Audience approximately 125 growers, industry reps, and extension educators.

Canandaigua, NY. 2 April 2011. Arthropod pests of brambles for high tunnel production. 45 minute talk at a half day meeting on high tunnel production of brambles organized by Ontario County Cooperative Extension. Audience was 21 people, including growers and extension personnel.

Fredonia, NY. 17 March 2011. Invasive species and GBM phenology project. 45 minute talk at the 2011 Lake Erie Regional Grape Growers' Conference. Audience approximately 100 growers, industry reps, and extension educators.

Waterloo, NY. 5 March 2011. Insect management updates for 2011. 30 minute talk at the 60th Annual Finger Lakes Grape Grower's Conference. Audience approximately 175 growers, industry reps, and extension educators.

Riverhead, NY. 14 January 2011. Update on Entomology Research & Regional Insect Issues. 60 min talk at the LI Horticulture Show, Viticulture Session. Approximately 50 growers and industry representatives in attendance.

Riverhead, NY. 14 January 2011. Insect Pest Management Concerns for Small Fruit Crops. 45 min talk at the LI Horticulture Show, Small Fruit and Tree Fruit Session. Approximately 20 growers and industry representatives in attendance.

2010

Ithaca, NY. 16 November 2010. Insect vectors of grape leafroll associated virus in the finger lakes. 15 min. talk as part of the Cornell in-service extension meeting grape session. Approximately 30 researchers, extension educators, and graduate students in attendance.

Geneva, NY. 28 August 2010. Validating a temperature-driven model to predict phenology of grape berry moth. 15 min. talk as part of the NYSAES Geneva Summer Fruit Tour. Approximately 80 growers, industry reps, and extension educators attending.

Geneva, NY. 28 August 2010. A trap crop to manage damage from tarnished plant bug in strawberry. 15 min. talk as part of the NYSAES Geneva Summer Fruit Tour. Approximately 80 growers, industry reps, and extension educators attending.

Geneva, NY. 28 August 2010. Observations on insect and mite pests on raspberry grown in high tunnels. 5 min. talk as part of the NYSAES Geneva Summer Fruit Tour. Approximately 80 growers, industry reps, and extension educators attending.

Portland, NY. 21 July 2010. Update on grape phylloxera research. Part of a pest management summer program at CLEREL for growers, industry representatives, and extension educators. Provided three 15 minute presentations on on-going grape phylloxera research.

Geneva, NY. 14 July 2010. Grape entomology program overview. Three short presentations (5 min each) to three groups of about 20 people on a tour associated with the Eastern ASEV meeting being held in Geneva. The groups consisted of growers, winery folks, academics, and extension educators. Had exhibits and posters along with the oral presentation. Overall, event ran from about 4:30 to 6:30.

Geneva, NY. 16 June 2010. Special guest for Berry Crops Weekly Call In Hour. This is a weekly hour-long meeting with various county extension educators and some growers, hosted by Berry Extension Educators. At this meeting the focus was on insect and mite management issues, although other topics were discussed.

Penn Yan, NY. 18 May 2010. Spring entomology update. 10 min talk at Finger Lakes grape industry meeting. Audience approximately 125 growers, industry reps, and extension educators.

Kingston, NY. 25 February 2010. Understanding grape berry moth phenology. 30 min talk at the winter meeting of the Hudson Valley Fruit School, Viticulture Session. Approximately 25 growers and industry representatives in attendance.

Kingston, NY. 25 February 2010. New insecticides for grape pests. 20 min talk at the winter meeting of the Hudson Valley Fruit School, Viticulture Session. Approximately 25 growers and industry representatives in attendance.

Rochester, NY. 17 February 2010. Potential of growing *V. vinifera* on their own roots. A 30 minute talk as part of state-wide viticulture meeting held every 3 years (Viticulture 2010). Approximately 50 growers and industry representatives in audience.

Rochester, NY. 19 February 2010. Making scents of grape berry moth phenology. A 30 minute talk as part of state-wide viticulture meeting held every 3 years (Viticulture 2010). Approximately 50 growers and industry representatives in audience.

2009

Manchester, NH. 17 December 2009. Managing insect pests in grapes: grape berry moth & mealybugs/soft scales. A talk at the New England Vegetable & Fruit Conference and Trade Show. Spoke 30 minutes to audience of approximately 35 growers and industry representatives.

Ithaca, NY. 10 November 2009. A temperature-driven phenology model for grape berry moth. 20 min. talk as part of the Cornell in-service extension meeting grape session. Approximately 30 researchers, extension educators, and graduate students in attendance.

Geneva, NY. 24 September 2009. Insect and mite management in high tunnel raspberries. A talk as part of field day organized by Dr. Courtney Weber to educate growers and exchange information on growing different varieties of raspberry under high tunnel conditions. I spoke on some arthropod pests and management options. There were approximately 30 growers in attendance and I spoke for about 30 minutes.

Geneva, NY. 22 September 2009. Biology and management of arthropod pests of strawberries. This was part of a web cast presentation (using Adobe Connect) live to growers and extension educators from New York and other states in the Northeast who participated over the web offices, homes, etc. It was hosted by Laura McDermet of CEE and included periodic evaluation questions. I gave a power point presentation and answered questions over a chat line. Presentation will be made available online. The presentation/talk lasted about 35 minutes. Approximately 12 people participated.

Webinar can be viewed by going to
<http://www.fruit.cornell.edu/Berries/webcastarchive.htm>.

Valois, NY. 26 August 2009. Field meeting/demonstration on targeted sprayer systems that Andrew Landers has been heading up. Approximately 15 growers/industry representatives. I contributed in informal discussions about insect management and these secondary sprayer systems.

Portland, NY. 25 August 2009. Open house for CLEREL. Short presentation on entomology program and then informal questions, etc. during the afternoon. Included poster presentation. Audience was industry and Cornell. Morning session with approximately 25. Afternoon session approximately 75.

Dresden, NY. 19 May 2009. Spring entomology update. 10 min talk at Finger Lakes grape industry meeting. Audience approximately 125 growers, industry reps, and extension educators.

Fredonia, NY. 18 March 2009. Panel member for round table discussion on pest management issues. There were two one hour meetings for questions and answers as part of the Lake Erie Grape Program Winter Meeting. I served on the panel as insect specialist with plant pathologist and weed scientist. Audience approx. 80 for hour session and 25 for second comprised of growers, industry representatives, extension personnel.

Warsaw, NY. 16 March 2009. Review of key arthropod pests of small fruit crops. 60 minute presentation as part of a small fruit training program sponsored by CCE in Wyoming County. 7 participants in the class.

Waterloo, NY. 7 March 2009. Management of Japanese beetle and other insect pest. 25 minute talk at the 59th Annual Finger Lakes Grape Grower's Conference. Audience approximately 200 growers, industry reps, and extension educators.

Syracuse, NY. 12 February 2009. Methods of control for fruitworms and blueberry maggot. 15 minutes as part of a 30 minute presentation that Molly Shaw and I gave at the Berry Session of the Empire State Fruit & Vegetable Expo. Approximately 100 in attendance.

2008

Geneva, NY. 4 December 2008. Update (about 10 minutes) on small fruit entomology research. Meeting (4 hours in length) with board of directors of the NY Berry Growers' Association. Approx. 10 growers present.

Ithaca, NY. 11 November 2008. Host finding in the grape berry moth. 20 min. talk as part of the Cornell in-service extension meeting grape session. Approximately 30 researchers, extension educators, and graduate students in attendance.

Geneva, NY. 5 November 2008. Understanding & managing arthropod pests of berry crops. This was part of a web cast presentation live to 6 CCE educators who participated over the web from their offices. It was hosted by Laura McDermet and included periodic evaluation questions. I gave a power point presentation and answered questions over a chat line. The presentation/talk lasted about 70 minutes.

Fredonia, NY. 26 August 2008. Retrospective on entomological research at the Vineyard Laboratory in Fredonia, NY. Half-hour talk to approximately 30 growers and industry representatives.

- Geneva, NY. 20 June 2008. Update on grape pests for the Hudson Valley. Hour-long question and answer session with grape growers in the Hudson Valley via computer linkup from Geneva, NY. Approximately 10 growers in attendance.
- Geneva, NY. 15 May 2008. Spring update for grape arthropod pests. Hour question and answer session with grape growers in the Hudson Valley via video conferencing from Geneva, NY. Approximately 100 growers in attendance.
- Canandaigua, NY. 9 April 2008. The target – insects. 30 minute presentation at the 1st North American Conference on Precision Fruit Spraying. Audience approximately 30, comprised of academics, extension educators and industry.
- Fredonia, NY. 27 March 2008. Phylloxera & insects important in wine grapes. 30 minute presentation at Lake Erie Regional Grape Program Growers' Conference special session on wine grapes. Audience approximately 70 growers, industry representatives and extension educators.
- Fredonia, NY. 26 March 2008. Update on grape berry moth research. 30 minute presentation at Lake Erie Regional Grape Program Growers' Conference. Audience approximately 120 growers, industry representatives and extension educators.
- Geneva, NY. 25 March 2008. Small fruit entomology: research update. 30 minute presentation as part of Berry Pest Management Workshop held in Geneva and simultaneously video-linked to three distant sites in upstate NY (Clinton county, Oneida county, and Chautauqua county). Audience 39 in Geneva, 10 in Clinton, 10 in Oneida, and 17 in Chautauqua.
- Geneva, NY. 25 March 2008. Berry arthropod management overview. 30 minute presentation as part of Berry Pest Management Workshop held in Geneva and simultaneously video-linked to three distant sites in upstate NY (Clinton county, Oneida county, and Chautauqua county). Audience 39 in Geneva, 10 in Clinton, 10 in Oneida, and 17 in Chautauqua.
- Waterloo, NY. 14 March 2008. Possible pest management and physiology impacts of global climate change on NY vineyards. 30 minute panel discussion on pest management impacts involving 5 minute overview and then discussion and questions at the 58th Annual Finger Lakes Grape Grower's Conference. Audience approximately 250 growers, industry reps, and extension educators.
- Waterloo, NY. 15 March 2008. Managing insect pests in 2008. 30 minute talk at the 58th Annual Finger Lakes Grape Grower's Conference. Audience approximately 250 growers, industry reps, and extension educators.
- Kingston, NY. 28 February 2008. Management of strawberry pests. 30 minute talk as part of the Hudson Valley Berry School. Audience approximately 45 growers, industry reps, and extension educators.
- Kingston, NY. 28 February 2008. Management of blueberry pests. 20 minute talk as part of the Hudson Valley Berry School. Audience approximately 40 growers, industry reps, and extension educators.

Riverhead, NY. 11 January 2008. Overview of grape entomology program at Cornell. 20 minute talk as part of the viticulture program at the Long Island Agricultural Forum. Audience approximately 35 growers and industry representatives.

Riverhead, NY. 11 January 2008. Grape berry moth biology and management. 45 minute talk as part of the viticulture program at the Long Island Agricultural Forum. Audience approximately 35 growers and industry representatives.

Riverhead, NY. 11 January 2008. Emerging arthropod pest issues. 30 minute talk as part of the viticulture program at the Long Island Agricultural Forum. Audience approximately 35 growers and industry representatives.

2007

Lockport, NY. 15 August 2007. New information on strawberry sap beetle. 15 minute talk to participants of the North American Strawberry Grower's Association (NASGA) summer tour of New York and Ontario, Canada and informal discussions. Audience was approximately 80 growers.

Geneva, NY. 25 July 2007. Identifying host plant cues used by female grape berry moth. 15 minute talk as part of the viticulture portion of the NYSAES fruit field day held in Geneva. Audience was approximately 60 growers, industry reps and other interested people.

Geneva, NY. 25 July 2007. Sex pheromones, host plant colonization, and dispersal biology of the tarnished plant bug, a key pest of strawberry. 10 minute talk as part of the small fruit portion of the NYSAES fruit field day held in Geneva. Audience was approximately 30 growers, industry reps and other interested people.

Geneva, NY. 25 July 2007. 10 minute talk as part of the small fruit portion of the NYSAES fruit field day held in Geneva. Audience was approximately 30 growers, industry reps and other interested people.

Geneva, NY. 19 July 2007. Raspberry production and arthropod pests. 10 min talk plus informal discussions as part of a twilight meeting for raspberries. Audience approximately 20 growers, industry reps, and extension educators.

Northeast, PA. 24 May 2007. Spring grape pest management meeting. 30 minute talk as part of Lake Erie Grape Program spring pest management meeting. Approximately 50 growers, industry representatives and extension educators.

Valois, NY. 17 May 2007. Spring entomology update. 10 min talk at Finger Lakes grape industry. Audience approximately 125 growers, industry reps, and extension educators.

Hudson Valley, NY. 26 February 2007. Bramble insect pests. 25 minute talk as part of the Hudson Valley Berry School. Audience approximately 45 growers, industry reps, and extension educators.

Syracuse, NY. 15 February 2007. Overview of the biology and management of root weevils. 20 minute talk as part of Berry session of NY Fruit & Vegetable Expo. Approximately 50 growers, industry reps, and extension educators.

2006

Syracuse, NY. 15 February 2006. Getting to know insect pests of raspberry and what to do about them. 30 minute talk as part of the berry session at Empire State Fruit and Vegetable Expo. Approximately 80 growers and industry representatives present.

Notes: For this session I included an insect identification quiz that seemed particularly effective and I plan to use this technique in the future.

Geneva, NY, 23 February 2006. Research reports to the NY grape research committee. I was coordinator for the reports on insect/mite management and spray technology. Approximately 25 growers and industry representatives present.

Waterloo, NY, 4 March 2006. Update on Grape Cane Borer Management. 30 minute talk as part of the Finger Lakes Grape Program Winter Meeting. Audience approx. 300 comprised of growers, industry representatives, extension personnel.

Fredonia, NY, 30 March 2006. Panel member for round table discussion on pest management issues. 45 minutes for questions and answers as part of the Lake Erie Grape Program Winter Meeting. I served on the panel as insect specialist with plant pathologist and weed scientist. Audience approx. 100 comprised of growers, industry representatives, extension personnel.

Gardiner, NY, 27 April 2006. Grape berry moth and other insect pests. 45 minute talk as part of a meeting at a Hudson Valley winery for growers. 12 growers and 2 extension educators in attendance.

Watkins Glenn, NY. 18 May 2006. What insect pests to look out for during the 2006 growing season. 5 minute talk as part of Finger Lakes Grape Program Spring Meeting. Audience approx. 130 comprised of growers, industry representatives, extension personnel.

Northeast, PA. 21 May 2006. Spring grape pest management meeting. 30 minute talk as part of Lake Erie Grape Program spring pest management meeting. Approximately 50 growers, industry representatives and extension educators.

Franklin County, NY. 13 July 2006. Summer grower meeting for small fruit growers focused on raspberry and blueberry crops. 3.5 hours of questions and answer session along with Marvin Pritts. Approximately 50 growers.

Grand Rapids, MI. 5 December 2006. Biology and Management of Grape Cane Borer. 30 minute talk in the viticulture session of the Great Lakes Fruit and Vegetable Expo. Approximately 100 growers and industry representatives in attendance.

Grand Rapids, MI. 5 December 2006. Biology and Management of Strawberry Sap Beetle. 30 minute talk in the small fruit session of the Great Lakes Fruit and Vegetable Expo. Approximately 100 growers and industry representatives in attendance.

- **Internet Presence/Distance learning (websites, on-line Extension/Outreach courses; describe and provide URLs, your role [leader, collaborator], intended audience, estimates of use)**

-Regular contributor to online newsletter for berry crops New York Berry News. The intended audience includes extension educators, growers, industry reps and other

- researchers from NY and surrounding states. See New York Berry News, www.nysaed.cornell.edu/pp/extension/tfabp/newslett.shtml
- Participate in webinar presentations using adobe connect or Web X for small fruit pest management talks. See list of presentations.
 - Past Editorial board for online newsletter *Appellation Cornell* for Viticulture and Enology Program at Cornell.
<http://grapesandwine.cals.cornell.edu/cals/grapesandwine/appellation-cornell/index.cfm>.
 - CALs Web site on development of shrub willow as a bioenergy crop WillowPedia at <http://willow.cals.cornell.edu/resources.html>. Larry Smart is creator and manager with participation of other researchers in horticulture, plant pathology and entomology.
- **Policy Engagement/Leadership (advisory/legislative/regulatory boards/panels, your role and the policy domain affected [significance])**
 - **Key Audiences and Scope of Impact (major organizations/clientele groups; international, national, local; engagement – leadership, problem solving/service, diagnostics; scope of impact [geographic, population, financial])**
 - **Clientele**
 - Commercial growers of grapes and small fruit crops
 - Winery owners and workers
 - Pest control industry representatives with products for use in small fruit crops
 - Pest control advisors for grapes and small fruit crops
 - Government regulators including the EPA and NYDEC
 - Homeowners with pest control questions for fruit crops
 - **Geographic scope of impact**
 - Generally in New York and surrounding states in the Northeast including Pennsylvania and New England states. Also some interactions with fruit extension personnel in Provinces of Ontario and Quebec in Canada. Also provide expertise for evaluation of grape research in western US.
 - **Other Relevant Extension/Outreach Activities, Accomplishments, etc.**
 - Respond to 20 to 30 requests per year for pest management information from growers or extension personnel via phone or email.
 - Conduct several on-farm visits per year to address specific grower pest management issues.
 - Volunteer at Insectapalooza event in Ithaca, Fall 2010 - 2015
 - Volunteer to help set up and man entomology/pest management exhibits for Whale Watch festival in Geneva NY, Fun on the Farm, Empire Farm Days, and 125 NYSAES open house.
 - Past participate in elementary school summer science program at North Street School in Geneva, NY to teach about beneficial and pest arthropods (one morning each summer for the past several years).

- **Summary of extension and outreach activities by CALS faculty.**

This is required for faculty with formal extension responsibilities; optional for others.

20 % Formal appointment in Extension (Professorial, Senior Extension Associates and Extension Associates)

 % Estimation of time spent in outreach activities

Funding: Core X Soft (e.g., external funding) Combination

Please provide a brief summary (300 word max.) of your Extension and/or outreach activities. Describe what the activities are, how and when conducted, constituents served, impacts of the program and what indicators of success are used.

Extension ^a	<p>My goal is to translate and transfer results of applied research to our grower clientele so that they will be better informed and better able to make sound pest management decisions. Moreover, I also strive to communicate to the wider public about insect biology, agriculture, and environmental stewardship. My activities include authoring the insect and mite pest management sections for the small fruit and grape pest management guidelines, preparing newsletter articles including a major review each spring for both grapes and small fruit crops, giving talks at annual grower meetings as well as summer field meetings, directly answering phone calls and emails from growers and extension educators and farm visits. I work closely with extension educators and NYS IPM Fruit Coordinator in developing extension programming. In the past several years I have also developed webinars on important pest management themes that are presented and archived on the internet. As part of my outreach effort I help set up and man exhibits at local and regional events such as Fun on the Farm at various sites in Ontario County, Empire Farm Days, and Insectapalooza, the annual entomology open house in Ithaca, NY. In the past I also participated in a summer program on science education for under privileged elementary school children in Geneva (missed this in 2007). My colleague and I conducted a 3-hour presentation which included collecting and examining live specimens on beneficial and harmful insects in the garden. During the year I present overviews of my research activities to various groups visiting the experiment station. Assessing impact of these activities is challenging. I receive results of a questionnaire from the Finger Lakes Grape Meeting that provides useful feedback on content and delivery of presentations. I also meet with the board of directors of the NY Berry Growers Association annually to discuss activities as well as attend Fruit PWT meetings, which includes industry representatives.</p>
Outreach ^b	

Definitions:

^a Extension: Anyone who is formally contributing to Extension programming/activities, regardless of their source(s) of funding, should report under 'Extension.' This includes those with or without formal Extension appointments. Examples include organizing or presenting at a workshop where attendees are being updated on new forest management practices or planning, developing and evaluating a sustained program effort directed at protecting soil resources.

^b Outreach: Outreach includes educational activities offered by individuals who do not have formal extension appointments as part of their assignment. The activities of Extension Associates with no formal connection to Cornell Cooperative Extension (e.g., Lab. of Ornithology) would be considered outreach. Examples of outreach would be offering advice to a group of community leaders on how best to design/manage a local recreational area or presenting a lecture at a school (K-12).

GRADUATE FIELD MEMBERSHIPS

Entomology

GRADUATE MAJORS

- **Current (names and expected date of degree)**
Heather Connelly, Ph.D (2011-present)
Matthew Boucher, Ph.D (2015-present)
- **Total Completed (names and dates)**
Amy Roda, Ph.D. (2000)- co-advised with Jan Nyrop
Rebecca Loughner, Ph.D. (2007)
Masa Seto, Ph.D. (became chair 2011) (awarded in 2012)

GRADUATE MINORS

- **Current (names and expected date of degree)**
William Weldon (Plant Pathology and Plant-Microbe Interactions), PhD
John McMullen (Entomology), Ph.D.
Michael Wolfen (Entomology), Ph.D.
Megan Hall (Plant Pathology and Plant-Microbe Interactions), Ph.D.
Madeleine Bee (Food Science), Ph.D.
- **Total Completed (names and dates)**
Richard Allen (Ecology & Evolutionary Biology), Ph.D., Fall 07
Kelley Tilmon (Entomology), Ph.D., Spring 2001
Megan Kennelly (Plant Pathology), Ph.D., Spring 2005
Heather Melidossian (Plant Pathology), MS, Spring 2005
Lora Crampton (Entomology), MS, Spring 07

OTHER PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES

Entomological Society of America (ESA)-member
ESA Awards Committee outside evaluator, 2007-09.
Program Chair, Eastern Branch Entomological Society of America, Annual Meeting in Charlottesville, Virginia, 12-14 March 2006.
Co-chair of program committee, ESA Eastern Branch, Harrisburg, PA, 20-22 March 2005.
Nominations Committee, Eastern Branch ESA (past).
Executive Committee, Geneva Branch, Sigma Xi (past).

PROFESSIONAL HONORARIES

Sigma Xi

EDITORIAL BOARDS

Past Editorial board for online newsletter *Appellation Cornell* on Viticulture and Enology Program at Cornell.
Review manuscripts for J. Economic Entomology, Environmental Entomology, Ecology, Ecological Applications, Experimental and Applied Acarology, Entomologia Experimentalis et Applicata, Oecologia, Biological Control, Oikos, J. Insect Behavior, Canadian Entomologist, Forest and Agricultural Entomology, Functional Ecology, American Journal of Enology and Viticulture, Pest Management Science, Journal of Pest Science, Crop Protection.
Reviewer for National Research Council report, California Agricultural Research Priorities: Pierce's Disease, Spring 2004.

COMMITTEE ASSIGNMENTS

- **International/National:**
Grape Crop Germplasm Committee of the National Plant Germplasm System.
- **State/Local:**
- **Commodity and other stakeholder:**
- **University:**
- **College:**
NYSAES Executive Committee, Program Leaders & Director (2015-current)
Member NYSAES Strategic Planning Committee (2014-2015)
Enology & Viticulture Research & Extension Steering Committee (current)
Chair, IPM Committee (2005-2014)
Member of NYSAES Station Faculty Advisory Committee (past)
Member NYSAES Vineyard Lab Committee (current)
Member NYSAES Field Research Committee (current)
Member NYSAES Greenhouse Committee (past)
Member NYSAES Greenhouse Manager Search Committee (past)

Member mentoring committee for Dr. Justine Vanden Heuvel
Member, committee on entomology seminar video link, Ithaca/Geneva (past)
Search committee for tree fruit/berry plant pathologist position (past)
Ad hoc promotion to tenure committee (1)
Search committee for Area Viticulture Extension Educator (past)
Search committee for Small Fruit Breeder (past)
Search committee for Soil Microbiology/Vegetable Pathologist position (current)

- **Department:**

Member and Chair, Entomology Strategic Planning Committee (2013-2014)
Committee to write job description for arthropod soil ecologist position (chair)
Geneva Seminar Committee 2002-2011
Chair, mentoring committee for Dr. Dan Peck (starting in 2007)
Authored summary description of ecology and behavior programs in entomology at Cornell for CSREES Departmental review in February 2006
Member of Graduate Admission Committee (1996-1999, 2011-2013)
Member of Entomology Merger Committee (2010)
Member Entomology Strategic Planning Committee (2010-2011)
Member of Dept Executive Advisory Committee (2011, 2015-current)

- **Other Activities**

I meet with visitors to the Geneva Experiment Station to discuss my research or extension program on an occasional basis. The visitors include Cornell administration and staff, representatives of the USDA, EPA, and NY legislature, and Cornell alumni.

***If your committee service this year includes service on an *ad hoc* promotion committee(s) at the College or University level, please indicate that you have served by simply stating, for example, *ad hoc promotion to tenure or full professor committee* with the number of committees indicated (CALs or University), but DO NOT identify the name of the faculty member or his or her department.**

PROFESSIONAL CONTRIBUTIONS

CONFERENCES/WORKSHOPS/IN-SERVICE PARTICIPATION

Participant Gordon Research Conference on Floral & Vegetative Volatiles to be held in Les Diablerets, Switzerland, October 2007.

Moderator for entomology research reports to the research committee of Lake Erie Regional Grape Production Fund, 2001-2007, 2010, 2011, 2012.

Annual meetings of professional societies (*see publications, abstracts from professional meetings, for listing of presentations at professional meetings*)

INVITED PRESENTATIONS (please provide detail)

2016 Invited speaker as part of symposium entitled “International perspectives contribute toward a clearer understanding of *Drosophila suzukii*” organized by V. Walton, G. Anfora, N. Wiman, and Ash Sia at the 2016 International Congress of Entomology in Orlando, Fl. Title of talk: *Drosophila suzukii* alternate host and

- spatial distribution and improvement of pesticide efficacy (with Richard Cowles, Connecticut Experiment Station, Loeb presenting).
- 2015 Invited speaker as part of symposium entitled “Landscape simplification: effects on arthropod mediated ecosystem services and agricultural production” organized by K. Poveda and H. Connelly at the 2015 Entomological Society of America National Meeting in Minneapolis, MN. Title of talk: Local and landscape scale drivers of ecosystem services: pollination, biological control and yield. H. Connelly (lead author) with K. Poveda, and G. Loeb.
- 2015 Invited speaker as part of symposium entitled “Managing the ongoing threat posed by invasive species in the eastern US” organized by William Morrison, Brett Baauw, and Brent Short held at the 2015 Entomological Society of America Eastern Branch Annual Meeting in Rehoboth, DE. Title of talk, Short- and long-term approaches to managing the invasive species *Drosophila suzukii* in the northeast. Anna Wallingford co-author.
- 2015 Invited speaker as part of symposium entitled “Synergy in arthropod genomics: integrative solutions to functional and evolutionary biology” organized by A. Lindsey, J. Ricci, and E. Smith at the 2015 Entomological Society of America National Meeting in Minneapolis, MN. Title of talk, Using genomics to define the taxonomic and functional diversity of gut microbiota in drosophilid flies. A. Bost (lead author) with V. Martinson, J. Jaenike, G. Loeb and A. Douglas.
- 2014 Invited speaker as part of symposium entitled “Spotted wing drosophila: developing solutions for a challenging pest” organized by Cesar Rodriguez-Saona and Christelle Guedot held at the 2014 Entomological Society of America National Meeting in Portland, OR. Title of talk, SWD overwintering biology and use of wild host plants in the northeast US.
- 2014 Invited speaker as part of symposium entitled “ Are we winning the battle against invasive pests? The brown marmorated stink bug and spotted wing drosophila” organized by Cesar Rodriguez-Saona and Anne Nielsen and held at the 2014 Entomological Society of America Eastern Branch Annual Meeting in Williamsburg, Virginia. Title of talk, Spotted wing drosophila: overwintering biology and alternative hosts.
- 2013 Invited speaker as part of symposium entitled “The Challenges of Invasive Pests to Fruit IPM” held at the 2013 Entomological Society of America Eastern Branch Annual Meeting in Lancaster, PA and organized by D. Polk and T. Leskey. Title of talk, Seasonal patterns of crop and wild host use by SWD in NY.
- 2012 Invited speaker as part of symposium entitled “Vector-Virus Interactions for Transmission and Management of Emerging Diseases in Specialty Crops at Local and Global Scale” held at the 2012 Entomological Society of American in Knoxville, TN and organized by A. Ashfaq, D. B. Walsh, V. M. Walton, R. Almeida, and K. Daane. Title of talk, Grape leafroll disease in New York vineyards: Role of insect vectors and their management with co-author Dr. Marc Fuchs.
- 2011 Invited speaker as part of symposium entitled “Recent Advance in Grape Pest Management” held at the 2011 Entomological Society of America in Reno, NV and organized by N. Bostainian. Title of talk, Semionchemicals in vineyard pest

- management: understanding interspecific interactions with a focus on the grape berry moth *Paralobesia viteana* (Clemens).
- 2011 Invited speaker as part of Cornell Symposium on Lepidoptera Biology held in Ithaca, NY on 11 October 2011. Olfactory-based host location in a specialist moth. 25 minute presentation.
- 2010 Invited speaker as part of Pest Management section of the Viticulture 2010 held in Rochester, NY. Potential of growing *V. vinifera* on their own roots and Making scents of grape berry moth phenology.
- 2008 Invited speaker as part of symposium entitled “Metamorphosis of vineyard pest management” organized by R. Isaacs and D. Hammond. Tri-trophic effects of leaf trichomes on grapes. 2008 Annual Meeting of Entomological Society of America in Reno, Nevada.
- 2008 Invited speaker as part of Annual Project Directors Meeting of the USDA NRI Arthropod and Nematode Biology and Management program. Host plant discovery by herbivorous arthropods using plant volatile signals. Reno, Nevada.
- 2008 Invited seminar. Department of Entomology, Cornell University, NYSAES, Geneva, NY. Tri-trophic interactions and biological control of grape pests.
- 2008 Invited speaker in symposium titled “The food quality protection act: the fruit industry view” as part of the Annual meeting of the Eastern Branch Entomological Society of America, Syracuse, NY. Title of presentation, “Changes and lack of changes in grape pest management in response to FQPA.”
- 2007 Invited seminar, Department of Entomology, Rutgers University. Tri-trophic interactions and biological control of grape pests.
- 2007 Invited speaker as part of the Gordon Research Conference on Floral & Vegetative Volatiles, Les Diablerets, Switzerland. Defining grape volatiles used for host location as a basis for assessing phenology and management of grape berry moth.
- 2006 Invited speaker to present information on pest management at the Great Lakes Fruit and Vegetable Expo held in Grand Rapids, MI. Biology and management of grape cane borer.
- 2006 Invited speaker to present information on pest management at the Great Lakes Fruit and Vegetable Expo held in Grand Rapids, MI. Ecology and management of strawberry sap beetle.
- 2006 Invited speaker in symposium on small fruit entomology, as part of the Annual meeting of the Eastern Branch Entomological Society of America, Charlottesville, Virginia. Update on small fruit entomology research in New York.

RESEARCH PRESENTATIONS, SUBMITTED (Since 2015)

- 2015 Wallingford, A. and Loeb, G. Oviposition behavior of spotted wing drosophila, *Drosophila suzukii*, in the presence of aversive odors. Poster presented at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.
- 2015 Wolfen, M., Loeb, G, and Linn, C. Olfactory mediated responses to host and non-host plant volatiles by female grape berry moths, *Paralobesia viteana*. 10 minute contributed session talk at the at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.

- 2015 Connelly, H., Amon, N., Danforth, B., Poveda, K. and Loeb, G. Does landscape mediate wild bee health and phylodiversity? 10 minute contributed session talk at the at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.
- 2015 Cha, D. H., Hesler, S., Brind'Amour, G., Villani, S., Cox, K., Wallingford, A. and Loeb, G. 10 minute contributed session talk at the at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.

RESEARCH PANELS (please provide detail)

- California Dept. Food and Agriculture Pierce's Disease Research Scientific Advisory Panel, as of January 2007-2009.
- USDA NRI panel, Organismal and Population Biology of Arthropods and Nematodes, March 2007, Washington D.C.
- USDA NRI panel, Organismal and Population Biology of Arthropods and Nematodes, April 2006, Washington D.C.

CONSULTING (please provide detail)

none

RESOURCE FOR MEDIA (i.e., called upon as an expert for electronic or print media)

- Interviewed by Fruit Grower News to discuss presentation that I gave at the Great Lakes Fruit Expo on December 16, 2015. Interview is posted at the following web site, <https://www.youtube.com/watch?v=cdfZW2sejU&feature=youtu.be>
- Interviewed by Syracuse News Station on Threats from Brown Marmorated Stink Bug. (summer 2011)

PUBLICATIONS

Refereed Research Publications

- Wallingford, A. and Loeb, G.M. 2016. Developmental acclimation of *Drosophila suzukii* and its effect on diapause and winter stress tolerance. Environmental Entomology, In Press.
- Wallingford, A., Connelly, H.L, Brind'Amour, G., Boucher, M., T., Mafra-Neto, A., and Loeb, G.M. 2016. Field evaluation of an oviposition deterrent for management of spotted wing drosophila, *Drosophila suzukii* Matsumura, and potential non-target effects. Journal of Economic Entomology; 159: 327-337. DOI: 10.1093/jee/tow116.
- Wallingford, A., Lee, J, Loeb, G. 2016. The influence of temperature and photoperiod on the reproductive diapause and cold tolerance of spotted-wing drosophila, *Drosophila suzukii* (Matsumura). Entomologia Exerimentalis et Applicata, DOI:10.1111/eea.12443/
- Renauld, M., Hutchinson, A., Loeb, G., Poveda, K., and Connelly, H. Landscape simplification constrains adult size in a native ground-nesting bee. . Plos One, doi: 10.5061/dryad.kr577.
- Pozzebon, A., Loeb, G.M., and Duso, C. 2015. Role of supplemental foods and habitat structural complexity in persistence and coexistence of generalist predatory mites. Scientific Reports 5, 14997; doi: 10.1038/srep14997.

- Wallingford, A.K., Fuchs, M.F., Martinsion, T., Hesler, S., and Loeb, G.M. 2015. Slowing the spread of grapevine leafroll-associated viruses in commercial vineyards with insecticide control of the vector, *Pseudococcus maritimus* (Erhorn) (Hemiptera: Pseudococcidae). *Journal of Insect Science*, 15: 112; DOI: 10.1093/jisesa/iev094.
- Connelly, H., Poveda, K., and Loeb, G. 2015. Landscape simplification negatively affects wild bee pollination services to strawberry. *Agriculture, Ecosystems and the Environment*, 211: 51-56.
- Wallingford, A.K., Hesler, S.P., Cha, D.H., and Loeb, G.M. 2015. Behavioral response of spotted wing drosophila, *Drosophila suzukii* Matsumura, to aversive odors and a potential oviposition deterrent in the field. *Pest Management Science*, DOI 10.1002/ps.4040.
- Fuchs, M. Marsella-Herrick, P., Hesler, S., Martinson, T., and Loeb, G. 2015. Seasonal pattern of virus acquisition by the grape mealybug, *Pseudococcus maritimus* (Erhorn), in a leafroll-diseased vineyard. *Journal of Plant Pathology*, 97: 503-510.
- Agnello, A., Landers, A., and Loeb, G. 2015. A fixed-spray system for spotted wing drosophila management in high tunnel bramble crops. *Journal of Berry Research* 5: 81-88.
- Burrack, H.J., Asplen, M., Bahder, L., Collins, J., Drummond, F.A., Guedot, C., Isaacs, R., Johnson, D., Banton, A., Lee, J.C., Loeb, G., Rodriguez-Saona, C., Van Timmeren, S., Walsh, D., and McPhie, D.R. 2015. Multi-state comparison of attractants for monitoring *Drosophila suzukii* (Diptera: Drosophilidae) in blueberries and caneberries. *Environmental Entomology*, 44: 707-712 .
- Cowles, R.S, Rodriguez-Saona, C., Holdcraft, R., Loeb, G.M., Elsensohn, J.E., and Hesler, S.P. 2015. Sucrose improves insecticide activity against *Drosophila suzukii* (Diptera: Drosophilidae), *Journal of Economic Entomology* 108: 640-653.
- Cha, D.H., Hesler, S.P., Park, S.Y., Adams, T., Zack, R., Rogg, H., Loeb, G.M., Landolt, P.J. 2015. Simpler is better: fewer nontarget insects trapped with a 4-component synthetic lure versus a chemically complete food-type bait for *Drosophila suzukii*. *Entomologia Experimentalis et Applicata* 154: 251-260.
- Smith, J.R., Hesler, S.P., and Loeb, G.M. Potential impact of *Halyomorpha halys* (Hemiptera: Pentatomidae) on grape production in the finger lakes region of new york. *J. Entomological Science* 49: 290-303.
- Cha, D.H., Hesler, S.P., Cowles, R.S., Vogt, H., **Loeb, G.M.**, and Landolt, P.J. 2013. Comparison of a synthetic chemical lure and standard fermented baits for trapping *Drosophila suzukii*(Diptera: Drosophilidae). *Environmental Entomology* 42: 1052-1060.
- Cha, D.H., Hesler, S.P., Linn, C.E. Jr., Zhang, A., Teal, P.E.A., Knight, A.L., Roelofs, W.L., and **Loeb, G.M.** 2013. Influence of trap design on upwind flight behavior and capture of female grape berry moth (Lepidoptera: Tortricidae) with a kairomone lure. *Environmental Entomology*, 42: 150-157.
- Triaptisyn, S.V., **Loeb, G.M.**, and Dmitriev, D.A. 2012. First record of *Oligosita sanguinea* (Girault) (Hymenoptera: Trichogrammatidae) as an egg parasitoid of *Hymeta balteata* McAtee (Hemiptera: Cicadellidae) in upstate New York. *Entomologica Americana* 119: 42-43.
- Isaacs, R., Mason, K.S., Teixeira, A.F., **Loeb, G.**, Hesler, S., Weigle, T., Muza, A., Timer, J., and Saunders, M. 2012. Comparison of three dispenser distribution patterns for pheromone

- mating disruption of *Paralobesia viteana* in vineyards. *Journal of Economic Entomology* 105: 739-1106.
- Loeb, G.M.**, D.H. Cha, S.P. Hesler, C.E. Linn, A. Zhang, P.E.A. Teal, and W.L. Roelofs. 2011. Monitoring grape berry moth (*Paralobesia viteana*: Lepidoptera) in commercial vineyards using a host plant based synthetic lure. *Environmental Entomology*, 40:1511-1522.
- Cha, D.H., **G.M. Loeb**, C.E. Linn, and W.L. Roelofs. 2011. Electrophysiological and behavioral identification of a volatile blend involved in host location of female strawberry sap beetle *Stelidota geminata*. *Entomologia Experimentalis et Applicata* 140: 153-162.
- Cha, D.H., C.E. Linn, P.E.A. Teal, A. Zhang, W.L. Roelofs, and **G. Loeb**. 2011. Eavesdropping on plant volatiles by a specialist moth: significance of ratio and concentration. *PLoS ONE* 6(2): e17033.doi:10.1371/journal.pone.0017033.
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Manuscripts in Review

- Barta, P., Loughner, R., Wentworth, K., Hyma, K., Nyrop, J.P., Loeb, G.M., and Reisch, B.I. A genetic locus associated with abundance of the predatory mite *Typhlodromus pyri* has a major influence on leaf trichome traits in grapevines. *BMC Plant Biology*
- Connelly, H., Blitzer, E.J., Loeb, G., Danforth, B., and Poveda, K. Pollinator facilitation between consecutively blooming crops increases productivity. *PNAS*, in review.
- Connelly, H., Danforth, B., Poveda, K., and Loeb, G. Landscape influences classical biological control and crop yield. *Journal of Applied Ecology*, in review.

Abstracts/Presentations from Professional Meetings

2015. Wallingford, A. and Loeb, G. Oviposition behavior of spotted wing drosophila, *Drosophila suzukii*, in the presence of aversive odors. Poster presented at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.
2015. Wolfen, M., Loeb, G, and Linn, C. Olfactory mediated responses to host and non-host plant volatiles by female grape berry moths, *Paralobesia viteana*. 10 minute contributed session talk at the at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.

2015. Connelly, H., Amon, N., Danforth, B., Poveda, K. and Loeb, G. Does landscape mediate wild bee health and phylodiversity? 10 minute contributed session talk at the at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.
- 2015 Cha, D. H., Hesler, S., Brind'Amour, G., Villani, S., Cox, K., Wallingford, A. and Loeb, G. 10 minute contributed session talk at the at the 2015 Entomological Society of America National Meeting in Minneapolis, MN.
- 2015 Wolfen, M., Loeb, G., and Linn, C. Olfactory mediated responses to host and non-host plant volatiles by female grape berry moths (*Paralobesia viteana*). Student competition, Entomological Society of America Eastern Branch Annual Meeting, Rehoboth Beach, DE, March 2015.
- 2014 Elsensohn, J., Hesler, S., and Loeb, G. Distribution of wild hosts to *Drosophila suzukii* population dynamics in the finger lakes region of New York. Contributed talk to the IOBC VIII Workshop on Integrated Soft Fruit Production, held 26-28 May, 2014 in Pergine, Italy.
- 2014 Connelly, H., Blitzer, E.J., Danforth, B.N., Loeb, G.M., and Poveda, K. Spillover of pollinators between crops: Competition or facilitation? Student competition talk at the 2014 Entomological Society of America Annual Meeting, November 17, 2014, Portland, OR, USA.
- 2014 Wolfen, M., Loeb, G. and Linn, C. Olfactory mediated responses to host and non-host plant volatiles by female grape berry moths (*Paralobesia viteana*). Student competition talk at the 2014 Entomological Society of America Annual Meeting, November 17, 2014, Portland, OR, USA.
- 2014 Burrack, H., Asplen, M.K., BAhder, B.W., Drummond, F., Guedot, C. Isaacs, R., Johnson, D., Kirk, A.K., Lee, J.C, Loeb, G.M., Rodriguez-Saona, C., and Van Timmeren, S. Comparing the attractiveness of homemade baits and synthetic lures for monitoring *Drosophila suzukii* (Diptera: Drosophilidae) in host crops. Invited talk in symposium titled Spotted Wing Drosophila: Developing solutions for a challenging pests, organized by C. Rodriguez-Saona and C. Guedot, at the 2014 Annual Meeting of the Entomological Society of America in Portland, OR.
- 2012 Hannah Burrack, James Price, Rufus Isaacs, Dan Horton, Cesar Rodriguez-Saona, J. Powell Smith, Greg Loeb. *Drosophila suzukii* host selection and utilization in eastern United States agroecosystems. Invited talk as part of symposium entitled "Biology and control of spotted wing drosophila *Drosophila suzukii*" organized by R. Van Seenwyk and V. Walton at the XXIV International Congress of Entomology held in Daegu, South Korea, 19-25 August, 2012.
- 2012 Weigle, T., Wilcox, W., Loeb, G. and Carroll, J. New resources for implimentaiton of IPM in Lake Erie vineyards. Presentation at the 7th International IPM Symposium held in Memphis, TN, 27-29 March 2012.
- 2012 Fuchs, M. and G. Loeb. Seasonal Pattern and Dynamics of Virus Acquisition by the Grape Mealybug in a Leafroll-Diseased Vineyard. Proceedings of the 17th Congress of the International Council for the study of virus and virus-like diseases of grapevines held in Davis, CA, October 2012, pp 188-189.
- 2010 Loeb, G. and M. Fuchs. Role of grape mealybug (*Psuedococcus maritimus*) and soft scale species in the spread of leafroll disease-associated viruses in New York Finger Lakes

- vineyards. Oral presentation, Entomological Society of America, annual meeting in San Diego, CA, December, 2010.
- 2008 Loughner, R., K. Wentworth, G. Loeb, and J. Nyrop. The effect of non-glandular trichome patch size, trichome distribution, and interaction with pollen on predatory mite retention in grape. Oral presentation, Entomological Society of America, annual meeting in Reno, Nevada, November, 2008.
- 2008 Cha, D., C.E. Linn, G. Loeb, and R.L. Roelofs. Volatile recognition and host location in a specialist moth: Do species specific compounds matter? Oral presentation, Entomological Society of America, annual meeting in Reno, Nevada, November, 2008.
- 2008 Fuchs, M., T. Martinson, G. Loeb, and H. Hoch. Oral presentation, National Viticulture Research Conference in Davis, California. Proceedings published online at <http://groups.ucanr.org/nvrc/files/55230.pdf>
- 2007 Cha, D., S. Hesler, S. Nojima, S. Olsson, C. Linn, W. Roelofs, and G. Loeb. Oral presentation, Entomological Society of America, annual meeting in San Diego, CA.
- 2006 English-Loeb, G., J. Carroll, and D. Cha. Habitat colonization by tarnished plant bug, *Lygus lineolaris*. Oral presentation, Entomological Society of America, annual meeting in Indianapolis, IN. http://esa.confex.com/esa/2006/techprogram/paper_27400.htm
- 2006 Loughner, R., G. English-Loeb, S. Olsson, C. Linn, W. Roelofs, and P. Robbins. Behavioral evidence of a male-produced aggregation pheromone in strawberry sap beetle (Coleoptera: Nitidulidae). Oral presentation, Entomological Society of America, annual meeting in Indianapolis, IN. http://esa.confex.com/esa/2006/techprogram/paper_25092.htm.
- 2006 Cha, Dong, S. Hesler, S. Nojima, S. Olsson, C. Linn, W. Roelofs, and G. English-Loeb. Identification of Volatiles involved in host plant location by female grape berry moth. Poster presentation, Entomological Society of America, annual meeting in Indianapolis, IN. http://esa.confex.com/esa/2006/techprogram/paper_25927.htm.

Book Chapters

- 2012 Isaacs, R., Teixeira, L., Jenkins, P., Botero Neerdals, N., Loeb, G., and Saunders, M. Biology and management of grape berry moth in North American vineyard ecosystems. In: N.J. Bostanian, R. Isaacs, and C. Vincent (eds.), *Arthropod Biology and Management in Vineyards*. In press. Springer, Dordrecht.

Extension Publications and Presentations (last five years)

	2015	2014	2013	2012	2011	Median
# Extension Publications	5	6	4	8	5	5
# Extension Presentations	23	23	12	16	10	12
Total contact hours	1041.58	772	403.5	632.8	362	632.8

Extension Publications (since 1995)

1995-2016 Pritts, M. (Ed.). Pest management guidelines for small fruit crops. Cornell Cooperative Extension. [I am responsible for updating sections on insect and mite pests each year.]

1995-2016 Weigle, T.H. and A. Muza (Eds.). New York and Pennsylvania pest management guidelines for grapes. Cornell and Penn State Cooperative Extension. [I am responsible for updating sections on insect and mite pests each year.]

2016 Riggs, D., Loeb, G., Hesler, S., and McDermott, L. Using insect netting on existing bird netting support systems to exclude spotted wing drosophila (SWD) from a small scale commercial highbush blueberry planting. *Fruit Quarterly* 24: 9-14.

2016 Loeb, G. Grape insect and mite pests – 2016 field season. Lake Erie Regional Grape Program Vineyard Notes, 18 May 2016. Pp 3-23.

2016 Fraver, C., and Loeb, G. Can monitoring of adult swd provide sufficient advanced warning? *NYS Berry Growers Association Newsletter*, 2016 Issue 1, March 2016, p 1 -3.

2016 Wallingford, A., and Loeb, G. Spotted wing drosophila winter biology. *NYS Berry Growers Association Newsletter*, 2016 Issue 2, April 2016, p 1 -3.

2016 Loeb, G. Grape berry moth A to Z. Proceedings of the 2016 Lake Erie Region Grape Growers' annual winter meeting held on 22 March 2016, Fredonia, NY, pg 15-16.

2016 Loeb, G. Spotted wing drosophila: when do I really need to start spraying? Proceedings of the 2016 Mid-Atlantic Fruit & Vegetable Convention, Hershey PA, pg 137.

2016 Loeb, G. Strategies to control arthropod pests in high tunnels. Proceedings of the 2016 Empire State Fruit and Vegetable Expo, held in Syracuse, NY, 19-21 January 2016. <http://www.hort.cornell.edu/expo/proceedings/2016/Berry>.

Strategies%20to%20control%20arthropod%20pests%20in%20high%20tunnels.Loeb.pdf.

- 2015 Loeb, G. Grape insect and mite pests-highlights for the 2015 field season. Lake Erie Regional Grape Program-Vineyard Notes, June 2015: 7-14.
- 2015 Loeb, G. and Riggs, D. 2015. Spotted wing drosophila research update. Proceedings of the 2015 Empire State Fruit and Vegetable Expo, Syracuse, NY.
- 2015 Loeb, G., Walton, V., and Zalom, F. Mites. In: Wilcox, W., Gubler, W., & Uyemoto, J. (eds), Compendium of grape diseases, disorders, and pests, 2nd Edition. APS Press, St. Paul, MN
- 2015 Granett, J., and Loeb, G. Grape phylloxera. In: Wilcox, W., Gubler, W., & Uyemoto, J. (eds), Compendium of grape diseases, disorders, and pests, 2nd Edition. APS Press, St. Paul, MN
- 2015 Lee, J, Dreves, A., Isaacs, R., Loeb, G., Thistlewood, H., and Brewer, L. Noncrop host plants of spotted wing drosophila in north America. Fact sheet produced through Oregon State University Extension Sevice, EM 9113, April 2015. <http://www.ipm.msu.edu/uploads/files/SWD/em9113.pdf>
- 2014 Loeb, G. and Hesler, S. 2014. Early detection and management of spotted wing drosophila in raspberry. The Bramble 29 (3): 8-9.
- 2014 Agnello, A, Landers, A, and Loeb, Gl. 2014. A Fixed-Spray System for Spotted Wing Drosophila Management in High Tunnel Raspberries. NY Fruit Quarterly 22: 19-24.
- 2014 Loeb, G. Grape Insect & Mite Pests-2014 Field Season. Lake Eire Regional Grape Vineyard Notes, May 2014: 2-24.
- 2014 Agnello, A., G. Loeb, D. Breth, M. Farione, and J. Carroll. Labeled insecticides for control of spotted wing drosophila in New York Berry Crops. Available online through Cornell Fruit, Spotted Wing Drosophila web page at
- 2014 Loeb, G., C. Heidenreich, L. McDermott, P. Jentsch, and J. Carroll. Labeled insecticides for control of spotted wing drosophila in New York tree fruit and grapes. Available online through Cornell Fruit, Spotted Wing Drosophila web page at <http://www.fruit.cornell.edu/spottedwing/pdfs/swd-insecticides-grapes-treefruit-ny.pdf>
- 2014 Loeb, G., T. Weigle, and E. Shields. Below ground insect threats to grapevines: Grape rootworm and Japanese beetle. Proceedings to The Lake Erie Regional Grape Program 2014 Wnter Grape Growing Conference, pp 15-16.
- 2013 Loeb, G., C. Heidenreich, L. McDermott, P. Jentsch, D. Breth, and J. Carroll. Chemical control of SWD in berry crops. New York Berry News, May Issue, pp. 2-5.

- 2013 Loeb, G. Spotted wing drosophila in New York: Where we are and where we are heading. *New York Berry News*, January Issue, pp. 11-14.
- 2013 Loeb, G. Managing phylloxera on own-rooted vinifera and use of entomopathogenic nematodes for management of Japanese beetles. *Proceedings of Viticulture 2012 Conference and Trade Show held February 6-8, 2013*. Pp 108-109.
- 2013 Loeb, G. Spotted wing drosophila in NY: where we are and where we are heading. *Proceedings of the 2013 Empire State Fruit and Vegetable Expo, Syracuse, NY*. <http://www.hort.cornell.edu/expo/proceedings/2013/Drosophila/Drosophila%20Loeb%20SWD%20in%20NY.pdf>
- 2012 Carroll, J.C., P. Jentsch, G. Loeb, and A. Agnello. Spotted wind drosophila-new orchard survey, 2012. *New York Berry News* (online small fruit newsletter), 11 (11): 19.
- 2012 Loeb, G, and C. Heidenreich. Spotted wing drosophila, new threat to some small fruit crops. *New York Berry News* (online small fruit newsletter), 11(8a): 4-6.
- 2012 Loeb, G. Underground battles – Japanese beetle and phylloxera. *Proceedings of the 2012 Lake Erie Regional Grape Growers' Conference held in Portland, NY on 8 March 2012*, pages 18-19.
- 2012 Loeb, G. Managing root-form phylloxera in NY and update on invasive species. *Proceedings of the 61st Annual Finger Lakes Grape Growers' Conference & New York Wine Industry held in Waterloo, NY on 3 March 2012*, page 46.
- 2012 Loeb, G. Grape Insect and Mite Pests-2012 Field Season. 2012. *Vineyard Notes* (Finger Lakes Grape Program newsletter) 18 May 2012, #4: 2-18.
- 2012 Loeb, G. Grape Insect & Mite Pests-2012 Field Season. 2012. *Vineyard Notes* (Lake Erie Regional Grape Program newsletter) #2: 2-17.
- 2012 Weigle, T.W., and G. Loeb. Spotted wing drosophila (SWD) update. *Vineyard Notes* (Lake Erie Regional Grape Program newsletter) #6:23.
- 2012 Loeb, G. The spotted wing drosophila in small fruit and grape. *Proceedings of the 2012 Empire State Fruit and Vegetable Expo, Syracuse, NY*. Pp
- 2011 Loeb, G. Grape Insect and Mite Pests-2011 Field Season. *Vineyard Notes* (Finger Lakes Grape Program newsletter) #4: 2-15.
- 2011 Loeb, G. Grape Insect & Mite Pests-2011 Field Season. *Vineyard Notes* (Lake Erie Regional Grape Program newsletter) #5: 2-16.
- 2011 Loeb, G. Invasive species and GBM phenology project. *Proceedings 2011 Grape*

- Growers' Conference. March 17, 2011. Fredonia, NY. pp24-26.
- 2011 Loeb, G. Berry arthropod pest snapshot; Look who's coming to dinner? New York Berry News online newsletter, Vol. 10 (1): 10.
- 2011 Loeb, G. Berry arthropod pest snapshot; Look who's coming to dinner? Berry Notes, Vol. 23 (1): 7-8.
- 2010 Cameron, K.D., G. Loeb, L.P. Abrahamson, C. White, and L.B. Smart. Potato leafhopper, *Empoasca fabae* Harris. Pest Fact Sheet online at WillowPedia [http://willow.cals.cornell.edu/Resources/fact_sheets.html]
- 2010 Cameron, K.D., G. Loeb, L.P. Abrahamson, C. White, and L.B. Smart. Willow leaf Beetles, *Caligrapha multipunctata* and *Plagioder a versicolora*. Pest Fact Sheet online at WillowPedia [http://willow.cals.cornell.edu/Resources/fact_sheets.html]
- 2010 Cameron, K.D., G. Loeb, L.P. Abrahamson, C. White, and L.B. Smart. Willow Sawfly, *Nematus ventralis* Say. Pest Fact Sheet online at WillowPedia [http://willow.cals.cornell.edu/Resources/fact_sheets.html]
- 2010 Cameron, K.D., G. Loeb, L.P. Abrahamson, C. White, and L.B. Smart. Japanese beetle, *Popillia japonica* Newman. Pest Fact Sheet online at WillowPedia [http://willow.cals.cornell.edu/Resources/fact_sheets.html]
- 2010 Loeb, G. Management of grape insect and mite pests – 2010. Finger Lakes Vineyard Notes, #3, p 1-13.
- 2010 Loeb, G. Management of grape insect and mite pests – 2010. Lake Erie Vineyard Notes, May/June, p 4-16.
- 2010 Weigle, T. and Carroll, J. (coordinator editors). Production Guide for Organic Grapes. [Responsible for section on insect and mite management]. NYS IPM Publication No 224, NYS IPM Program, Cornell Cooperative Extension, Cornell University.
- 2010 Carroll, J., Pritts, M., and Heidenreich, C. Production Guide for Organic Blueberries. [Responsible for section on insect and mite management]. NYS IPM Publication No 225, NYS IPM Program, Cornell Cooperative Extension, Cornell University.
- 2010 Carroll, J., Pritts, M., and Heidenreich, C. Production Guide for Organic Strawberries. [Responsible for section on insect and mite management]. NYS IPM Publication No 226, NYS IPM Program, Cornell Cooperative Extension, Cornell University.
- 2010 Loeb, G. Making scents of grape berry moth phenology. Proceedings of Viticulture 2010, 17-19 February 2010, Rochester, NY. Pp 108-109.
- 2010 Loeb, G. Potential of growing *V. vinifera* on their own roots. Proceedings of Viticulture

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- 2009 Loeb, G. and Pritts, M. Winter canola as a trap crop for controlling tarnished plant bug damage in strawberry. California Strawberry Commission Annual Production Research Report 2008-2009, 159-163.
- 2009 Loeb, G. Managing insect pests in grapes: grape berry moth & mealybugs/soft scales. Proceedings of the New England Vegetable & Fruit Conference and Trade Show. Pp 228-229.
- 2009 Loeb, G. Part IV: Insect and mite management in high tunnel raspberries. The New York Berry News online Newsletter, Vol. 8(10): 20-21.
- 2009 Grape management article re-published from Hudson Valley.
- 2009 Loeb, G. Biology and management of root weevils. The New York Berry News online Newsletter, Vol. 8(6): 14-15.
- 2009 Loeb, G. Management of grape insect and mite pests – 2009. Lake Erie Vineyard Notes #5, p 1-13.
- 2009 Loeb, G. Management of grape insect and mite pests – 2009. Finger Lakes Vineyard Notes, #4, p 1-11.
- 2009 Shaw, M. and G. Loeb. Managing fruitworms and maggots in blueberries. The New York Berry News online Newsletter, Vol. 8(3): 7-9.
- 2009 Fuchs, M., T. Martinson, and G. Loeb. Leafroll virus updates: 2008 findings, fruit impacts and insect vectors. Proceedings of the 59th Annual Finger Lakes Grape Grower's Conference, 6 March 2009, Waterloo, NY. Pp 16-18.
- 2009 Loeb, G. Management of Japanese beetle and other insect pests. Proceedings of the 59th Annual Finger Lakes Grape Grower's Conference, 6 March 2009, Waterloo, NY. Pp 20-22.
- 2009 Loeb, G. Management of grape insect and mite pests-2009. Posted on Tim Martisons' Statewide Viticulture Extension Program blog/web site at <http://blogs.cce.cornell.edu/grapes/files/2009/06/vineyard-insect-management-loeb-2009.pdf>.
- 1995-16 Pritts, M. (Ed.). Pest management guidelines for small fruit crops. Cornell Cooperative Extension. [I am responsible for updating sections on insect and mite pests each year.]
- 1995-16 Weigle, T.H. and A. Muza (Eds.). New York and Pennsylvania pest management guidelines for grapes. Cornell and Penn State Cooperative Extension. [I am responsible for updating sections on insect and mite pests each year.]

- 2009 Shaw, M. and G. Loeb. Managing fruitworms and maggots in blueberries. Proceedings of the 2009 Empire State Fruit and Vegetable Expo, Syracuse, NY. Pp 166-168
- 2009 Loughner, R. and Loeb, G. Strawberry sap beetle. IPM Berry Crop Fact Sheet, Cornell Cooperative Extension. <http://nysipm.cornell.edu/factsheets/berries/ssb.pdf>
- 2008 Martinson, T, M. Fuchs, G. Loeb, and H. Hoch. Grapevine leafroll-an increasing problem in the Finger Lakes, the US and the world. Online fact sheet through Cornell University Cooperative Extension. <http://blogs.cce.cornell.edu/grapes/files/2008/08/grapevine-leafroll-virus-an-increasing-problem.pdf>
- 2008 Loeb, G. Management of grape insect and mite pests-2008. Cornell fruit web site, grapes. See http://www.fruit.cornell.edu/grapes/pdfs/Loeb_2008_Grape_Insect_Man.pdf.
- 2008 Loeb, G. Management of grape insect and mite pests for 2008. Finger Lakes Vineyard Notes. #3: 1-7.
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- 2008 Loeb, G. Insect and mite management on strawberries. The New York Berry News online Newsletter, Vol.. 7 (2): 17-18.
- 2008 Loeb, G. Management of grape insect pests-2008. Lake Erie Vineyard Notes 4:2-10.
- 2008 Loeb, G., J. Carroll, and D. Cha. Understanding tarnished plant bug colonization as a basis for developing an attraction-based management system for berry crops. NY Fruit Quarterly 16: 17-22.
- 2008 Loeb, G. Insect management in vineyards for 2008. Proceedings of the 58th Annual Finger Lakes Grape Growers' Conference held March 14 and 15, 2008. Pp 19-21.
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- 2007 Hesler, S, G. Loeb, and T. Martinson. Grape cane borer. IPM Grapes Fact Sheet, Cornell Cooperative Extension. Available as pdf at <http://nysipm.cornell.edu/factsheets/grapes/pests/gcb.pdf>.
- 2007 Loeb, G. Overview of the biology and management of root weevils. The New York Berry News online Newsletter, Vol. 5(11): 18-20.

- 2007 Loeb, G. Management of grape insect & mite pests. Finger Lakes Vineyard Notes, Newsletter #5: 2-9.
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- 2007 Loeb, G. Management of grape insect and mite pests, 2007. University of Vermont Extension online newsletter [<http://pss.uvm.edu/grape/>].
- 2007 Loeb, G. Insect and mite management on strawberries. The New York Berry News online Newsletter, Vol. 6 (5): 10-11. [I did the background research and wrote this review article for arthropod pests of strawberries.]
- 2007 English-Loeb, G. Focus on important arthropod pests of raspberry. Massachusetts Berry Notes 19: 4-8.
- 2007 Loeb, G., J. Carroll, and D. Cha. Understanding habitat colonization by tarnished plant bug as a basis for developing an attraction-based management system for berry crops. 2006 New York State Fruit IPM Project Reports. Cornell University, Cornell Cooperative Extension, NYS IPM Publication #222, 78-87.
- 2006 Loughner, R., and Loeb, G. Applying landscape ecology to improve strawberry sap beetle management. New York Fruit Quarterly 14: 27-30.
- 2006 English-Loeb, G. Focus on arthropod pests of strawberry. The New York Berry News online Newsletter, Vol. 5 (3): 8-12.
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- 2006 English-Loeb, G. Strawberry Sap Beetle-An Update on Progress Toward Improved Management. The New York Berry News online Newsletter, Vol.. 5 (5): 10-11.
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- 2006 Weigle, T., English-Loeb, G, and Hoffmann, M. Addressing late-season grapeberry moth damage. NY State IPM Program Agriculture and Community IPM Annual Report 2005-2006, NYS IPM Pub. # 503: 53-57.
- 2006 English-Loeb, G. Focus on important arthropod pests of raspberry. North American Bramble Growers Association 2006 Conference Proceedings. 16 February 2006, Syracuse, NY. pp. 42-43.
- 2006 English-Loeb, G. Biology and Management of Grape Cane Borer. Proceedings handout at the 2006 Great Lakes Fruit and Vegetable Expo. 5 December 2006, Grand Rapids, MI. Available as pdf on web site [<http://www.glexpo.com/index.php>], pg. 2-5.
- 2006 English-Loeb, G. and Loughner, R. Biology and Management of Strawberry Sap Beetle. Proceedings handout at the 2006 Great Lakes Fruit and Vegetable Expo. 5 December 2006, Grand Rapids, MI. Available as pdf on web site [<http://www.glexpo.com/index.php>], pg. 5-8.

Trade Publications

- 2008 Loeb, G. Management of grape insect and mite pests in eastern us vineyards. In press, Wine East, Spring Issue. [I did the background research and wrote this review article on arthropod pests of grapes. It is based on my springtime review that I put out each year, but modified to encompass the wider eastern grape growing industry.]

PROFESSIONAL OVERVIEW AND OBJECTIVES (One paragraph, not to exceed one-half page, single-spaced)

The overall goal of my research program is to understand the principal forces that influence the population dynamics and species interactions of herbivores in agricultural and natural ecosystems and use this information to devise and implement multi-tactic pest management programs. My more basic research is primarily focused on how host plant traits and other environmental factors influence interactions between plants and their herbivores, and herbivores and natural enemies. We have been studying the role of leaf morphology in mediating interactions between natural enemy mites (predatory and mycophagous species) and parasites of grapes. This research has expanded to include a collaborative study to carry out QTL analysis of trichomes in grapes with the goal of learning how to breed for this trait in cultivated grapes to

promote natural enemy mites. A second project investigates volatile cues used by moths to find host plants for diet specialists and diet generalists. One applied goal of this research is developing improved monitoring and decision-making. Results could potentially also be used to breed traits in plants that either less attractive or apparent to pests. We have also started new research on the role landscape habitat diversity has on ecosystem services in strawberry agro-ecosystems with a focus on enhancing pollination and biological control. My more applied research program focuses on the ecology and integrated control of specific arthropod pests of grapes and small fruit crops. For the past several years we have been investigating the use of trap crops, in combination with “repellents”, to reduce pest pressure in small fruit crops (sometimes referred to as push-pull approach). Other current projects include 1) the ecology and management of spotted wing drosophila *Drosophila suzukii*, 2) use of entomopathogenic nematodes in vineyards for managing Japanese beetle, 3) role of soft scale insects and mealybugs in spreading leafroll disease in New York vineyards, 4) validating a temperature-driven phenology model for grape berry moth, and 5) testing IPM compatible pesticides in grape and small fruit crops. As the grape and small fruit entomologist, 20% of my time is committed to extension activities. My goal in extension is to translate and transfer results of applied research on pest biology and control to our grower clientele so that they will be better informed and better able to make sound pest management decisions. Educating growers and pest control advisors as to the proper and effective use of pesticides is an important aspect of my responsibilities. In addition, however, I try to include other approaches to pest control such as the use of predators and parasites, cultural techniques and host plant resistance.