

ASHLEY D. LEACH

Post-doctoral Research Associate

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Education

Cornell University, Geneva, NY, GPA: 3.94 – Cornell Agritech- College of Agriculture and Life Sciences, 2019.
Major: entomology, minor: plant pathology, minor: horticulture (Doctor of Philosophy).

Michigan State University, East Lansing, MI, GPA: 3.78 (graduated with honor) - Lyman Briggs College, 2013.
Major: entomology (Bachelor of Science)

Employment

Postdoctoral research associate- Purdue University

2019-current

Purdue University, West Lafayette, IN: Evaluating interactions between pest and pollinator management to develop sustainable integrated pest management approaches in cucurbit production. Advisor: I. Kaplan

Graduate Research Assistant- Cornell AgriTech

2014- 2019

Cornell University, Geneva, NY: Evaluating interactions between onion thrips and associated plant pathogens and methods to improve control in onion. Advisor: B. A. Nault

MAEAP Technician- Hillsdale Conservation District

2013-2014

Hillsdale County, Hillsdale, MI: Conducted risk assessments and assisted agricultural producers with MAEAP (Michigan Agriculture Environmental Assurance Program) to prevent agricultural pollution.

Agricultural Scout – CHS Inc.

2012-2013

Hamilton Agronomy, Traverse City, MI: Scouted for pest infestations and diseases in multiple crops primarily cherry, apple, and grape, analyzed pheromone and yellow sticky traps, and discussed pesticide spray programs with growers.

Laboratory Assistant - Berry Crops Entomology

2011-2013

Michigan State University Entomology Department, East Lansing, MI: Sampled bees, pest insects, natural enemies and vegetation, and insect identification. Advisor: R. Isaacs

Laboratory Assistant - Aquatic Entomology

2010-2011

Michigan State Entomology Department, East Lansing, MI: Identified aquatic insects and curated lab insect collections. Advisor: R.W. Merritt

Collection Assistant - Arthropod Research Collection

2009-2011

Michigan State Entomology Department, East Lansing, MI: Curation of all specimens in collection including updating insect databases and educating the public at outreach events.

Publications

REFEREED PUBLICATIONS

1. Leach, H and **A. Leach**. 2020. Seasonal phenology and activity of spotted lanternfly (*Lycorma delicatula*) in eastern U.S. vineyards. J Pest Sci. <https://doi.org/10.1007/s10340-020-01233-7>

2. **Leach, A.**, S. Reiners and B. A. Nault. 2020. Challenges in integrated pest management: A case study of onion thrips and bacterial bulb rot in onion. *Crop. Protect.* 133: 105123 <https://doi.org/10.1016/j.cropro.2020.105123>
3. **Leach, A.**, F. Hay, R. Harding, K. Damann and B.A. Nault. 2020. Relationship between *Stemphylium vesicarium* and onion thrips (*Thrips tabaci*) in the development of Stemphylium leaf blight disease. *Ann. App. Bio.* 176(1): 55-64. <https://doi.org/10.1111/aab.12558>
4. **Leach, A.**, M. Fuchs, R. Harding, and B. A. Nault. 2019. Iris yellow spot virus prolongs the adult lifespan of its primary vector, onion thrips (*Thrips tabaci*). *J. Insect Sci.*, 19(3): 8; 1–4. <https://doi.org/10.1093/jisesa/iez041>
5. **Leach, A.**, C. A. Hoepting, and B. A. Nault. 2019. Grower adoption of insecticide resistance management practices increase with extension-based program. *Pest. Mgmt. Sci.*, 75: 515-526. <https://doi.org/10.1002/ps.5150>
6. **Leach, A.**, M. Fuchs, R. Harding, R. Schmidt-Jeffris and B. A. Nault. 2018. Importance of transplanted onions contributing to late-season iris yellow spot virus epidemics in New York. *Plant Dis.* 102(7): 1264-1272. <https://doi.org/10.1094/PDIS-06-17-0793-RE>
7. **Leach, A.**, S. Reiners, M. Fuchs, and B. A. Nault. 2017. Evaluating integrated pest management tactics for onion thrips and pathogens they transmit to onion. *Agric., Ecosyst. & Environ.* 250: 89–101. <https://doi.org/10.1016/j.agee.2017.08.031>

NON-REFEREED PUBLICATIONS

1. Hayden, Z., **A. Leach**, and B. Nault. 2019. Nitrogen: Is less more? Studies in MI and NY highlight potential for reducing nitrogen rates on muck soils. *Onion world.* 35(5):14-16.
2. **Leach, A.**, B.A. Nault, and C. Hoepting. 2018. Insecticide Sequences to Manage Onion Thrips in Onion in 2018. Cornell Cooperative Extension, Cornell Vegetable Program. *VegEdge* 14 (10) 8-9.
3. **Leach, A.**, S. Reiners, M. Fuchs and B. A. Nault. 2018. Unravelling the interactions among variety, fertility, yield, onion thrips and diseases, and implications for improved management practices. Empire State Producers Expo proceedings.
4. **Leach, A.**, B.A. Nault, and C. Hoepting. 2017. 2017 Insecticide treatment options for onion thrips management in onion. Cornell Cooperative Extension, Cornell Vegetable Program. *VegEdge* 13 (12) 8-9.
5. **Leach, A.** 2017. Optimizing thrips control. *Onion World* 33(3) 17-19.
6. **Leach, A.**, B. A. Nault and S. Reiners. 2016. Evaluating a three-component IPM program for onion thrips. Empire State Producers EXPO proceedings.

Presentations, ^ indicates an invited presentation

1. ^ **Leach, A.**, C. Hoepting, S. Reiners and B. A. Nault. 2019. Lessons from New York: Managing onion thrips and bacterial bulb rot with IPM. Oral presentation. Great Lakes Fruit and Vegetable Expo, Grand Rapids, MI. December 10-12.
2. **Leach, A.**, F. Hay, R. Harding, K. Damann and B. Nault. 2019. Role of onion thrips in the development of Stemphylium leaf blight in onion. Oral presentation. Entomological Society of America- annual meeting St. Louis, MO. Nov 17-20.
3. **Leach, A.**, S. Reiners and B. Nault. 2019. Integrating pest management for onion thrips and bacterial bulb rot in onion production. Poster presentation. Entomological Society of America- annual meeting St. Louis, MO. Nov 17-20.
4. ^ **Leach, A.**, S. Reiners, M. Fuchs, C. Hoepting and B. A. Nault. 2019. Optimizing IPM: Development and adoption of programs for onion thrips in onion. Oral presentation. P.J. Chapman Fellowship award presentation. Cornell Entomology department seminar series, Geneva, NY. April 30.
5. **Leach, A.**, C. Hoepting and B. A. Nault. 2019. Increasing adoption of insecticide resistance management practices with statewide extension program. Oral Presentation. Entomological Society of America- Eastern Branch, Blacksburg, VA. March 9-12.

6. ^ **Leach, A.**, S. Reiners, M. Fuchs, C. Hoepting and B. A. Nault. 2018. IPM and the human element: developing programs to control onion thrips in onion. Oral presentation. Purdue entomology department seminar series, West Lafayette, IN. December 6.
7. **Leach, A.**, C. Hoepting and B. A. Nault. 2018. Increasing use of action thresholds in managing onion thrips on New York onion farms. Oral presentation. ESA, ESC, and ESBC Joint Annual Meeting, Vancouver, CA. November 11-14.
8. **Leach, A.**, F. Hay, R. Harding, and B. Nault. 2018. Relationship between *Stemphylium vesicarium* and onion thrips (*Thrips tabaci*) in the development of *Stemphylium* leaf blight disease. Poster Presentation. International Congress of Plant Pathology. Boston, MA. July 29-August 3.
9. ^ **Leach, A.**, S. Reiners, F. Hay, M. Fuchs, R. Harding, and B. A. Nault. 2018. Evaluating interactions between onion thrips and associated plant pathogens for improved management in onion. Oral presentation. 67th Annual Muck Vegetable Growers Conference, Bradford, ON. March 28-29.
10. **Leach, A.**, C. Hoepting and B. A. Nault. 2018. Successful adoption of action threshold-based insecticide programs for thrips management in onion. Poster presentation. 9th International IPM Symposium, Baltimore, MD. March 19-22.
11. **Leach, A.**, S. Reiners, and B. A. Nault. 2018. Evaluating effects of nitrogen fertilizer and insecticide use in managing onion thrips (*Thrips tabaci*) in onion. Oral Presentation. Entomological Society of America- Eastern Branch, Annapolis, MD. March 17-19.
12. ^ **Leach, A.**, S. Reiners, M. Fuchs and B. A. Nault. 2018. Unravelling the interactions among variety, fertility, yield, onion thrips and diseases, and implications for improved management practices. Oral Presentation. Empire State Producers Expo, Syracuse, NY. January 16-18.
13. **Leach, A.**, C. Hoepting and B. A. Nault. 2017. Fostering adoption of the Cornell Onion Thrips Management Program. Oral Presentation. Taking Stock for New York Agriculture, hosted by the New York Farm Viability Institute, Albany, NY. November 16.
14. **Leach, A.**, M. Fuchs, R. Harding, R. Schmidt-Jeffris and B. A. Nault. 2017. Evaluating major sources of iris yellow spot virus in New York. Virtual poster presentation. Entomological Society of America- annual meeting, Denver, CO. November 5-8.
15. ^ **Leach, A.**, S. Reiners, M. Fuchs, C. Hoepting and B. A. Nault. 2017. Dynamic IPM programs to manage onion thrips in onion. Oral Presentation. Cornell Entomology department seminar series. Geneva, NY. April 25.
16. ^ **Leach, A.**, S. Reiners, M. Fuchs, C. Hoepting and B. A. Nault. 2017. Advancing onion thrips management in onion and challenges in implementation. Oral Presentation. Larry Larson Award Presentation, Dow Agrosiences Headquarters Indianapolis, IN. February 24.
17. **Leach, A.**, R. Harding, M. Fuchs and B. A. Nault. 2016. Evaluating insecticide programs to mitigate iris yellow spot disease in onion. Poster presentation. Great Lakes Fruit and Vegetable Expo, Grand Rapids, MI. December 6-8.
18. **Leach, A.**, S. Reiners, and B. A. Nault. 2016. Integrating nitrogen rate, onion cultivar, and insecticide program to optimize onion thrips management in onion. Poster presentation. National Allium Research Conference, Savannah, GA. November 30- December 2.
19. **Leach, A.**, S. Reiners, and B. A. Nault. 2016. Optimizing soil fertility for managing onion thrips in onion. Oral Presentation. Northeastern IPM center conference, Webinar. November 9.
20. **Leach, A.**, S. Reiners, and B. A. Nault. 2016. Advancing onion thrips (*Thrips tabaci*) control and onion production with a multi-faceted IPM program. Oral Presentation. XXV International Congress of Entomology. Orlando, FL. September 25-30.
21. **Leach, A.**, and B. A. Nault. 2016. Onion thrips pest management research in New York State. National Onion Association Summer Convention Field Tour, Elba, NY. Oral Presentation. July 15.
22. **Leach, A.**, C. Hoepting, and B. A. Nault. 2016. Implementing a threshold-based insecticide program on New York onion farms. Oral Presentation. Cornell AgriTech (formerly New York State Agricultural Experiment Station) Research Symposium, Geneva, NY. June 23.

23. ^ **Leach, A.**, S. Reiners, and B. A. Nault. 2016. Evaluating a tri-partite IPM program to manage onion thrips in onion. Oral Presentation. Empire State Producers Expo, Syracuse, NY. January 19-21.
24. **Leach, A.**, S. Reiners, and B. A. Nault. 2016. Evaluating a tri-partite IPM program for onion thrips in onion. Poster presentation. Entomological Society of America- Eastern Branch, Philadelphia, PA. January 4-7.
25. **Leach, A.**, C. Hoepting, and B. A. Nault. 2015. Implementing Cornell's onion thrips management program on New York onion farms. Poster presentation. Great Lakes Fruit and Vegetable Expo, Grand Rapids, MI. December 8-10.
26. **Leach, A.**, and B. A. Nault. 2015. Tour of 2015 onion thrips research highlights. Elba Muck Donut Hour, Elba, NY. Oral Presentation. August 18.
27. **Leach, A.**, C. Hoepting, and B. A. Nault. 2014. Optimizing onion thrips management in onion. Poster presentation. Great Lakes Fruit and Vegetable Expo, Grand Rapids, MI. December 9-12.

Contributed presentations, # indicates a student I have mentored

1. Leach, H., **A. Leach**, M. Centinari, A. Harner, L. Briggs, L. Deecher, J. Urban. 2019. Detection and management of spotted lanternfly in vineyards. Great Lakes Fruit and Vegetable Expo. Grand Rapids, MI. December 10-12.
2. Leach, H., **A. Leach**, J. Urban, M. Centinari, L. Deecher, and L. Briggs. 2019. Spotted lanternfly damage and phenology in fruit crops. Entomological Society of America Meeting in St. Louis, MO. November 17-20.
3. Nault, B. A., **A. Leach**, C. Hoepting, E. Moretti, and J. Scott. 2018. Adoption and Success of an IRM Program for Onion Thrips in Onion: So good so far! ESA, ESC, and ESBC Joint Annual Meeting, Vancouver, CA. November 11-14.
4. # Ebels, L., **Leach, A.**, and B.A. Nault. 2018. Associations between onion growth characteristics and *Thrips tabaci* populations. Summer Scholar poster session. Geneva, NY July 28.
5. Nault, B. A. and **A. Leach**. 2017. Managing onion insect pests and associated diseases. Great Lakes Fruit and Vegetable Expo, Grand Rapids, MI. December 6.
6. Nault, B. A., **Leach, A.**, and C.A. Hoepting. 2016. Medicating onions for thrips infestations: New remedies to consider. Empire State Producers Expo. Syracuse, NY. January 19-21.
7. Hoepting, C.A., Nault, B. A., and **A. Leach**. 2016. Adoption and performance of the Cornell Onion Thrips Management Program in 2015. Empire State Producers Expo. Syracuse, NY. January 19-21.
8. # Justus, E., **Leach, A.**, Fuchs, M., and B.A. Nault. 2014. Identifying a Major Source of Iris Yellow Spot Virus (IYSV) in New York Onion Cropping Systems. Summer Scholar poster session. Geneva, NY July 28.

Research support (total= \$312,635)

1. NIFA USDA AFRI-ELI Postdoctoral Fellowship. "Integrating bees into modern IPM: revising pest management approaches in a pollinator-dependent crop". 2020-2022-\$165,000
2. New York Onion Research and Development Grant, "Management of onion insect pests and impact on associated diseases" (\$20,000)- 2018
3. Niederhauser Student Travel Grant, The American Phytopathological Society (\$500)- 2018
4. Annie's Sustainable Agriculture Scholarship (\$10,000)- 2018
5. Andrew W. Mellon Student Research Grant (\$1,000)- 2018
6. Paul J. Chapman Graduate Student Fellowship (\$57,000)- 2018-2019
7. W. Arthur and Alma D. Rawlins Graduate Student grant (\$1,000, \$200) – 2018 & 2019
8. Northeast SARE Graduate student grant- "Advancing onion thrips management and production of onion in the Northeast by improving soil fertility programs." GNE16-126. 2017-2019. (\$14,877)
9. Cornell University Graduate Student Travel Grant- 2016 (\$567, \$500)- 2016 & 2018

10. New York Farm Viability Institute- “Fostering Adoption of the Cornell Onion Thrips Management Program and Gauging its Success” 2015-2017. (\$39,326)
11. Michigan Vegetable Council Industry Scholarship 2015 (\$2,500)

Extension experience

Agricultural scout and consultant- Cornell University Entomology department **2016-2017**
Oswego County, NY: Scouted for onion growers, provided weekly reports and recommendations for pest and pathogen management.

Extension research assistant- Cornell University Entomology department **2015-2016**
Geneva, NY: authored and prepared materials for extension presentations, including data analysis, hand-outs and surveys.

Memberships

- Entomological Society of America, Eastern and North Central branch member (2012-current)
- American Phytopathological Society (2015-current)
- American Society of Agronomy (2015-current)
- Sigma Xi, The Scientific Research Honor Society, Associate Member (2017-2018)
- Women in Science (2017-current, Scholarship committee member in 2017)

Service

PROFESSIONAL SOCIETY ACTIVITIES

Serving as co-chair of the Student & Early Career Scientists Committee and member of the Program committee for upcoming 2021 IPM Symposium, “*Implementing IPM across Borders and Disciplines*” held in Denver, CO.

Volunteered as a student competition judge at ESA in 2019.

Volunteered at annual at ESA-EB for “It’s a bug’s world exhibit” in 2015 and 2018.

Volunteered at registration help desk at the International congress of plant pathology meeting in 2018.

Symposia organization

- “*Enhancing Ecosystem Services with Sustainable Pest Management*” at 2020 NC/SW ESA Branch meeting (**MEETING CANCELLED**)
- “*Advocating for IPM in a Dynamic Agricultural World*” PIE section at the 2019 National ESA meeting.
- “*Challenges of Integrated Pest Management (IPM) in High Value Commodities*” at the 2019 ESA-EB meeting.

UNIVERSITY ACTIVITIES

Geneva, NY – Participated in SAGES, a multi-departmental graduate student group at the New York State Agricultural Experiment Station. Officer positions held include social chair, agricultural scholarship chair and symposium founder and committee chair.

Ithaca, NY – Participated in on-campus events for Jugatae, an entomology graduate student group. Participated in symposium committee and volunteered at outreach events.

Symposium organization

- “*Cornell AgriTech Research Symposium*” (formerly New York State Agricultural Experiment Station) <https://nysaes.tumblr.com/post/146722178886/young-scientists-shine-at-inaugural>

COMMUNITY ACTIVITIES

Seneca Falls, NY- Entomology public outreach at Empire farm days in 2016, 2017, and 2018.

Geneva, NY- Delivered entomology lessons to Geneva Elementary School in 2017 and 2018.

Traverse City, MI -Volunteered with the Grand Traverse and Benzie Conservation Districts, and Envirothon (environmental education program for high school students). Participated in supervisory roles for community outreach including aquatic insect collection events in 2014-2016.

REVIEWER

Pest Management Science, HortScience, Arthropod-Plant Interactions, Environmental Entomology, Journal of Integrated Pest Management, International Journal of Pest Management

Teaching experience

Guest Lecture – Purdue University

2019

Purdue University Entomology Department, West Lafayette, IN: Prepared and presented guest lectures on creating engaging scientific presentations for introductory entomology course, *Science Writing*.

Graduate Student Fellow- Cornell University

2015-2016

Graduate Student School Outreach Program (GRASSHOPR), Geneva, NY: Designed and presented lesson plans on agricultural science and entomology for local elementary schools.

Teaching Assistant- Cornell University

2014-2015

Cornell University Entomology Department, Ithaca, NY: Assisted teaching introductory entomology courses, *Plagues and People* and *Alien Empire*. Prepared and presented lectures, graded and designed assignments, and held office hours.

Awards and honors

1. Eastern Branch John Henry Comstock Award- Entomological Society of America 2020
2. First place presentation at the Entomological Society of America Annual Meeting in 2019
3. First place IPM Inspiration Award -9th International Integrated Pest Management symposium 2018
4. First place presentation at the Entomological Society of America-Eastern Branch meeting 2018
5. George G. Gyrisco Graduate Student Award in Applied Entomology- Cornell Entomology 2017
6. First place presentation at the Entomological Society of America Annual Meeting in 2017
7. First place presentation at the National Allium Research Conference- National Onion Association 2016
8. First place presentation at the International Congress of Entomology- Entomological Society of America 2016
9. The Larry Larson Graduate Student Award for Leadership in Applied Entomology- Entomological Society of America 2016
10. Mike Villani Graduate Student Research Award – Cornell University's NYSAES Entomology 2016
11. First place presentation at the Entomological Society of America-Eastern Branch meeting 2016
12. Mike Villani Graduate Student Research Award – Cornell University's NYSAES Entomology 2015