

# ASHLEY B. LEACH

Postdoctoral 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 (Doctor of Philosophy).

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

## PROFESSIONAL AND RESEARCH EXPERIENCE

Postdoctoral research associate- Purdue University *2019 to current*

Purdue University, West Lafayette, IN: Evaluating interactions between pest and pollinator trade-offs in integrated pest management approaches for cucurbit production. Advisor: I. Kaplan

Graduate Research and Teaching Assistant- Cornell AgriTech *2014 to 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 to 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. *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 - Dr. Rufus Isaacs: Berry Crops Entomology *2011 to 2013*

Michigan State University Entomology Department, East Lansing, MI: Sampled bees, pest insects, natural enemies and vegetation, observational studies of pest behavior, data input, and insect identification.

Laboratory Assistant - Dr. Richard W. Merritt: Aquatic Entomology *2010 to 2011*

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

Insect Collection Assistant - Albert J. Cook Arthropod Research Collection *2009 to 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.

## AWARDS AND HONORS

1. First place IPM Inspiration Award -9<sup>th</sup> International Integrated Pest Management symposium 2018
2. First place oral ten-minute paper presentation at the Entomological Society of America-Eastern Branch meeting 2018

3. First place poster presentation at the Entomological Society of America Annual Meeting in 2017
4. George G. Gyrisco Graduate Student Award in Applied Entomology- Cornell Entomology 2017
5. First place poster presentation at the National Allium Research Conference- National Onion Association 2016
6. First place oral ten-minute paper presentation at the International Congress of Entomology- Entomological Society of America 2016
7. The Larry Larson Graduate Student Award for Leadership in Applied Entomology- Entomological Society of America 2016
8. Mike Villani Graduate Student Research Award – Cornell University’s NYSAES Entomology 2016
9. First place poster presentation at the Entomological Society of America-Eastern Branch meeting 2016
10. Mike Villani Graduate Student Research Award – Cornell University’s NYSAES Entomology 2015

## PUBLICATIONS

**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>

**Leach, A.**, Hoepting, C. A. and Nault, B. A. 2019. Grower adoption of insecticide resistance management practices increase with extension-based program. Pest. Manag. Sci., 75: 515-526.  
<https://doi.org/10.1002/ps.5150>

**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>

**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>

### MANUSCRIPTS IN REVIEW/PREPARATION

**Leach, A.**, F. Hay, R. Harding, and B. Nault. Relationship between *Stemphylium vesicarium* and onion thrips (*Thrips tabaci*) in the development of Stemphylium leaf blight disease.

**Leach, A.**, S. Reiners, and B. A. Nault. Effect of onion (*Allium cepa*) plant growth on onion thrips (*Thrips tabaci*) colonization.

**Leach, A.**, S. Reiners, and B. A. Nault. Effect of nitrogen and phosphorus fertilizer on onion thrips, bacterial bulb rot, and onion production.

## PRESENTATIONS \*indicates an invited presentation

1. **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.
2. **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.

3. \* **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.
4. **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.
5. **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.
6. \* **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.
7. **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.
8. **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.
9. \* **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.
10. **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.
11. **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.
12. \* **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.
13. **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.
14. **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.
15. \* **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.
16. **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.
17. **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.
18. **Leach, A.**, C. Hoepting, and B. A. Nault. 2016. Implementing a threshold-based insecticide program on New York onion farms. Oral Presentation. New York State Agricultural Experiment Station (NYSAES) Research Symposium, Geneva, NY. June 23.

19. \* **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.
20. **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.
21. **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.
22. **Leach, A.** and B. A. Nault. 2015. Tour of 2015 onion thrips research highlights. Elba Muck Donut Hour, Elba, NY. Oral Presentation. August 18.
23. **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.
24. **Leach, A.** and R. Isaacs. 2013. Optimizing bait for monitoring the invasive pest, spotted wing *Drosophila* (*Drosophila suzukii*, Matsumura). Poster presentation. Michigan State University Undergraduate Research and Arts Forum, East Lansing, MI. April 12.

## CONTRIBUTED PRESENTATIONS # indicates a student I have mentored

1. 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.
2. # 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.
3. 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.
4. Nault, B. A., **Leach, A.**, and C.A. Hoepting. 2016. Medicating onions for thrips infestations: New remedies to consider. Empire State Producers Expo. January 19-21.
5. 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. January 19-21.
6. # 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.
7. May, E., J.K. Tuell, K. Mason, **A. Leach** and R. Isaacs. 2012. Developing regionally-specific wildflower mixes for pollinator habitat restoration in farmland: Lessons from Michigan. 97th Ecological Society of America Annual meeting, Portland, OR. August 30.

## GRANTS AND FELLOWSHIPS

1. New York Onion Research and Development Grant, "Management of onion insect pests and impact on associated diseases" (\$20,000)- 2018 *listed as a Co-PI*
2. Niederhauser Student Travel Grant, The American Phytopathological Society (\$500)- 2018
3. Annie's Sustainable Agriculture Scholarship (\$10,000)- 2018
4. Andrew W. Mellon Student Research Grant (\$1,000)- 2018
5. Paul J. Chapman Graduate Student Fellowship (\$57,000)- 2018
6. W. Arthur and Alma D. Rawlins Graduate Student grant (\$1,000, \$200) – 2018 & 2019

7. 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)
8. Cornell University Graduate Student Travel Grant- 2016 (\$567)- 2016
9. New York Farm Viability Institute- “Fostering Adoption of the Cornell Onion Thrips Management Program and Gauging its Success” 2015-2017. (\$39,326)- *contributed to the writing and research of the project, although not listed as project leader*
10. Michigan Vegetable Council Industry Scholarship 2015 (\$2,500)

## EXTENSION EXPERIENCE

Agricultural scout and consultant- Cornell University Entomology department 2014 to 2018  
 Oswego County, NY: Scouted for onion growers, provided weekly reports and recommendations for pest and pathogen management.

Geneva, NY: authored and prepared materials for extension presentations, including data analysis, hand-outs and surveys.

Research Assistant- Michigan State University Extension 2013  
 Suttons Bay, MI: Harvested hop cones, entered and analyzed hop varietal data, and contributed to the economic analysis of hop production for Midwestern hop growers.

## EXTENSION 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. Syracuse, NY
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. Syracuse, NY
7. Sirrine, R., E. Lizotte, D. Brown, T. O’Brien, and **A. Leach**. 2014. Estimated Costs of Producing Hops in Michigan. *MSU Extension Bulletin*.

## MEMBERSHIPS

- Entomological Society of America (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)

## SERVICE

### PROFESSIONAL/SOCIETY ACTIVITIES

2019 to Present

Serving on Program and Students & Early Career Scientists Committees for the 2021 IPM Symposium in Denver, CO.

Volunteered at ESA-EB and International congress of plant pathology meeting 2017 and 2018 as a door greeter and registration helper.

#### Symposia organization

“Challenges of Integrated Pest Management (IPM) in High Value Commodities” at the 2019 ESA-EB meeting.

“Advocating for IPM in a Dynamic Agricultural World” at the upcoming 2019 National ESA meeting.

### UNIVERSITY ACTIVITIES

2014 to 2018

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 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

“New York State Agricultural Experiment Station symposium”

<https://nysaes.tumblr.com/post/146722178886/young-scientists-shine-at-inaugural>

### COMMUNITY ACTIVITIES

2011 to 2015

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 events including aquatic insect collection events.

## TEACHING EXPERIENCE

#### Graduate Student Fellow- Cornell University

2015 to 2016

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

#### Teaching Assistant- Cornell University

2014 to 2015

Cornell University Entomology Department, Ithaca, NY: Assisted teaching introductory entomology courses, *Plagues and People* (ENTOM 2100) and *Alien Empire* (ENTOM 2011). Prepared and presented lectures, graded and designed assignments, and held office hours.