



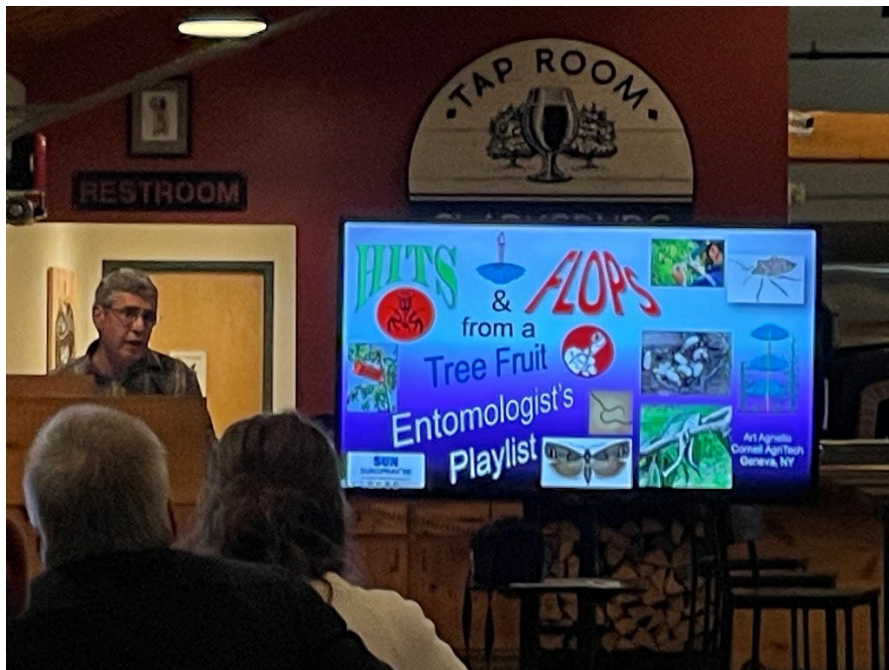
Cornell Cooperative Extension Lake Ontario Fruit Program Quarterly Report October - December 2023

*A partnership between
Cornell University and the
CCE Associations in these
five counties:*

*Monroe, Niagara, Orleans,
Oswego & Wayne*

Overview: As mid fall arrives, the peak of apple harvest in early October transitions into meeting season and project wrap-up as fall turns into winter. Despite the frost damage from the May 18 event, and some hail damaged fruit from several summer storms, harvest finished strong in October. In the early days of the month, we had above average temperatures, with highs in the 80's. The middle of the month turned cold, with below normal temperatures, and some rainfall. Temperatures went back to above normal towards the end of the month before turning cold the last 2-3 days. Rainfall averaged 1.5-2.5", which was below normal. This aided apple growers, as the orchards stayed dry and almost no harvest was impacted. In clean (no frost or hail damage) orchards, overall fruit size was good to above average, and fruit color was very good as well.

November began with Cornell hosting the Annual Great Lakes Fruit Workers Conference in Buffalo NY. Anna Wallis (meeting chair, Cornell IPM), along with Craig and Janet were the main conference organizers. Bonnie was able to attend part of the conference as well. We received nothing but good comments about the meeting venue (Embassy Suites Buffalo), the quality of presentations, the field tour (Seneca Nation farm and CLEREL) and banquet dinner with facility tour (Clarksburg Cider). Bonnie also attended sessions at the CCE Agriculture, Food, and Environmental Systems In-service. In early December, we held first of two advisory committee meetings scheduled for the off-season. Grower and industry participation was strong, and it spurred many session ideas for our upcoming winter programs. The RFP for ARDP 2023 was released and all grants were submitted by the deadline of November 29. Janet, Mario, and Craig were cooperators in several proposals each. In addition, Bonnie put in a NERME grant in mid-November. This was followed by a mentoring committee meeting for Bonnie in which she presented her draft plan of work and got valuable feedback from committee members. LOF specialists attended the Fruit PWT meeting and the ARDP project reporting sessions before Christmas at Cornell AgriTech. LOF also "crashed" Orleans CCE's Christmas luncheon on December 15. It was a great opportunity to close out the year as a team.



Retired Cornell entomologist Art Agnello gives the keynote presentation at the banquet dinner at Clarksburg Cider on November 2nd, part of the Annual Great Lakes Fruit Workers Conference in Buffalo, NY.

By the Numbers:

Team Publications:	Editions:	Articles:
Fruit Notes	1	6
Email Blasts	21	N/A
Fruit Facts	none	N/A



Selected Publications by LOF Team	Periodical	Author
<i>A Primer on Adjuvants and Water Quality</i>	Fruit Notes, Vol. 23, Issue 13.	van Zoeren & Duplais
<i>The Value of Research and Extension for the Fruit Industry</i>	Fruit Notes, Vol. 23, Issue 13.	Robinson, edited by Miranda Sazo
<i>NY's Pay Transparency Law Now in Effect</i>	LOF Email Blast, 10/2/23	NYS DOL, edited by Nelsen
<i>Application Process for The Farm Labor Stabilization and Protection Pilot Program Now Open</i>	LOF Email Blast, 10/5/23	USDA, edited by Nelsen
<i>2nd Annual Western NY Fruit Conference, February 8-9, 2024, DoubleTree by Hilton, Rochester</i>	Fruit Notes, Vol. 23, Issue 13.	Kahlke

Selected Presentations by LOF Team	Periodical/Meeting:	Presenter:
<i>"Perennial Orchard Weed Management Trials in NY"</i>	Great Lakes Fruit Workers meeting (35 attendees, Buffalo NY, Nov 1).	van Zoeren
<i>"Tree Fruit Basics"</i>	Annual Master Gardeners meeting (30 attendees, Geneva NY, Oct 25).	Kahlke
Co-teaching part of the course - <i>Farm Business Planning Workshop/Webinar series</i>	December 13, 2023-February 21, 2024, 20 farms enrolled	Nelsen & Higgins (program leader)
<i>"Pruning Basics"</i>	Presentation and hands-on demo at BOCES Springdale Farm (9 students, Spencerport NY, Dec 11).	van Zoeren



The nighttime view from Embassy Suites Buffalo, host of the Annual Great Lake Fruit Workers Conference in Buffalo NY on November 1-3.



Clarksburg Cider in Lancaster, host of a tour and banquet dinner at the Annual Great Lakes Fruit Conference in Buffalo on Nov 2.

Business Consultation

Specialist	Site Visit	~ Phone/Texts/Emails
Kahlke	none	150
Miranda Sazo	5	50+
Nelsen	3	25+
van Zoeren	1	15+



Craig uses a DA meter to measure chlorophyll loss in the fruit peel of an apple. This is a harvest maturity indicator.

Applied Research/Collaborations

Activity/Proposal/Grant	Person(s)	Funded (Y/N) or Unfunded/ Preliminary Research (UPR)
<i>“Statewide effort to manage crop load, nutrient status, and bitter pit of Honeycrisp”</i>	Kahlke, Miranda Sazo, Tee	Yes-ARDP (Robinson, PI)
<i>“Precision Orchard Management of Apple”</i>	Kahlke, Miranda Sazo	Yes-SCRI & ARDP (Robinson, PI)
<i>“Processing Systems Rootstock Trial”</i>	Kahlke, Miranda Sazo, Tee	Yes-ARDP & Keurig-Dr. Pepper (Robinson, PI)
<i>“Determining if beneficial fungi increase tree growth and reduce the need for fertilization and irrigation of newly planted apple trees”</i>	Miranda Sazo	Yes- NESARE (with Lando & Basedow)

Conducting case study of four apple growers who use weather stations and NEWA models on their farm	Nelsen	Unfunded, with Anna Wallis (NYS IPM)
<i>“Optimizing Herbicide Strategies for Weed Control”</i>	van Zoeren	Yes-ARDP (co-PI, Basedow)
<i>“Comparing multi-species dispensers for mating disruption of codling moth and oriental fruit moth”</i>	van Zoeren	Yes-ARDP (Rivera PI)
<i>“Assessing the significance of brown marmorated stink bug damage to New York apple production; Part 2: threshold and spray timing”</i>	van Zoeren	Yes-ARDP (van Zoeren PI)

Selected Professional Development and Training

Activity	Team Member(s)	Comments:
ARDP Project Reporting on Dec 19	Kahlke, Miranda Sazo, van Zoeren	Heard PI presentations of projects we’re involved in and others of interest. Janet co-presented her project with Mike Basedow.
Tree Fruit & Small Fruit PWT Meeting Dec 18	Kahlke, Miranda Sazo, van Zoeren	Geneva
CCE Agriculture, Food, and Environmental Systems In-Service, Nov 8	Nelsen	First in-service for Bonnie.
Difficult Conversations in the Field. Dec 6	Kahlke, Miranda Sazo, van Zoeren	Bloomfield, NY.
Great Lakes Fruit Workers meeting, Nov 1-3	Nelsen, van Zoeren & Kahlke	Buffalo, NY
Supply Chain of Fruit & Vegetable Industries PWT Tour, Nov 16 in central NY.	Kahlke	Co organized by Kahlke, Hadad, Biasillo, and Wright.
Northeast Tree Fruit IPM working group meeting (Oct 23-25), to network with pest management specialists around the region and to discuss the 2023 season and research report.	van Zoeren	Lake George, NY
Agriconnect full-day workshop on labor in agriculture on 10/24/2023.	Nelsen	Geneva

Fruit Quality Management – Craig J. Kahlke

Educational Programs/Presentations

- Harvest Maturity Program (continued from 3rd quarter)
 - With Liz, sampled orchards and picked up grower and crop consultant samples on Mondays, and tested them in the maturity lab at Orleans County CCE
 - With Liz, tested Wayne County samples (growers and crop consultants collected) at K.M. Davies on Tuesdays.
 - Sent data to industry reps on Tuesday evenings, had conference call on Wednesday mornings
 - Put out most maturity reports Wednesdays
 - 3 Harvest Maturity Reports were sent out in October
 - 2 Crunch Time Apple Growers Harvest Maturity Bulletin was sent out in October (for NY2 -RubyFrost™)
 - 5 Midwest Apple Improvement Association electronic maturity reports were sent out in October for MAIA-1 (Evercrisp™) and MAIA-L (Ludacrisp™)
 - 3 Regal 10-45 (Wild Twist™) electronic maturity reports were sent out in October
- Presented “*Tree Fruit Basics*” at the annual Master Gardeners Conference in Geneva, NY on Oct. 25.
- *Grant Submission(s), Re-Submission(s), Letter(s) of Support, Proposal Meeting(s):*
 - In October & November, held several planning Zooms and email communications with the rest of the team along with key Cornell faculty to prepare for our ARDP proposals submissions due Nov. 29.
 - Was a cooperator on 4 submitted proposals.
- Co-organized and MC'd The Fruit & Vegetable Supply Chain PWT Tour in central NY on November 16th. Secured 2 of the 3 tour stops and introduced speakers from all 3 stops. About 15 CCE educators from across the state attended.



Peter Fleckenstein from 1911 Cider introduces the group to the 1911 Cider House. This was a stop on Fruit & Vegetable Supply Chain PWT Tour in central NY on November 16th.

Program Planning

- Winter Conference Planning – Western NY Fruit Conference, Hosted by CCE-LOF
 - Based on mainly positive feedback from February’s tree fruit conference, it was decided that LOF organize another multi-day fruit conference in Western NY. A date was set for February 8 & 9th, 2024, at the DoubleTree by Hilton in Rochester, NY.
 - Planning continued with multiple Zoom and in-person meetings and email communications to divvy up sessions/topics, and speaker suggestions.
 - Additional session ideas were generated from the advisory meeting on Dec. 8.
 - Sponsorship solicitation was sent out before the holidays.

Publications

Email Blasts

- Sorted through numerous announcements about workshops/conferences/meetings/surveys and along with the pertinent on-line registration links, put them in the email blasts.
- Sent out 15 email blasts in the quarter.

Applied Research

- ARDP Project *“A Statewide Effort to Manage Crop Load, Nutrient Status and Bitter Pit of Honeycrisp”* (Robinson PI)
 - Traveled to Lake Ontario Fruit, Inc. on December 11 to help conduct bitter pit evaluations from research blocks with Liz.
- ARDP Project *“Precision Orchard Management” – Precision Irrigation*
 - Transported all 14 Gala samples from Sun Orchard Fruit Co. to AgriTech on Dec. 13.
 - Ran fruit on Greefa™ line at AgriTech for size and color.
 - Entered data and shared on Box with the rest of the project cooperators.
- SCRI Project *“Precision Orchard Management in Apple” – Effect of Crop Load of Honeycrisp on Yield, Fruit Size and Crop Value in 4 climates*
 - Transported all 24 Honeycrisp samples from Lake Ontario Fruit Inc. to AgriTech on Dec. 13.
 - Evaluated fruit for bitter pit incidence.
 - Ran fruit on Greefa™ line at AgriTech for size and color.
 - Entered data and shared on Box with the rest of the project cooperators.

Faculty/Industry Collaborations

- Mott’s/KDP Processing Orchard Systems Trial
 - Measured trunk diameters with Mario and Liz at both sites on Nov 9.

Team and Other Duties

- Team Leader Administrative Duties
 - Approved invoices and vouchers as needed.
 - Reviewed budget and monthly financials.
 - Approved timesheets/vacation/sick leave hours for team members as needed.
 - Disseminated pertinent info to rest of team as needed from:

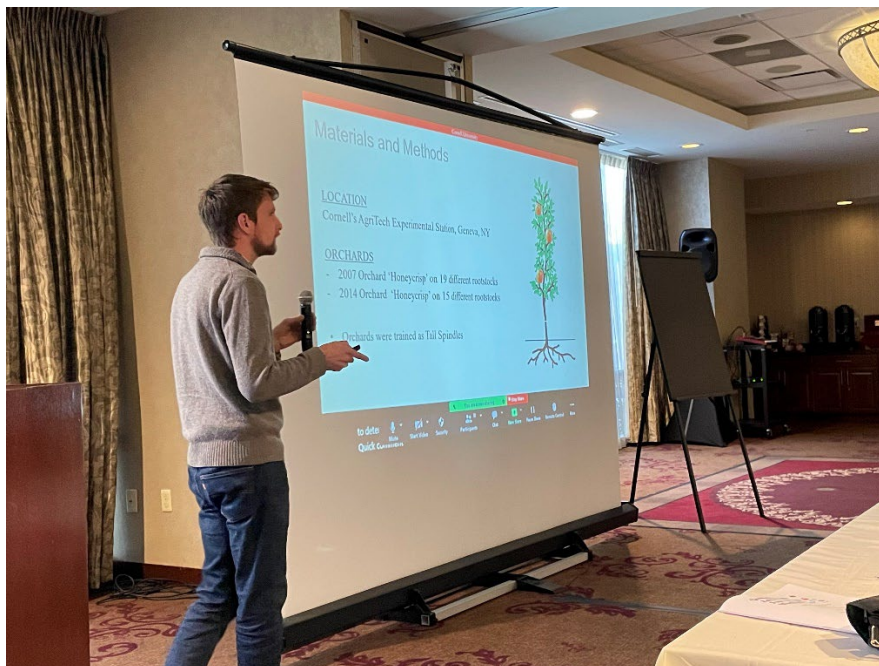
- Monthly Team Leader Zoom™ on Oct. 19.
 - Group and other email lists
- Organized and led team meetings (Zoom) on Oct 13 & Dec. 1.
- Submitted July-September 2023 quarterly report.
- Attended the CCE-Niagara/Niagara County Annual Meeting on Oct. 19.
- Attended WNY AMG on Oct. 20 (Zoom). Gave team update.
- Attended ribbon cutting of solar project at Orleans CCE on Oct. 19.
- Completed CCE Annual Program Reporting by late November.
 - Collaborated with other LOF specialists to divide up workload.
 - Signed off on all LOF program reporting.

Professional Development

- Attended the Great Lakes Fruit Workers Meeting on Nov. 1-3 in Buffalo, NY.
- Attended Cornell and ESF/NSF's Engine Team Mtg for Wayne County on Nov 21 (Zoom).
- Attended Difficult Conversations in the Field workshop on Dec. 6 in Bloomfield, NY.
- Attended ARDP Project Reporting at AgriTech on Dec 19
 - Heard PI presentations of projects I'm involved in and others of interest
- Attended Fruit PWT Meeting in Geneva on Dec 20

Stakeholder Contacts

- Assisted ~25 stakeholders via texts, ~ 50 via phone, and ~ 75 via email.



Newly hired Cornell AgriTech PostDoc Brian Lawrence (Robinson lab) gives A presentation at the Annual Great Lakes Fruit Workers Meeting on November 1st in Buffalo, NY.

Horticulture – Mario Miranda Sazo

Publications

Fruit Notes

CCE LOF Fruit Notes newsletter: Wrote/modified/summarized/requested articles including:

- “The value of research and extension for the fruit industry” (T. Robinson), page 2, Vol. 23, Issue 13, Dec. 21, 2023.

Peer-reviewed Research Articles:

- Title: Viruses of apple are seedborne but likely not vertically transmitted
Authors: Anna Wunsch *, Bailey Hoff, Mario Miranda Sazo, Janet van Zoeren, Kurt H. Lamour, Oscar P. Hurtado-Gonzales, Marc Fuchs
Submitted on 7 Dec 2023 to the Virus Journal.

CCE LOF YouTube Videos – Other social media efforts and collaborations

- 2023 virtual orchard meetups were uploaded in our LOF YouTube channel by Liz in November.

CCE LOF announcements (email blasts):

- LOF Announcements - Registration deadline for the Northeast Latino/a/x Agricultural Community Conference is Thursday November 16, 2023 (sent on October 31)
- LOF Announcements - Recommendation for a single chemical defoliation spray for on-farm apple nurseries - apply next week around October 17-20, 2023 (sent on October 12)
- LOF Announcements - Recommendation for foliar urea sprays in blocks that were heavily defoliated or that have marginal nitrogen status this year - apply NOW with the nice weather this week! (sent on October 3)

Applied Research Projects/Collaborations

On-farm Rootstock/Training Systems (Motts/Robinson and LOF team)

- Took trunk caliper data with Craig and Liz on Nov. 9 (both Verbridge and Breslawski sites)

SCRI – POM project (T. Robinson)

- **SCRI Advisory Committee meeting and annual extension report:**
 - Attended a zoom meeting with J. Clements and K. Lewis to discuss extension goals/plans for AC meeting at IFTA or elsewhere.
 - Wrote LOF SCRI Extension report activities for 2023 year (submitted on Dec. 11)

Statewide ‘Honeycrisp’ bitter pit project -ARDP funds (L. Cheng)

- Conducted bitter pit post storage evaluations on December 5
- Conducted GREEFA fruit color/fruit size evaluations for Nitrogen study (Furber site) on Dec. 7

Determining if beneficial fungi increase tree growth and reduce the need for fertilization and

irrigation of newly planted apple trees – NE SARE project (M. Basedow, J. Londo, and M. Miranda Sazo)

- **SARE project team meeting:**
 - A zoom meeting was organized by PI Mike Basedow with Deborah Aller and I for planning of the 2024 soil-related education for Spanish orchard employees in October.

Team and Other Duties

- Attended zoom meetings as needed for the planning of:
 - CCE LOF program activities as needed.
 - SARE Farmer, ARDP, SCRI grant applications.
- Submitted reappointment package to Peter Landre on Oct. 30
- Sent three email blasts this quarter.
- Visited grower's nursery and submitted dead tree samples to Londo, Cox, and a USDA scientist in Ithaca on Oct. 20 and 25
- Attended CCE Monroe annual meeting on Oct. 19
- Attended HR difficult conversations workshop on Dec.6
- Attended LOF advisory on Dec. 8
- Attended lunch with CCE Orleans staff, ED, and CCE LOF team on Dec.15
- Planned/organized the Cornell Engine Team, CCE Wayne, Wayne Economic Development Team, CCE LOF, one grower and industry reps on Nov. 21
- Planned/organized/conducted zooms for Honeycrisp modeling with Alan Lakso on Nov. 10
- Planned/organized/conducted zooms for long term soil ecological studies in apples and grapes with D. Aller and J. Russo on Nov. 13
- Reported fleet mileage as needed during this quarter, changed oil, tires, etc.
- Submitted Q₃ (July-Sept. 2023, quarterly report)
- Continued working closely with Basedow, Londo, Jiang, Aller, Calixto, Obregon, van Zoeren for SH initiative and other DA projects.

Professional Development

- Attended HR difficult conversations workshop on Dec.6

Stakeholder Contacts

- Assisted 5 growers/farm employees in Niagara and Wayne via farm visits, 10-20 emails, 20 phone communications, 15 texts (pics, videos, voice messages, etc.).

Lake Ontario Fruit Team – Bonalyn (Bonnie) Nelsen

Educational Programs/Presentations

- Co-teaching Farm Business Planning Workshop/Webinar series with Elizabeth Higgins (program leader) from December 13, 2023-February 21, 2024. This workshop entails a one-hour webinar on business planning each week and detailed review and coaching/commentary on farm business plans being prepared using the AgPro software program. Twenty farms are enrolled in the program: I'm responsible for advising nine farmers on their business plans.

Publications

Email Blasts

- Application Process for The Farm Labor Stabilization and Protection Pilot Program Now Open, published on 10/5/2023.
- NY's Pay Transparency Law Now in Effect, published on 10/2/2023.

Applied Research Projects/Collaborations

- Conducting case study of four apple growers who use weather stations and NEWA models on their farm with Anna Wallis, NYS Integrated Pest Management Program's fruit coordinator. The purpose of the study, which will eventually be published in Fruit Quarterly or Fruit Notes, is to illustrate the financial and non-financial benefits of these systems, for the purpose of educating and persuading non-users to adopt the technology. To date, four interviews have been conducted with the individuals listed below. Case scenarios will be selected, and financial data collected and presented (data collection and analysis is in progress):
 - 4 growers are participating in Albany, Clinton, Orleans, and Wayne Counties

Grant Submissions

- Prepared and submitted NERME grant application entitled Building Grant Literacy and Research Skills Among New York State Tree Fruit Growers on November 17, 2023. Bonalyn Nelsen is the PI on this project; Dr. Brad Rickard is the faculty sponsor and Elizabeth Higgins is acting in an advisory capacity.

Letters of Support

- Letter of Support for a fruit farm 10/25/2023; operating in Orleans and Niagara counties, the growers are petitioning for an exemption to their 2023 H-2A job order due to frost/freeze-related crop losses.

Team and Other Duties

- Attended LOF team meeting conducted on Zoom on 10/13/2023.
- Attended LOF team meeting conducted on Zoom on 12/1/2023.
- Represented the LOF team at the Wayne County, NY 2023 Open House event for the public on 11/03/2023.

- Attended the LOF Advisory Committee meeting in Spencerport, NY on December 8, 2023.
- Attended the Cornell and ESF's NSF Engine Team with Wayne County's Apple Industry with the Wayne County Economic Development Planning Team meeting (on Zoom) with potential collaborators from Cornell, Agritech, Wayne County CCE, and the Wayne County Economic Development office on 11/21/23.

Professional Development

- Attended the Agriconnect full-day workshop on labor in agriculture held at AgriTech in Geneva, NY on 10/24/2023.
- Attended the 2023 Great Lakes Worker Conference held in Buffalo, NY on 11/01/2023 and 11/02/2023
- Attended the 2023 Agriculture, Food, and Environmental In-service Workshop at the Cornell campus in Ithaca, NY on 11/8/2023.
- Attended the Mentoring Committee Meeting for my 2024+ plan of work.

Stakeholder Contacts

- On-farm and virtual grower/stakeholder visits and assistance:
 - 1 Wayne County
 - 1 Orleans County
 - 1 Monroe County
 - 1 out-of-region consultation (Ulster County)
- Other Stakeholder Contacts:
 - Phone calls: 6
 - Emails: 14
 - Texts: 5

Integrated Pest Management – Janet van Zoeren

Educational Programs/Presentations

- “Perennial Orchard Weed Management Trials in New York” at the Great Lakes Fruit Workers meeting (43 total attendees, Buffalo NY, Nov 1).
- “Pruning Basics” presentation and hands-on demo at BOCES Springdale Farm (9 students, Spencerport NY, Dec 11).

Publications

Fruit Notes Articles Written:

- van Zoeren, J, and C Duplais. *A Primer on Adjuvants and Water Quality*. Fruit Notes, Volume 23, Issue 13. P 4-5.

Applied Research Projects/Collaborations

- ARDP funded Project “*Optimizing Herbicide Strategies for Weed Control*” (PI-Mike Basedow)
 - Weed assessment – Stinger project (Orleans county - Oct 6)
 - Herbicide application – Stinger project (Orleans county - Oct 12)
 - Weed assessment – Unison/Stinger project (Wayne county - Oct 13)
 - Weed assessment – Stinger project (Orleans county - Oct 31)
 - Trunk measurements – Tyvek project (Orleans county – Nov 10)
 - Set up plot and weed assessment – New Stinger project (Orleans county – Nov 10)
 - Weed assessment – Unison/Stinger project (Wayne county – Dec 1)
- ARDP funded Project “Assessing the significance of brown marmorated stink bug damage to New York apple production; Part 2: threshold and spray timing” (PI-van Zoeren)
 - Weekly trap check (October)
 - Damage assessment from Roberts (Oct 10)
 - Harvest fruit sample at DeMarree (Wayne county - Oct 10)
 - Damage assessment from White Springs (Oct 13)
 - Damage assessment from Two of Clubs (Niagara county – Oct 30)
 - Damage assessment from DeMarree (Wayne county – Nov 15)
- ARDP funded Project “Comparing multi-species dispensers for mating disruption of codling moth and oriental fruit moth” (PI-Rivera)
 - Weekly trap monitoring (October)
 - Cut open fruits from AgriTech damage assessment (Oct 10)

Team and Other Duties

- Served as Fruit Program Working Team Co-chair.
- Helped organize Great Lakes Fruit Workers tour.
- Helped organize webinar series for statewide fruit growers.
- Helped organize LOF Winter Conference pest management sessions.
- Helped organize Northeast Tree Fruit IPM working group webinar series.
- Attended team meetings.

Professional Development

- Attended “Wood-Boring Ambrosia Beetles: Management Tactics to Reduce the Risk of an Infestation” webinar on Zoom (Oct 4), to learn about pest management strategies and to network with industry representatives and fruit growers.
- Attended Northeast Tree Fruit IPM working group meeting (Lake George, NY, Oct 23-25), to network with pest management specialists around the region and to discuss the 2023 season and research report.
- Attended Great Lakes Fruit Workers meeting (Buffalo, NY, Nov 1-3), to listen to research reports and to see the fruit growing region.

Stakeholder Contacts

- Site visits to assist growers (1 Orleans).
- Assisted stakeholders via texts, phone, and email (16).

Other Area-Wide Education and Advocating

- Weekly insect trapline and orchard scouting (Oct).
- Collaborated with the Motts facility to help identify internal lepidoptera and stink bug problems in incoming processing fruit (Oct-Nov).
- Initiative to understand the cause of declining trees, including field visits with Dr. Jason Londo.
- Advisory role at the BOCES teaching farm in Spencerport, Orleans county.
- Guest lecture on “Tree fruit Basics” for high school Intro to Horticulture class at Bishop Kearney high school (Monroe Co, Nov 8).



A FloraPulse irrigation sensor measures water availability directly from the trunk of a Gala tree in Appleton, NY.