

Cornell Cooperative Extension Lake Ontario Fruit Program Quarterly Report January - March 2023

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

Monroe, Niagara, Orleans, Oswego & Wayne

Overview: The peak of winter brought the meeting season into full force. In January and February, final preparations were made for our CCE Winter Fruit Conference, the first multi-day conference solely hosted by LOF. For talk topics, we incorporated suggestions from industry that we received year-round, as well as from the advisory committee meeting that we held in December. The meeting was held February 27-28 at the RIT Inn & Conference Center in Henrietta. We have six sessions over 1 ½ days. We also had a cocktail hour and banquet dinner, and some attendees stayed overnight. Attendance was strong at nearly 185 people during the always popular DEC credit sessions on Tuesday morning. Feedback received via evaluations and face to face was overwhelmingly positive. We are planning to do it again next year. Craig also attended the International Fruit Tree Association's Annual Winter Conference in Grand Rapids, MI. Craig drove two postdocs there, along with Bulmaro Solis, winner of a scholarship to attend though the Cornell Small Farms Program. Excellent educational programs, some of which can be brought back to WNY, and a great field tour were included. Craig also traveled to Wilkes-Barre, PA in March for the Annual Northeast Plant Growth Regulator Conference. Networking, updates on the latest research, and potential collaborations with industry were investigated. Janet attended the Annual Crop Consultant's meeting in March to learn of new crop protectants and network with other extension educators, researchers and industry. As spring neared, Craig was asked to run the chilling unit/heat accumulation models to try to predict green tip in apple. Past research by Dr. Terence Robinson has shown the model to be quite accurate, with the accuracy of the short and long term weather forecasts causing the most variability. Craig ran the model every 3-4 days, and updated green tip predictions were sent out to stakeholders in our publications.



Attendees hear a talk at CCE-LOF's Western NY Fruit Conference in Henrietta, NY on February 28th, 2023.

By the Numbers:

Team Publications:	Editions:	Articles:
Fruit Notes	5	28
Email Blasts	23	N/A



Selected Publications by LOF Team	Periodical	Author(s)
WNY Fruit Conference – "State of the Industry" – February 27- 28, RIT Inn & Conference Center, Henrietta	Fruit Notes, Vol. 23, Issues 1 & 2	Kahlke
Advances in Fruit Production Technology Announcing Two Technology Sessions that Will Cover Ag- Technology Solutions for WNY: Available Today, Tomorrow, and for the Future	Fruit Notes, Vol. 23, Issue 1	Miranda Sazo & van Zoeren
Consider Mating Disruption for Dogwood Borer in 2023	Fruit Notes, Vol. 23, Issue 1	van Zoeren & Rivera
Erick Smith: Distinguished Tree Fruit Scientist and Fruit Consultant will be Presenting at the 2023 WNY Fruit Conference in Rochester	Fruit Notes, Vol. 22, Issue 2	Miranda Sazo
What Kind of Pesticide Certifications/Trainings Do My Workers Need in 2023?	Fruit Notes, Vol. 22, Issue 2	van Zoeren
Predicted Green Tip Date for WNY in 2023	Fruit Notes, Vol. 22, Issue 3	Kahlke
Intentional Delay of Dormant Pruning for 'Honeycrisp' & Other Important Biennial Cultivars (Fuji)	Fruit Notes, Vol. 22, Issue 3	Miranda Sazo & Robinson
Spanish translation needs survey, Special Permit Training, and Introducing Mary "Bess" Lewis in the WNY Fruit Region	Fruit Notes, Vol. 22, Issue 3	Miranda Sazo & van Zoeren
Phenology Update for Tree Fruit	Fruit Notes, Vol. 22, Issue 4	Kahlke
Last Call for Budwood Collection While Trees are Still Dormant and Be Cautious if Planning to Graft an Old Block to 'Honeycrisp' this Season	Fruit Notes, Vol. 22, Issue 4	Miranda Sazo, Robinson, Cheng, and Kahlke
Ag Water Proposed Rule in the FSMA PSR – Performing Agricultural Water Assessment	Fruit Notes, Vol. 22, Issue 4	Kahlke

Selected Presentations by LOF Team	Periodical/Meeting:	Presenter:
"State of the Industry" – an Overview of	WNY Fruit Conference, February 27th	Kahlke
Tree Fruit Production Trends in NY, the US,		Karrike
and Beyond		

"Food Safety Begins on the Farm: A Review of Produce Safety Issues & Market Implications"	Good Agricultural Practices (GAPs) Training & Food Safety Plan-Writing Workshop Feb 2	Kahlke
Co-presented talk with Mike Basedow "Pre- emergent Herbicide Timings in New York Apple Orchards: Efficacy and Tree Health Impacts"	ASHS-NR annual meeting, virtual, Jan 6	van Zoeren
"Brown Marmorated Stink Bug statewide monitoring and apple damage assessments"	ENYCHP Annual Conference, Albany NY, Feb 23	van Zoeren
"Mating disruption: myths, knowns, and unknowns"	ENYCHP Annual Conference, Albany NY, Feb 23	van Zoeren
"Brown Marmorated Stink Bug statewide monitoring and apple damage assessments"	WNY Fruit Conference, Henrietta, NY, Feb 29	van Zoeren
"Useful tips for growing high quality apples".	2023 Southwest Michigan Horticultural Days, Benton Harbor, Michigan, February 1, 2023.	Miranda Sazo
Co-taught NYS Certified Pesticide Applicator License Pre-Exam Training.	CCE-Wayne, Mar 17 and 21	van Zoeren and Stanyard

Business Consultation

Specialist	Site Visits	~ Phone/Texts/Emails
Kahlke	5	325
Miranda Sazo	15	55
van Zoeren	7	130



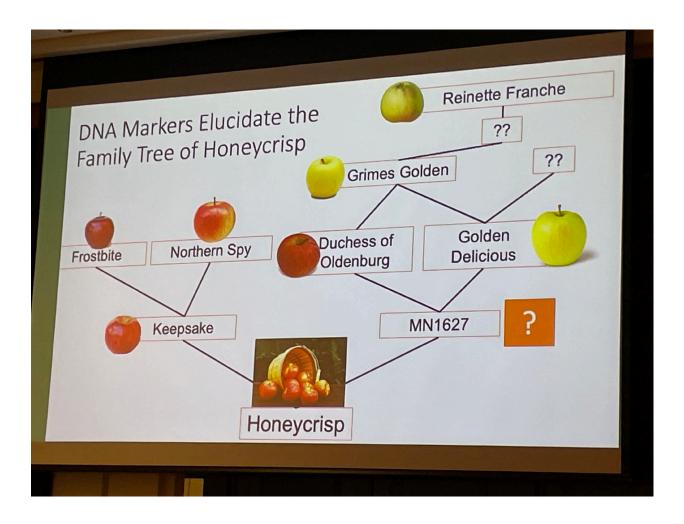
Two-dimensional (in-row) peach systems are observed near Hart, MI at the IFTA Annual Winter Conference on February $14^{\rm th}$, 2023.

<u>Research</u>

Activity/Proposal/Grant	Person(s)	Funded (Y/N) or Unfunded/ Preliminary Research (UPR)
Precision Orchard Management	Miranda Sazo, Kahlke, Tee	Yes-SCRI & ARDP
Testing the Use of Apogee and NAA for Bitter Pit Control on Honeycrisp	Miranda Sazo (Cheng PI)	Yes-ARDP
Optimizing Herbicide Strategies for Weed Control	van Zoeren, Basedow	Yes-ARDP
Futuro Financiero	Miranda Sazo (Rangarajan et al.)	Yes-USDA-NIFA & NYS Ag & Mkts, Yes! Apples

Selected Professional Development and Training

Activity	Team Member(s)	Comments:
Attended ENYCHP Annual Conference, pest management sessions	van Zoeren	Feb 23 in Albany
Attended NE Crop Consultant Meeting	van Zoeren	Mar 1-2 in Fairport
Annual Northeast Plant Growth Regulator Conference	Kahlke	March 8-9 in Wilkes-Barre, PA
Annual IFTA Winter Conference	Kahlke	Feb 12-15 in Grand Rapids, MI
Attended Tree Fruit & Small Fruit PWT	van Zoeren, Kahlke, and Miranda Sazo	Mar 13 at Cornell AgriTech
Statewide Virtual Apple Conference	Kahlke, Miranda Sazo, van Zoeren	March 3 (virtual)



Dr. Jim Luby of the University of Minnesota presents a slide on "The Heritage of Honeycrisp"

Fruit Quality Management - Craig Kahlke

Educational Programs/Presentations

- Western NY Fruit Conference Cornell Tree Fruit Conference Feb 27-28, RIT Inn & Conference Center,
 Henrietta
 - Coordinated all planning (these are also Team Meetings) meetings on Jan 5, 12, 18, Feb 21 and set agendas.
 - Was the principal coordinator for the meeting
 - Started meeting, gave a talk, handled sponsors, chaired 2 sessions, and gave at an award at the banquet dinner..
- Good Agricultural Practices (GAPs) Training & Food Safety Plan-Writing Workshop Feb 2-3 at CCE-Wayne
 - Organized workshop and secured venue and other speakers.
 - o Presented Intro and plans for the day on Feb 2.
 - Presented "Food Safety Begins on the Farm: A Review of Produce Safety Issues & Market Implications" on Feb 2.
 - Coordinated Feb 3 Food Safety Plan Writing Workshop
 - Introduced plans for day.
 - Showed attendees the info on flash drive.
 - Helped individual growers with their plans.
- Statewide Virtual Apple Conference Mar 3 (Zoom)
 - o Co-organized meeting with CCE-ENYCHP
 - Set agenda and ran prep meetings on Jan 9, 23, and Feb 24.
 - Started meeting and introduced several speakers.
- Coordinated & Organized Orchard Investment Classes on Jan 11 (CCE-Orleans) & Jan 20 (CCE-Wayne)
 - Liz Higgins (CCE-ENYCHP) was the instructor.
- Gave team update at Western NY AMG meeting on Jan 20.
- Gave team update at monthly Team Leader Meeting (Zoom) on Mar 16.
- Attended the Regional Ag Teams Communications Discussion (Zoom) on Mar 23.
- Entered temperature data into the chilling unit-green tip model for apples, used in articles to stakeholders.

Grant Submission(s), Re-Submission(s,) Letter(s) of Support, Proposal Meeting(s):

- Wrote a letter for a grower who had trees in an orchard destroyed by a car, included estimated cost of replacements and lost yield.
 - o He submitted it to his crop insurance representative.

Publications

Fruit Notes

- Articles Written: Fruit Notes newsletter
 - WNY Fruit Conference "State of the Industry" February 27-28, RIT Inn & Conference Center, Henrietta (twice)
 - Predicted Green Tip Date for WNY in 2023
 - Phenology Update for Tree Fruit
 - Ag Water Proposed Rule in the FSMA PSR Performing Agricultural Water Assessment
 - End of Intended Enforcement Discretion for Subpart E Requirements for Harvest and Post-Harvest Agricultural Water for Covered Produce Other than Sprouts
- Sorted through numerous announcements about workshops/conferences/meetings/surveys and along with the pertinent on-line registration links, and put them in the newsletter.

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 21 email blasts in the quarter.

Applied Research

- USDA-SCRI Funded Project "Precision Orchard Management in Apple"
 - o Participated in Advisory Meetings on Mar 17 & 24.
- ARDP Precision Irrigation
 - Secured a trial site in Niagara County.

Team and Other Duties

- Team Leader Administrative Duties
 - o Approved invoices and vouchers as needed.
 - Reviewed budget and monthly financials.
 - o Approved timesheets/vacation/sick leave hours for team members as needed.
 - o Disseminated pertinent info to rest of team as needed from:
 - Team Leader Zoom™ call on Mar 16.
 - Group and other email lists.
 - Conducted Performance Review Dialogues with 2 specialists and 1 technician.
 - Signed off and submitted through Workday after modifications were made.
- Coordinated search for a new Business Management Specialist with Craig Trowbridge.
 - o Pre-screened (Zoom) two promising candidates on Jan 9 & 10.
 - Brought in the two candidates on Feb 7 to visit some farms/meet growers and LOF to gather information for their seminar at the formal interview 10 days later.
 - o One candidate pulled out after this, so Dr. Bonalyn Nelson formally interviewed on Feb 17.
 - All of the search committee agreed she had the qualifications and would be a good fit for the position, so it was offered and she accepted. Start date is slated for May 16.
- Organized and led team (Zoom™) meetings on Jan 12, 18, and Feb 21, and Mar 28. Organized and in-person Team Meeting on Jan 5.
- Organized final PACMAN Virtual Meetup on Jan 26.
- Submitted October-December 2022 quarterly report.
- Submitted 2022 Annual Report.
- Had my Performance Dialogue with Peter on Feb 8.
- Attended a CCE-Niagara Staff Mtg on Mar 28.
 - Listened to programming and goings-on of CCE-Niagara personnel.
 - Gave the group an update on CCE-LOF programming.

Professional Development

- Attended Virtual PACMAN Meetups on Jan 12, 19, and 26.
- Attended NEWA Winter '23 Update (Zoom) on Feb 10.
- Attended IFTA Annual Winter Conference on Feb 12-15 in Grand Rapids, MI.
- Attended Annual Northeast Plant Growth Regulator Conference in Wilkes-Barre, PA on Mar 8-9.
- Attended Tree Fruit & Small Fruit PWT at Cornell AgriTech on Mar 13.
- Attended IPM Training Discission with CCE/Cornell and crop consultants at Cornell AgriTech on Mar 13.
- Attended Stone Fruit Webinar on Mar 16.

Stakeholder Contacts

- Assisted stakeholders via texts (~65), phone (~150), and email (~105).
- Farm Visits (4 Niagara, 1 Monroe).



A camera amplifies apple flower parts for measuring style lengths for use in the Pollen Tube Growth Model on February 14th, 2023. This service is provided to growers at the Riveridge Cider Plant in Grant, MI.

Horticulture - Mario Miranda Sazo

Educational Programs/Presentations

- Western NY Fruit Conference Feb 27-28, RIT Inn & Conference Center, Henrietta
 - Organized/chaired 2 sessions.
 - Presented an award to Dr Alan Lakso, retired Cornell researcher, for his contributions to the industry and to LOF.

Other Presentations Given - Invited Presentations:

 "Useful tips for growing high quality apples". 2023 Southwest Michigan Horticultural Days, Benton Harbor, Michigan, February 1, 2023.

Publications

Fruit Notes

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

- "Advances in fruit production technology announcing two technology sessions that will cover agtechnology solutions for WNY: Available today, tomorrow, and for the future" (M. Miranda Sazo and J.v. Zoeren), page 4, Vol. 23, Issue 1.
- "Ines Hanrahan will be speaking about ag-technologies and main barriers for adoption at the WNY fruit conference" (M. Miranda Sazo), page 5, Vol. 23, Issue 1.
- Erick Smith: Distinguished tree fruit scientist and fruit consultant will be speaking at the 2023 WNY fruit conference in Rochester" (M. Miranda Sazo), page 3, Vol. 23, Issue 2.
- "Farm management skills course to be held in Spanish in March" (T.W. Shenk), page 5, Vol. 23, Issue 2.
- "Apple cold hardiness research update" (J. Londo, T. Robinson, E. Casagrande, L. Gonzalez, M. Basedow, and M. Miranda Sazo), pages 6-8, Vol. 23, Issue 2.
- "Intentional delay of dormant pruning for 'Honeycrisp' & other important biennial cultivars (Fuji)" (M. Miranda Sazo and T. Robinson), page 2, Vol. 23, Issue 3.
- "Performing floral bud development on Honeycrisp ahead of precision pruning" (M. Basedow), pages 3-4, Vol. 23, Issue 3.
- "Make sure you are signed up for the Fruit Facts supplemental" (J.v. Zoeren and M. Miranda Sazo), page 4, Vol. 23, Issue 3.
- "Spanish translation needs survey, special permit training, and introducing Mary "Bess" Lewis in the WNY fruit region" (M. Miranda Sazo and J.v. Zoeren), page 5, Vol. 23, Issue 3.
- "Last call for budwood collection while trees are still dormant and be cautious if planning to graft an old block to Honeycrisp this season" (M. Miranda Sazo, T. Robinson, L. Cheng, and C. Kahlke), page 2, Vol. 23, Issue 4.
- "Promising ag-vision technologies highlighted at the CCE statewide virtual apple conference What is possible today and in the future" (M. Miranda Sazo and M. Basedow), pages 10-12, Vol. 23, Issue 4.

Extension Articles/Editorials/Press Releases:

Wallis, A., Clements, J., Miranda Sazo, M., Kahlke, C., Lewis, K., Kon, T., Jiang, Y., Robinson, T. 2023. Digital
Technologies for Precision Apple Crop Load Management (PACMAN) Part I: Experiences with Tools for
Predicting Fruit Set Based on the Fruit Growth Rate Model. Fruit Quarterly 31(1):8-13

CCE LOF YouTube Videos - Other social media efforts and collaborations

• This quarter Liz posted one new video to our YouTube channel:

- o 'Cornell Geneva apple rootstocks in Europe at Interpoma, Bolzano, Italy"
- The intensive workshop (conducted on Nov. 18, 2022) is available here: https://www.youtube.com/watch?v=cojEuZe57yQ
- This quarter Jon Clements helped us to post the PACMAN briefings recordings. These meetings were held on January 12, 19, and 26, 2023.
 - o Videos are available here: https://pacman.extension.org/2023/02/03/pacman-briefings-recordings/

Applied Research Projects/Collaborations

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

Trees will be planted in May 2023.

Testing the use of Apogee and NAA for bitter pit control on Honeycrisp (ARDP/Cheng and Miranda Sazo – third year in collaboration with Robinson and Gonzalez in 2022)

• Results were presented by L. Gonzalez at the NEPGR meeting in Wilke Barrel, PA, on March 7-8, 2023.

Statewide effort to manage crop load, nutrient status, and bitter pit of Honeycrisp (ARDP/Robinson)

Partial results were presented by T. Robinson at the statewide virtual apple conference on March 3, 2023.

Course: Ag Futuro training at SUNY Brockport on March 22-23, 2023 (NYS Agriculture and Markets, Yes! Apples, Rangarajan, Miranda Sazo, Waters)

- This course is an improved version of the Master Class training offered through the project titled "Labor readiness: Pathways for farmworkers to start up and advanced beginners to scale up new farm business" (USDA-NIFA, 2017-2021, Rangarajan, Miranda Sazo)
 - Helped as a facilitator on March 22.
 - Graduation ceremony was conducted on March 23, 2023.

SCRI PCLM (PACMAN virtual briefings)

- Meetings were held on January 12, 19, and 26, 2023.
- Summarized yield estimation data/submitted narrative for Fruit Quarterly article.

Ph.D. related course/research work in Ithaca campus (SCRI and ARDP/Cheng and Miranda Sazo)

- This quarter presented preliminary results during:
 - o Cornell SIPS Graduate review day in Ithaca on January 20..

Team and Other Duties

- Attended LOF team meetings and conference calls as needed
- Attended zoom meetings as needed for the planning of:
 - o WNY Fruit Conference (Feb. 27-28) and Statewide Fruit Conference (March 3)
 - CALS Moonshot
 - Cornell soil heath initiative in tree fruit perennial systems ongoing.
 - DATA initiative ongoing
 - o SCRI POM project (PACMAN briefings in January).
- Met with Basedow and Londo via zooms for the submission of a NESARE full proposal.

- Plan/coordinated/delivered three ag-tech sessions this quarter (two with JvZ at RIT and one with MB for a virtual panel).
- Met with Y. Jiang and M. Weigert (in person/via zooms) for the planning of Cornell DATA initiative, Smith Lever/ARDP proposals.
- Met with A. Wallis, B. Sallato, D. Weber, and K. Grigg-McGuffin, for the planning of virtual meetup series in June/July 2023.
- Met with Londo and a company representative of CID Bio-Science (California) for Beta-testing of an apple root scanner (ongoing effort to include more Cornell scientists).
- Participated during the LOF business management interview process/tours/provided feedback.
- Developed idea/ suggested school speakers/secured NYSIPM funds (\$20K) for a statewide IPM fruit school to be conducted in June.
- Reported fleet mileage as needed during this quarter, changed oil, etc.
- Authored/submitted six articles to LOF newsletter editor.
- Represented LOF/summarized hort-program at the Lyons Courthouse in February.
- Submitted Oct.-Dec. 2022 quarterly report.
- Submitted annual report.
- Submitted 2022 success story and reviewed data for annual federal reporting.
- Conducted performance review with CK...
- Continued working closely with Basedow, van Zoeren, Aller, and more recently, with K. Wickings, D. Obregon, J. Petzoldt, and J. Mallon for the SH initiative in tree fruits
- Communicated and strategically worked with Cornell Small Farm Program (mainly with M. Alvarado).
- Started communicating with Mary "Bess' Lewis.
- Secured registration/travel funds for Bulmaro Solis's attendance to IFTA annual conference in Michigan.
- Continued partnering strategically with Alejandro Calixto (Director NYSIPM) and Diana Obregon (postdoc).

Professional Development

- Attended 2023 WNY Fruit Conference Feb. 27-28.
- Attended 2023 Statewide virtual apple conference March 3...

Stakeholder Contacts

Assisted 15 growers/farm employees via farm visits, 15 emails, 20 phone communications, 20 texts (pics, videos, voice messages, etc.).

Ph.D. Related Course/Research Work in Ithaca (Cheng)

- This quarter presented preliminary results during:
 - o Cornell SIPS Graduate review day in Ithaca on January 20

Grant Submissions, Re-Submissions, Letters of Support, Proposal Meetings

- Collaborated with Mike Basedow (main PI) and Jason Londo for the submission of one full proposal titled
 "Determining if Beneficial Fungi Increase Tree Growth and Reduce the Need for Fertilization and Irrigation of
 Newly Planted Apple Trees," which was submitted to 2023 Northeast SARE Research for Novel Approaches
- Started resubmission process of one SCRI USDA-NIFA proposal titled 'Enhancing resilience of U.S. pome fruit production to extreme temperatures in a changing climate" with PI Kalcsits (WSU), several other faculties from WSU, MSU, U. of Minnesota, U. of Maine, and four extension colleagues

Integrated Pest Management – Janet van Zoeren

Educational Programs/Presentations

- Co-presented talk with Mike Basedow "Pre-emergent Herbicide Timings in New York Apple
 Orchards: Efficacy and Tree Health Impacts" at ASHS-NR annual meeting (13 attendees, virtual, Jan
 6).
- Presented "Brown Marmorated Stink Bug statewide monitoring and apple damage assessments" at ENYCHP Annual Conference (144 attendees, Albany NY, Feb 23).
- Presented "Mating disruption: myths, knowns, and unknowns" at ENYCHP Annual Conference (144 attendees, Albany NY, Feb 23).
- Presented "Brown Marmorated Stink Bug statewide monitoring and apple damage assessments" at WNY Fruit Conference (151 attendees, Rochester NY, Feb 28).
- Co-taught "NYS Certified Pesticide Applicator License Pre-Exam Training" with Mike Stanyard (22 attendees, Wayne Co office, Mar 17 and 21).

Publications

Fruit Notes Articles Written:

- van Zoeren, J and M Rivera. "Consider Mating Disruption for Dogwood Borer in 2023." Fruit Notes, Volume 23, Issue 1. P 6.
- Miranda Sazo, M and J van Zoeren. "Advances in Fruit Production Technology Announcing Two Technology Sessions that Will Cover Ag-Technology Solutions for WNY: Available Today, Tomorrow, and for the Future." Fruit Notes, Volume 23, Issue 1. P 3.
- van Zoeren, J. "What Kind of Pesticide Certifications/Trainings Do My Workers Need in 2023?" Fruit Notes, Volume 23, Issue 2. P 9.

Team and Other Duties

- Helped organize and facilitate the WNY Fruit Conference (Feb 27-28).
- Helped organize and facilitate the statewide Virtual Tree Fruit Conference (Mar 3).
- Served as Fruit Program Working Team Co-chair; organized Fruit PWT spring meeting (Mar 13).
- Editor for Fruit Notes newsletter (2 issues).
- Assisted with business management specialist position interview.
- Attended team meetings.

Professional Development

- American Society of Horticultural Sciences, Northern Region annual meeting (virtual, Jan 6).
- Attended ENYCHP Annual Conference, pest management sessions (Albany NY, Feb 23).
- Attended and helped organize "Stupid Question Sessions" for NE Tree Fruit IPM Working Group (Feb March, 2 sessions).
- Attended NE Crop Consultant Meeting (Fairport NY, March 1-2).

Stakeholder Contacts

- 7 site visits to assist growers (3 Orleans, 2 Monroe, 2 Wayne).
- Assisted stakeholders via texts, phone, and email (130).

Other Area-Wide Education and Advocating

- Guest lecture on "Tree fruit IPM" for high school Intro to Horticulture class at Bishop Kearney high school (Monroe Co, Jan 13).
- Monroe county Master Gardeners talk "Tree Fruit Basics" (Monroe Co, Feb 9).
- Co-taught Beginning Farmers 223 "Intro to Tree Fruit Production" through the Cornell Small Farms program (virtual, 6 lessons Feb 23-Mar 30).
- Advisory meetings with Keurig Dr Pepper Motts facility to discuss regenerative ag initiative.



Janet van Zoeren gives a presentation at CCE-LOF's Western NY Fruit Conference in Henrietta, NY on February 28th, 2023.