



A partnership between Cornell University and the CCE Associations in these five counties: Monroe, Niagara, Orleans, Oswego & Wayne

Fruit Notes

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Cornell Cooperative Extension
Lake Ontario Fruit Program

Volume 23 Issue 13 December 21, 2023

Season's Greetings

The Lake Ontario Fruit Team

As we close out 2023, our team hopes there are some good happenings that you can look back on, and some excitement to look forward to in 2024. We realize this was a season of many challenges, but there are also blessings to be counted. Our team will be entering next year at full strength to help you navigate your businesses and position yourselves to prosper for many years to come. We look forward to working with all of you to meet the challenges ahead. Our team wishes your families a safe, restful, and enjoyable holiday season.



2nd Annual Western NY Fruit Conference February 8-9, 2024 DoubleTree by Hilton, Rochester

We are looking forward to bringing you another multi-day tree fruit conference this winter! Again, this replaces our traditional "LOF Fruit Schools" and our participation in the Empire Producers Expo in Syracuse. The program will run all day on Thursday (Feb 8) and Friday morning (Feb 9). There will be two morning sessions Thursday, along with two afternoon sessions. Friday will have 2 morning sessions. There will be an optional cocktail hour and dinner at the hotel. The overall theme of the conference will be helping your business make the most well-informed decisions to keep it prosperous with the anticipated challenges ahead. The conference will start with a presentation by Chris Gerlach of US Apple. Chris will lead with the most recent trends and what the near future may hold. This will be backed up by production statistics. Despite over production, high labor costs and other inputs, and flat apple consumption, there are business strategies that can keep your business profitable. An expert panel will follow Chris's presentation. The panel will give suggestions on how to meet the challenges ahead. The pesticide credit-eligible session will be late morning on Thursday. Horticulture will be covered in the early afternoon session. Among the highlights will be disease updates, a presentation on adjuvants, tree fruit monitoring and scouting opportunities, the EPA's draft herbicide strategy, wooly apple aphid control, and precision orchard technology updates from Cornell and growers. Sessions late Thursday into Friday will cover labor updates, a plant growth regulator panel, and a packer panel on fruit quality, and more! We encourage folks to stay overnight. If you are interested in dinner on your own, there are plenty of options close by. In addition, the meeting is in the Henrietta area, so parking is free, the area is safe, and it is easy to get around. Look for conference registration, room reservation, and more session details in January.



Sponsorship Opportunities for the WNY Fruit Conference February 8-9, 2023 DoubleTree by Hilton, Rochester, NY

CCE-LOF are excited to bring you our second annual multi-day fruit conference in WNY! This is replacing our Winter Fruit Schools, and our participation in the Empire Producer's Expo. We are in the process of putting together the program, and have garnered key input from our growers, businesses, and other personnel. See the above article for more details. We anticipate 150-250 growers and related industry to attend.

We know you will see value for your business in this educational opportunity for the industry, and invite you to participate as either an exhibitor, cocktail hour sponsor, banquet dinner sponsor, or general donor to support the current and future sustainability of our industry. For sponsorship details, please email Craig for the registration links and information at: cjk37@cornell.edu Questions? Call Craig at 585-735-5448.

The Value of Research and Extension for the Fruit Industry

Terence Robinson

Mario's note: This LOF newsletter article was originally written by Terence for the editorial of the last issue of the Fruit Quarterly just mailed this month (FQ, Vol. 31. Number 4. Winter 2023). I enjoyed Terence's reflections as the editor of the magazine for 26 years and wanted to make sure more WNY growers, packers, orchard employees, and industry people can read it. As Terence reflected, I am also confident that CCE LOF future, both short- and long-term, is bright in the years to come. We recently had a very successful LOF advisory meeting and got great feedback for educational sessions to be presented at the coming winter fruit conference in Rochester on February 8 and 9. Please plan to attend our winter conference! We are your best kept secret in the entire Northeast. Happy Holidays everyone!

Now that the harvest season is over and fruit growers can reflect on the 2023 season, I have been reflecting on how apple growing has changed in the last 40 years with much of that change driven by research and extension at Cornell and other research institutions. I won't detail the changes now but want to simply pay tribute to the great group of research and extension folks we have in NY and MI. A generation of researchers and extension educators have retired while a new generation of researchers and extension agents have taken their place. Both past and present members of the Cornell team and the Michigan State team have made tremendous contributions to the fruit industry. I am proud of them and hope you are supportive and appreciative of their contributions to your business.

Four times per year the latest research and extension results are published in the Fruit Quarterly Magazine. I have served as the editor of the magazine for 26 years and have read every article in the quarterly as I have reviewed and edited them. I might be the only person to have read them all, but they are an impressive group of results of research that have led and changed the fruit industries of NY and MI.

The Fruit Quarterly magazine is the brainchild of forward thinking leaders of the apple industry in NY who in 1990 and 1991 organized the NY Apple Research and Development Program. A committee of the NY State Horticultural Society organized this research funding program (ARDP) and decided to publish the results of funded research in a magazine which was later named the NY Fruit Quarterly. The leaders of that effort (as far as I can remember) were Walt Blackler, George Lamont, Jim Oakes, Peter Conklin, Tre Green and Warren Stiles. (And probably others that I have forgotten). The Fruit Quarterly magazine has evolved over the 31 years of its existence with going from black and white to full color in 1998, providing an online version in 2000 and then the inclusion of MI growers, researchers and extension agents in 2014. The magazine continues to fulfill its original mission to bring to all fruit growers in NY and now MI the latest research findings to help them in their businesses.

Officially the Fruit Quarterly is owned by the NY State Horticultural Society but it is really a joint venture between the New York State Horticultural Society, the New York State Apple Research and Development Program, the Michigan Apple Committee, the NY State Berry Growers, Cornell University and Michigan State University.

In my opinion, the Fruit Quarterly magazine has been a resounding success. The Fruit Quarterly magazine has documented and reported all of the advances in fruit growing since 1992. The magazine is a win-win publication for all of us. First, the Quarterly helps the NY State Hort. Soc. to fulfill its mission of providing educational programs for its members. The Quarterly also serves the Cornell and Michigan State research and extension communities by providing a vehicle to disseminate to NY and MI growers our latest research findings. The Quarterly also serves the Apple Research and Development Program, the Michigan Apple Committee and the NYS Berry Growers by providing a vehicle for them to disseminate the findings of the research they sponsor. Lastly, the Quarterly serves the fruit growers of NY and MI by providing the latest practical research information that will help them flourish and remain profitable.

Environmental Protection Agency Mitigation Proposal Update: Ziram/Thiram/Ferbam

Megan Luke, Penn State Extension, Viticulture & Tree Fruit Educator

Last week, the EPA hosted a webinar to address concerns and to outline new measures for mitigating risks pertaining to the use of three commonly used fungicides: **ziram, thiram, and ferbam**. It is crucial to understand what changes are being made to label requirements so that you can stay in compliance with these new measures. The EPA is heavily leaning on the use of their “**Bulletins Live! Two**” website to disseminate these changes, as well timing for open public comment periods regarding use (more information on Bulletins Live! Two below). Please read the following, and follow up with Janet van Zoeren with further questions!

Key takeaways:

- The EPA has proposed cancellation of the registration of **ziram** in all cropping systems, on all operations.
- Use of **ferbam** will be canceled in apple, pear, citrus, mango, and cranberries, and use in peach and nectarine will be restricted.
- Use of **thiram** in non-seed treatment uses will be canceled.
- A 60-day comment period for all three fungicides will open by March of 2024, with ziram possibly being placed on a separate docket from the other two.
- Unless a high volume of comments is received, the EPA’s decisions are unlikely to change.
- On the current timeline, growers will have **two growing seasons (2024 and 2025) to utilize these chemistries**, use beyond the proposed timeline will be a violation of the label and the law.

Updates regarding mitigation strategies in response to the Endangered Species Act and special label requirements will only be found on the “Bulletins Live! Two” website.

ZIRAM: The EPA has made the following statements regarding ziram:

“Risks of Concern from ziram use for fish (both freshwater and estuarine/marine), aquatic invertebrates, mammals, birds, and terrestrial invertebrates. Also, there are dermal and inhalation exposures to occupational handlers, post-application occupational risks (dermal), and bystander (non-occupational) risks to adults (dermal) and children (combined dermal and incidental oral).”

Proposed Mitigation

The EPA proposes **cancellation of all uses for agricultural crops**.

THIRAM: The EPA has made the following statements regarding thiram:

“Risks of Concern for fish (both freshwater and estuarine/marine) aquatic invertebrates, mammals, terrestrial invertebrates, birds, and aquatic and terrestrial plants. EPA identified exposure concerns to occupational handlers and post application risks and received new dermal toxicity data submitted by the Thiram Task Force. The dermal absorption factor (DAF) was revised from 15% to 10% after the new dermal data was reviewed; therefore, the Agency has re-evaluated the dermal exposure and risk estimates and have revised the human health DRA.”

Proposed Mitigation

Cancellation of all non-seed treatment uses such as strawberries, peaches, non-bearing trees, shrubs, nursery stock, ornamentals.

FERBAM: The EPA has made the following statements regarding ferbam:

“Risks of Concern for fish (both freshwater and estuarine/marine), invertebrates, aquatic-phase amphibians, mammals, birds, and terrestrial invertebrates. There are also occupational handler and occupational post-application risks for workers.

Proposed Mitigation

- **Cancellation of all uses on apple, pear, citrus, mango, and cranberries.**
- Require the use of a PF50 respirator and restricting the application method to only be applied by **mechanically pressurized handgun on peach and nectarine for dry flowable formulations.**
- Restricting the application timing for **peaches and nectarines to the dormant period.**

Include FIFRA Interim Ecological Mitigation - pesticide incident reporting and Bulletins Live! Two (BLT) language, risk advisory statement and best management practices for insect pollinators.”

This is the last stage of the re-registration process for a pesticide with an active label registration. If you would like more information regarding the re-registration process, you can find that information here: [EPA Pesticide Re-registration Process](#)

A breakdown of the timeline for ziram*/thiram/ferbam usage:

***Ziram may be separated from the other two for public comment and maintain a separate docket thereafter**

January-March 2024: The Proposed Interim Decision (PID) will be published and posted for final public comment. This is the text above in quotations, which includes the cancellation of the registration in all cropping systems, on all operations.

60 Days: From publication of PID, there will be a final 60-day public comment period. This information will be forwarded to our members as soon as it is available, HOWEVER, the EPA representatives and the above quoted text demonstrate that without SIGNIFICANT amounts of comments and new data, their decision is unlikely to change.

60-180 Days: After the 60-day comment period closes, the EPA will review the comments and finalize the decisions, including publishing the Interim or Final Decision (ID or FD).

3-6 months: Once the Final Decision is made, it takes up to six months (but as little as three months) to review updated labels, receive a federal letter, and stamp it.

12 Months: From the date the federal letter is stamped, there is a 12-month “grace period” to utilize or responsibly dispose of any remaining product within the supply chain. This includes on-farm products and products located at suppliers and distributors.

What should you do?

The only recourse that we have at this time for all three pesticides is to participate in the public comment period which will open after the first of the year.

For timely information regarding the EPA’s guidance on pesticide use and mitigation strategies, they are encouraging ALL growers to check the EPA’s new “Bulletins Live! Two” website. This website contains the most current information regarding pesticide use registration addendums, Pesticide Use Limitations Areas (PULAs), and Endangered Species Act compliance strategies.

EPA’s Bulletin Live! Two Website including [a quick start guide and tutorial](#), can be found here: <https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins>.

Watch for more information about this new website and pesticide registration process at our Winter Conference, to be covered in Rochester on Feb 8-9.

A Primer on Adjuvants and Water Quality

Janet van Zoeren and Christophe Duplais

As the price of everyone’s spray bill continues to go up, many growers are simultaneously wondering: a, “is it really necessary to add adjuvants to the tank, or can I save a little money by leaving those out?”, but also, b, “am I wasting money on a spray that is less effective due to poor water quality or improper use of adjuvants?”.

Let’s back up. Adjuvants are a huge category of products including virtually anything you might add to the tank to improve pesticide efficacy. There is a mind-numbingly long list of possible purposes for those products (i.e., drift control, water conditioners, spreaders, stickers, penetrants, etc) not to mention brand and off-brand options under each category.

Luckily, there are some general rules of thumb to employ when choosing which (if any) adjuvants to add to a tank.

Read the label(s)! Each label will list any adjuvants that are already in the pesticide formulation, as well as any spray adjuvants that are required to be added for the product to work properly. You will find information about adjuvants either in the “Directions for Use” section of the label, or possibly in a separate “Adjuvants” section. If an adjuvant is listed as recommended, it is up to you if you use it or not. If it is listed as required, then it would be a violation of the label to not use it (not to mention that there is reason to believe the product will not be effective without the adjuvant added).

Non-ionic surfactants and oils are used to improve the “activity” (i.e., efficacy) of some pesticides by reducing surface tension and increasing penetration.

Buffering and conditioning agents can be used to improve pesticide efficacy when spray water is not ideal. Many pesticides work best when water pH is between 5.5 to 6.5 (although check the label because some (especially biopesticides) have different requirements), and when there are not too many minerals in the water (not using hard water in the tank). Test water pH and hardness of your water source, to understand which buffering or conditioning agents will be beneficial.

Defoaming agents, deposition agents (stickers), and drift control agents can change the physical properties of the spray to ensure the product reaches the target crop/pest.

Miracle adjuvants do not exist. Be wary of adjuvants that make too large promises.

There are many brand name of off-brand options for each of these adjuvant categories. Trusting your dealer will go a long way toward helping you decide which brand to use. We are working on better understanding the plethora of adjuvant products available to you, and will continue this conversation (**beginning with Cornell Chemical Ecologist Christophe Duplais' s talk at the upcoming LOF Winter Conference on February 8th**). To help us help you, please fill out the following survey to help us understand which adjuvants are most often used in WNY fruit production: <https://docs.google.com/forms/d/1EXd5dym1-M3gojTxnK6uMvkOrec9qcYCKrVaRXn9wxc/edit>.

Cornell Cooperative Extension 2024 Pesticide Training and Recertification Series

Thursdays February 1, 8, 15, 22, 2024

7:00 pm—9:30 pm

Exam - Thursday, February 29, 2024

6:00 pm - 10:00 pm

Cooperative Extension Center 480 North Main Street Canandaigua, NY 14424

Cornell Cooperative Extension

Ontario County

PROGRAM SERIES

Class 1 - Pesticide Laws & Regulations Presenter: Chris Wainwright, NYSDEC Highlights:

New Federal Regulations Regulatory Updates Certification Regulations Pesticide registration FIFRA, OSHA
Hazard Communications Standard Safety Transportation Act Endangered Species Act
Worker Protection Standards NYS Reporting Law
Pesticide Record Keeping

Class 2 - Pesticides & the Environment Presenter: Russell Welser, CCE Ontario Highlights:

Toxicity of pesticides, pesticide residue & tolerance
Environmental considerations Pesticides and ground water Pesticides and wildlife
Types & formulations of pesticides

Class 3 - Pesticide Safety

Presenter: Russell Welser, CCE Ontario

Highlights:

Personal & environmental safety Selection & use of personal protective equipment
Symptoms of pesticide poisoning Pesticide storage & disposal.
Understanding the pesticide label.

Class 4 - Pesticide Mixing, Equipment, and Calibrations

Presenter: Russell Welser, CCE Ontario

Highlights:

Procedure for mixing and filling Calculations for mixing pesticides Equipment calibration
Types of pumps, nozzles, sprayers

Pesticide Certification Exam Date:

Thursday, February 29, 2024

AUDIENCE/REGISTRATION

Cost \$240.00: includes training manuals and attendance at all four classes.

Check made payable to CCE Ontario. No confirmation will be sent.

Sign up on registration form | Pesticide

Certification Training.

\$100.00 DEC exam fee, due the evening of the exam.

Check for the exam, payable to NYSDEC.

Certified applicators, private or commercial, seeking recertification credits will receive 2.5 core credits per class. Sign up on registration form | Recertification Credits.

Cost: \$40.00/person/class

This is NOT a 30 hour credit course that is required for those who do not meet DEC eligibility requirements for commercial certification

Private Certification: This is for the person who will be applying restricted pesticides to their own or employer's property or rented property.

Commercial Certification: This is for the person who will be applying pesticides for hire.

Fill in the tear-off form (on reverse side). Mail registration form and check to:

Cornell Cooperative Extension Pesticides

480 North Main Street

Canandaigua, NY 14424

Russell Welsch

Senior Resource Educator

Pesticides

Phone: 585-394-3977 x 436

Email: rw43@cornell.edu

If you have any questions contact:

Cornell Cooperative Extension

(585) 394-3977 x 427 or 436

Email: ontario@cornell.edu

Website: www.cceontario.org

REGISTRATION FORM (No confirmation will be sent)

Pesticide Certification Training: (for people getting a license) _____ person(s) @ \$240.00/person. \$ _____

Check (✓) certification desired:

___ **Private :** ___ Field and Forage (21) ___ Fruit (22) ___ Vegetable (23)

 ___ Greenhouse & Florist (24) ___ Nursery, Ornamental & Turf (25)

OR

___ **Commercial:** ___ Agriculture-Plant (1a) ___ Ornamental and Turf (3)

Pesticide Recertification Credits: (for people with a license).

Attendance at selected classes. Check (✓) appropriate box below @ \$40.00/person/class.

___ Class 1 ___ Class 2 ___ Class 3 ___ Class 4 \$ _____

Total enclosed \$ _____

Name(s) _____

Address: (Street, City, Zip): _____

Phone: _____ **Print Email:** _____

Check payable to: CCE Ontario; Mail to: Cornell Cooperative Extension, Pesticides, 480 N. Main Street, Canandaigua, NY 14424

Mark Your Calendar Meeting Title	Becker Forum
Date	Monday, January 22 nd
Time	8:30 AM – 5:00 PM
Location	ON Center, Syracuse
Cost	\$125 for the first person and \$115 for additional registrants from the same organization through January 1. After January 2, registration is \$150/person.
Contact for Info/Registration	nysvegetablegrowers@gmail.com , https://nysvga.org/2024-expo-registration/#!event-register/2024/1/22/2024-nysvga-expo-and-becker-forum
Brief Description of Meeting	Everything you need to know regarding agricultural labor issues.

Meeting Title	Empire Producers Expo
Date	January 23-24
Time	All day
Location	ON Center, Syracuse
Cost	varies
Contact for Info/Registration	https://nysvga.org/expo/information/
Brief Description of Meeting	Statewide vegetable and berry educational sessions.

Meeting Title	2024 Pesticide Training and Recertification Series
Date	Thursdays, February 1, 8, 15, 22, 2024; Exam Thursday, February 29, 2024
Time	7:00 pm – 9:30 pm. Exam: 6:00 pm – 10:00 pm
Location	Cornell Cooperative Extension-Ontario County, 480 North Main Street, Canandaigua, NY 14424
Cost	\$240.00 for certification which includes the training manuals and all 4 classes. Does not include the \$100.00 exam fee. Recertification is \$40.00/person/class.
Contact for Info/Registration	Cornell Cooperative Extension-Ontario County, 585-394-3977 x 427 or x 436 or email nea8@cornell.edu or rw43@cornell.edu Registration form is available on the website www.cceontario.org or in the above article.
Brief Description of Meeting	Anyone interested in obtaining a pesticide certification and meets the DEC (Department of Environmental Conservation) experience / education requirements OR current applicators seeking pesticide recertification credits should attend. 2.5 recertification core credits will be available for each class.

Meeting Title	2 nd Annual Western NY Fruit Conference
Date	February 8-9
Time	All day Feb 8, AM Feb 9
Location	DoubleTree by Hilton,
Cost	TBA
Contact for Info/Registration	Stay tuned to our newsletters, email blasts, and webpage: https://lof.cce.cornell.edu/
Brief Description of Meeting	See link above.

Meeting Title	2024 IFTA Annual Winter Conference
Date	February 11-14
Time	All day
Location	Yakima, WA
Cost	Varies
Contact for Info/Registration	https://ifruittree.org/event/ifta-2024-annual-conference-yakima-wa/
Brief Description of Meeting	See link above.

Meeting Title	Pre-Exam Training and Test to Become a Certified Pesticide Applicator
Date	Course March 14 and 18, 2024; Exam March 21, 2024
Time	8:30am-12:30pm. Exam: 8:30am
Location	Cornell Cooperative Extension-Orleans County, 12690 NY 31, Albion NY 14411
Cost	TBD
Contact for Info/Registration	Registration will open in January. For now, contact Janet van Zoeren at jev67@cornell.edu to put your name on the list.
Brief Description of Meeting	Anyone interested in obtaining a pesticide certification and meets the DEC (Department of Environmental Conservation) experience / education requirements OR current applicators seeking pesticide recertification credits should attend. NO recertification credits will be offered.

Cornell Cooperative Extension

Lake Ontario Fruit Program

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Recertification Series

Mark Your Calendar

Contact Us

Fruit Notes

Fruit Specialists



Craig Kahlke | 585-735-5448 | cjk37@cornell.edu
Team Leader, Fruit Quality Management

Areas of Interest: Fruit Quality and factors that affect fruit quality before, during, and after storage.

Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Cherries, Nectarines, Peaches, Pears, Plums



Mario Miranda Sazo | 315-719-1318 | mrm67@cornell.edu
Cultural Practices

Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants, Gooseberries, Nectarines, Peaches, Pears, Plums



Janet van Zoeren | 585-797-8368 | jev67@cornell.edu
Integrated Pest Management (IPM)

Areas of Interest: IPM of tree fruit and berry pests, biological control, pollinators.

Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants, Nectarines,



Bonalyn Nelsen | 315-980-9926 | bjn2@cornell.edu
Business Management

Areas of Interest: Fruit Farm Business Management, Farm Labor & Regulations, and Evaluation of ROI of New Technologies

For more information about our program visit us at lof.cce.cornell.edu