Cornell University
Cooperative Extension

Lake Ontario Fruit Program
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"*Fruit Facts*" – Friday, June 9th, 2023

Mario Miranda Sazo, Janet van Zoeren and Anya Osatuke

Register Deadline TODAY for the Bilingual IPM WNY Fruit School

Registration: https://cals.cornell.edu/new-york-state-integrated-pest-management/outreach-education/events/escuela-bilingue-de-mip-en-frutas

When: Next Wednesday June 14 from **8:30 a.m.- 3:30 PM** (attendance is free, lunch included thanks to a generous support provided by Farm Credit East)

Place: Bible Baptist Church of Sodus, Wayne County
6181 Ridge Rd., Sodus, NY 14551

This event in Spanish and English brings the farming community together to learn more about pests and diseases in apple orchards, pesticide safety, soil health, and leadership.

- This is also an opportunity to meet other farm employees, share ideas and experiences, and connect with agricultural service providers!
- Join the NYS Integrated Pest Management, Cornell Small Farms Program, CCE Lake Ontario Fruit Program and New York Soil health program for a Spanish/English IPM Field day!
- If you require more information or special accommodations or if you need to register more than one person please send an email to Diana Obregon in English or Spanish: do265@cornell.edu

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Fire Blight Webinar: Fire Blight Pruning and Sanitation

Next Tuesday June 13 @ 7:00p-8:00p EST; 0.5 NYS DEC Credits available

Please, register at https://events.anr.msu.edu/Fireblight_SCRI_Webinar_Series/.

Fire Blight Pruning & Sanitation
June 13, 2023, @ 4 pm (PST) / 7 pm (EST)
Join Tianna DuPont, Regional Extension Specialist and Associate Professor at Washington State University College of Agriculture and Natural Resources, to learn about the results of 10 on-farm trials on pruning and sanitation for Fire Blight management.

We conducted ten experiments looking at the success of fire blight removal strategies in WA, OR, PA and NY. Experiments had different scions, rootstocks, vigor and training systems. We compared six therapeutic fire blight removal practices. Learn how these results update our pruning strategy!

To receive credits, you must:

1. Send a photocopy of your applicator ID to Janet at jev67@cornell.edu or 585 797-8368
2. Attend the entire webinar
3. Complete the Qualtrics surveys at the beginning and end of the meeting, including entering your name and DEC ID number exactly as it appears on your license.

Plan to attend the coming 2023 Virtual Orchard Meetup Summer Series titled 'Managing the Uncontrollable': Over the past decade growers have been forced to confront wildly vacillating winter temperatures, uneven and often excessively heavy precipitation events, and extreme temperatures coupled with extended droughts.
When: Next Thursday June 15 (first meetup will cover **cold stress;** invited specialists and growers will be announced next Tuesday June 6)
Time: 7:00-8:30pm EST
How to attend: Meeting via Zoom, preregistration is not required to attend. Simply go to https://bit.ly/2023-virtual-meetup to join a few minutes prior to the start of each meeting.
Next meetups/same 7:00-8:30pm EST: June 29 (water stress) and July 13 (heat stress)

To Do Today

- **Predicted Fruit Set of Gala and Honeycrisp with Two Models** (by Mario Miranda Sazo, Craig Kahlke, Liz Tee, and Terence Robinson):

  Both the Fruit Growth Rate Model and the Fruit Size Distribution Model are indicating that Gala did not thin enough with the sprays applied last week while Honeycrisp appears to have thinned to near the target from the sprays last week. Fruit size with both Gala and Honeycrisp is now quite large and we are past the window for thinning. However, a final spray for Gala could be applied today Friday or tomorrow Saturday. The preferred chemical mix would be Accede and Maxcel but the supply of Accede is gone, thus the preferred mix would be 64 oz Maxcel + 1 pt Carbaryl + 1 pint spray oil.

- **Third update about our precision chemical thinning studies:** Below we present the results of two precision thinning studies (with Gala at a Niagara site and with Honeycrisp at a Wayne site) by using the Malusim fruit growth rate model and the Einhorn fruit size distribution model (developed by Michigan State University). The two models are giving different results. In general, the FSDM from Todd Einhorn at Michigan State is predicting more fruit than the Fruit Growth Rate Model developed by Duane Greene of Univ. of Massachusetts. It is too early to try to indicate which one is more accurate. That we will have to determine at harvest. More complete information and final results will be presented at the WNY fruit conference in the winter of 2024.

Site	Cultivar	Estimated total initial fruitlets	Target N° of fruit at harvest	Malusim Fruit Growth Rate Model		Recommendations/ notes
				Predicted N° of fruit still on tree	N° extra fruit that still needs to be removed	
Niagara	Gala	1247	108	Need second measurement after final thinning spray.	Need second measurement after final thinning spray.	Second measurement will be recorded Friday.
Wayne	Honeycrisp	676	100	168	68	This block has thinned well and is close to the target

Site	Cultivar	Estimated total initial fruitlets	Target N° of fruit at harvest	Einhorn Fruit Size Distribution Model		Recommendations/ notes
				Predicted N° of fruit still on tree	N° extra fruit that still needs to be removed	
Niagara	Gala	1247	108	327	219	Thinning sprays did not achieve target fruit number-

Wayne	Honeycrisp	676	100	216	116	The FSDM predicts more fruit than the FGRM. If the FSDM is correct, then the trees have too many fruits but fruit size is too large to apply more thinning sprays.

- **Strategies to Control Vegetative Growth in Frost Damaged Trees** (for the entire list of recommendations please review the last Fruit Facts sent on Wednesday): The May 18 frost event in our region in some cases resulted in insufficient crop loads to control tree growth and allow for good fruit bud initiation for the 2024 season. Both apogee and root pruning are useful tools in this situation (Table 1). Where crop load is light or non-existent there are three important management strategies to consider:
  1. Reduce or eliminate the application of nitrogen.
  2. Applications of Apogee can still help reduce excessive tree growth when crop load is light.
  3. Root pruning at 20-30 days after full bloom can still be very effective in controlling excessive shoot growth.
     - Research we have done in the past has shown that root pruning alone (without the combined use of an Apogee spray program as recommended here) is much less effective in reducing the tree growth of non-cropping apple trees. Without Apogee, non-cropping trees regenerate roots quickly, and if environmental conditions are favorable, resume growth. However, when combined with Apogee a substantial growth reduction can be achieved in trees that have lost their crop due to frost.

Table 1. Vegetative control strategies for apple orchards that have already lost 50% or more of the 2023 apple crop as a result of the May 18 frost event in the Lake Ontario Fruit region.

Orchard Crop Situation	Apogee Use	Root Pruner Use
If 50% of the crop is lost	Apply apogee (12-18oz/acre) as soon as you can this week or during the weekend, followed by a second application 3 weeks later.	Probably not needed.
If 75% of the crop is lost	Apply apogee (12-18oz/acre) as soon as you can this week or during the weekend, followed by a second application 3 weeks later and a third application in late June.	An alternative to the use of Apogee is root pruning which can be done at 18 inches from the trunk (dwarf planting), at 2-3 feet from the trunk (older semi-dwarf plantings), run up in both sides of the row.
If 100% of the crop is lost	Apply apogee (12-18oz/acre) as soon as you can this week or during the weekend, followed by a second application 3 weeks later and a third application in late June. A fourth application may also be needed in mid- or late-July.	In combination with the use of Apogee, root pruning can be done 18 inches from the trunk (dwarf planting), at 2-3 feet from the trunk (older semi-dwarf plantings), run up in both sides of the row.

Correction: In the Fruit Facts sent on Tuesday May 6 about return bloom strategies for 'Honeycrisp' and 'Fuji', we mistakenly recommended the use of ACC (Accede®, Plant Growth Regulator) for this use. Fruit Facts regrets the error. The current label of ACC doesn't recommend the use of ACC as a return bloom enhancer. ACC is a new chemical thinner available and is only labeled for the late thinning window of apples. ACC can be applied from bloom to 25 mm king fruit diameter, however it shows best efficacy when applied from 15-20 mm after your regular thinning program.

- Apply ACC at a rate of 200 to 400 ppm during the 15 to 20 mm window. ACC rate will depend on the amount of fruit thinning required.
- For optimal response, use ACC with a non-ionic surfactant (such as Regulaid) at a rate of 0.125% v/v (16 fl.oz. per 100 gallons) in the spray tank.
- ACC can be tank mixed with Carbaryl or MaxCel if more thinning is required. However, limited data is available.
- Different from MaxCel that has limited efficacy below 65°F, or excessive efficacy over 85°F, ACC does work in extreme temperature conditions (low temperatures and high temperatures).

- **Woolly apple aphid** aerial colonies have been spotted in certain low-spray hotspots in western NY. Now is the best time to scout your hotspot locations and to get a jump start on management in blocks where you had high populations in 2022. Scout for colonies in the angle of a branch or twig crotch, or at pruning cuts. **Sefina** is a new product labeled in NYS for "suppression" of WAA. **Assail** (plus Regulaid)**, Beleaf, Senstar, Sivanto Prime, and Diazinon** (if your market allows) are other recommended products.
- **Apple scab infection possible today or Sunday.** However, keep an eye on the weather report and models to see if sufficient rain actually does occur. If you do spray for scab this week, stay away from Captan at this timing. Some products that Kerik Cox recommends for the week include Inspire Super, Merivon and Luna Sensation – those products will also help with powdery mildew and summer rots. Apple scab foliar symptoms began showing up in hotspot blocks this week.
- **Peak codling moth caterpillar emergence will occur ~Saturday across the region.** If you are monitoring for CM, **spray any block where more than 5 total codling moth have been trapped yet this spring**. Some good options for this first generation CM are the group 28s (Altacor, Exirel, Verdepryn), although there are many other options (i.e. Assail, Delegate, Imidan, Mustang Maxx).
- **Mites** generally tend to like hot dry weather. Although I've not yet seen many yest this year, scout the underside of leaves to catch population increases now. If you find high populations, there are a bunch of highly effective products you can use: Agri-Mek, Apollo, Onager, Savey, Zeal, Kanemite, Nexter, Portal, Acramite, Envidor, Nealta, Banter, etc.
- **Email Bryan Brown at NYS IPM to learn about your weed seed bank.** We have funding to analyze weed seedbanks of 50 farms in this region. As a participant, you would get:
  -a weed seedbank density and composition analysis of one field at your farm
  -photos of identifying characteristics of each species
  -a tailored weed management plan that addresses your seedbank based on your current equipment and crop selection
  -a bar graph depicting the seedbank density of your farm compared to the other anonymous participating farms
  -soil nutrient test results from the sample we collect
  -a one-time participation payment of $550

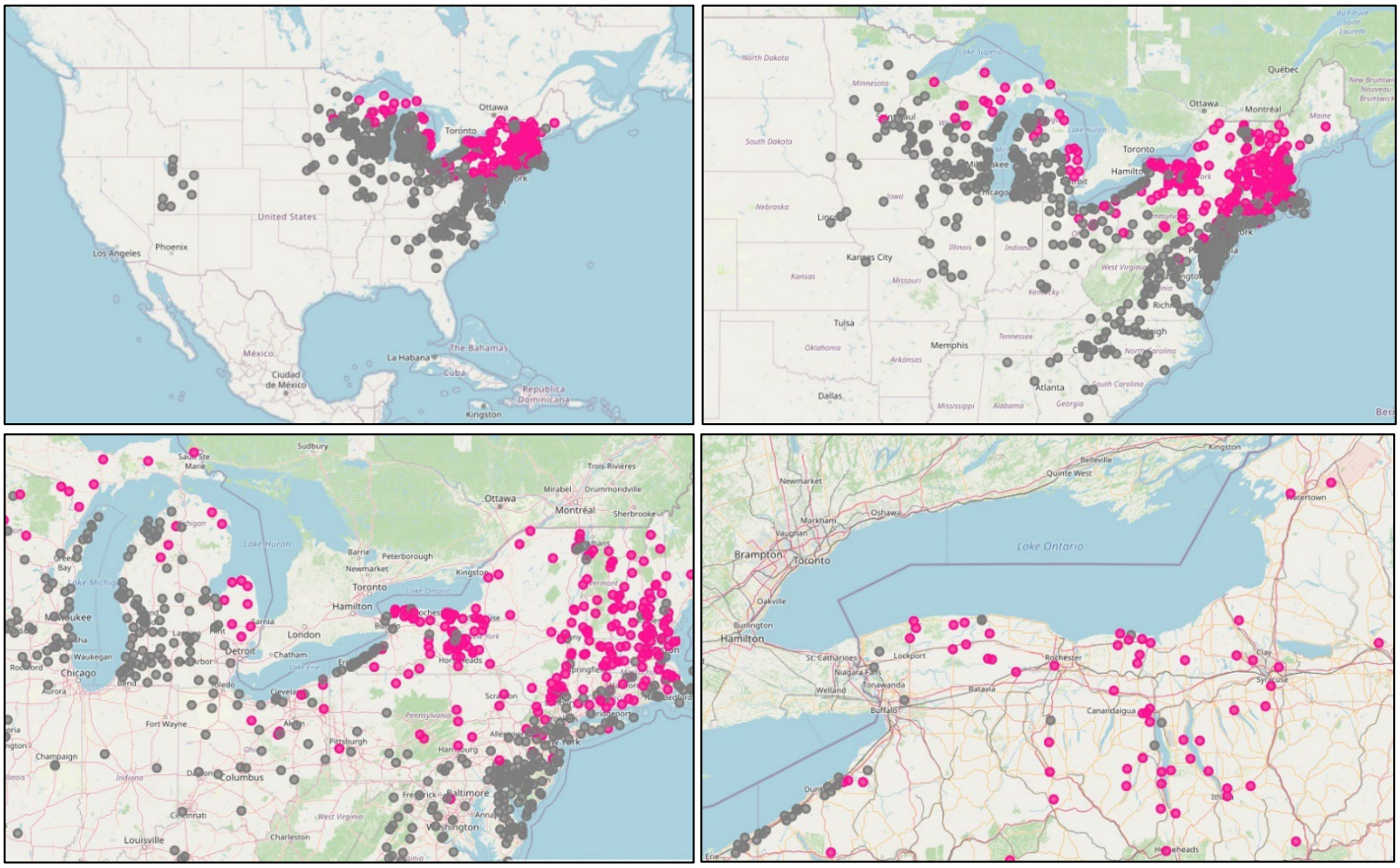
  Indicate your interest in participating as soon as possible by emailing Bryan Brown at bjb342@cornell.edu.

Good to Know!

Summary of May 18, 2023, Frost/Freeze Event in the Northeast/Upper Midwest US (weather data set analyzed/graphics produced by Dan Olmstead, Digital Outreach and Development Coordinator of NYSIPM, CCE, Cornell AgriTech, Cornell CALS): Dan wanted to reach out and share the below graphics to interested NY fruit growers who might need this information for crop insurance purposes. This is an excellent resource to visualize the extend of the freeze/frost event occurred on May 18.

Pink markers (see graphics next page) indicate at least one hour below freezing. Hours <= 32°F are reported, along with minimum temperature. If freezing temperatures were recorded, mean dewpoint, relative humidity, and temperature during those freezing hours are also provided in the CSV download link is available, with coordinates removed for privacy purposes.

The entire resource for all interested NY fruit growers can be found at the following link: https://data.nysipm.org/weather-events/20230518/map.html



Detailed summary table showing the low temperatures from all NEWA Stations in NY (produced by Dr. Anna Wallis, Fruit IPM Coordinator, New York State Integrated Pest Management, Cornell AgriTech): This is also another great resource for WNY fruit growers who might need this information for crop insurance purposes. Thank you, Anna!

Critical Temperatures Apples		
https://www.canr.msu.edu/resources/picture-table-critical-spring-temperatures-for-tree-fruit-bud-development-stages		
Stage	**10% kill**	**90% kill**
Bloom/post	28	25

Key:	**Blue**	**<32**
	Light Orange	**<28**
	Dark Orange	**<25**

Low overnight temperatures 5/17-18 recorded at NEWA stations in WNY		
Station	**Region**	**Temp (F)**
Scaffolds stations		
Geneva	**WNY, Inland**	**31**
Highland (HVRL)	**ENY, HV**	**31**
Clifton Park	**ENY, Capital Region**	**32**
Peru (Forrence)	**ENY, CV**	**32**
Medina - Inland	**WNY, Inland**	**30**
Appleton North - Lake	**WNY, Lake**	**31**
Fairville (The Apple Shed) - Inland	**WNY, Inland**	**27**
Williamson (DeMarree) - Lake	**WNY, Lake**	**34**

West of Rochester		
LERGP	WNY	37
Fredonia	WNY	34
Ceres	WNY	23
Ransomville	WNY	33
Appleton (Russell Farms)	WNY	32
Corwin	WNY	33
Lyndonville	WNY	31
Knowlesville	WNY	29
Waterport (Orchard Dale)	WNY	33
Albion	WNY	31
Elba	WNY	28
Bergen	WNY	27
East of Rochester		
Williamson (Mason)	WNY	29
Sodus (Cherry Lawn)	WNY	31
Sodus	WNY	30
Butler (Tree Crisp)	WNY	30
Finger lakes Region		
Conesus Lake North	FLX	32
Conesus Lake South	FLX	29
Arkport	FLX	26
Farmington	FLX	26
South Bristol	FLX	30
Geneva Bejo	**FLX**	**29**
Geneva (3 Bros)	**FLX**	**33**
Dresden	FLX	31
Branchport	FLX	28
Hammondsport	FLX	29
Watkins Glen	FLX	30
Romulus	FLX	31
Interlaken	**FLX**	**30**
Aurora	**FLX**	**30**
Lansing (CUAES Orchard)	**FLX**	**31**
Ithaca (CUAES)	**FLX**	**26**
Ithaca (Airport)	**FLX**	**26**
Freeville	**FLX**	**27**
Far WNY		
Baldwinsville	WNY	28
Baldwinsville (Abbott)	WNY	29
Skaneateles	WNY	32
Syracuse	WNY	30
Syracuse Airport	WNY	31
Lafayette	WNY	30

The Lake Ontario Fruit Program is a Cornell Cooperative Extension partnership between Cornell University and the Cornell Cooperative Extension Associations in Monroe, Niagara, Orleans, Oswego and Wayne counties.