Cornell University
Cooperative Extension

Lake Ontario Fruit Program
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"*Fruit Facts*" – Tuesday, March 26th, 2024

Mario Miranda Sazo and Janet van Zoeren

Slight chance of minor apple scab infection event tonight in Wayne/Oswego counties

In Wayne and Oswego counties (especially up along the lake) possible evening rains may trigger an apple scab infection event. My best guess is that it will be minor in most locations – cool weather the past week did not allow scab ascospores to mature quickly. In addition, winds are forecast to be around 13-15mph in most locations today, making a preventative spray today risky.

If you do want to cover your trees today, this could be a good timing to apply copper. **Do not apply oil at this time, as temps have been and will again dip below freezing in the next couple of days** (see "Good to Know" section below for more information about why that is important).

Watch your local weather stations / NEWA models and use your intuition and knowledge of your own orchards to decide if management is necessary and possible today.

Drone Demo at Cornell AgriTech – THIS Thursday March 28, 1-3:30pm

Unmanned aircraft systems (UAS), also known as unmanned aerial vehicles (UAVs) or simply drones, are becoming more popular and available in tree fruit perennial systems. Next week an educational and demo activity will feature the drone company Outfield from England. The Outfield system provides fruit counts, fruit size profiles, blossom loading and variability maps. Surveys are carried out by the grower or by Outfield using low cost and readily available drone systems. Outfield's company founders will be demonstrating the system and sharing the experience of growers using Outfield last year.

Meeting agenda:

1. Presentation from Outfield and the Cornell DATA program
2. Field data acquisition and transfer using consumer-grade drones
3. Access to the Outfield dashboard for data analysis and interpretation
4. Q & A

This activity will be **conducted at RS20 or RS28 at the Fruit Research Unit (FRU) of Cornell AgriTech.** Below are the GPS coordinates. Follow the Cornell fruit event signs when you get closer to Cornell Agritech!
42°52'03.6"N 77°02'01.4"W - Google Maps

Check the following link for more details:

28 Mar - Outfield Demo at Cornell AgriTech - **1 - 3:30pm, Cornell AgriTech**

Stay Tuned for a Coming Statewide Frost Protection Webinar – Day/Time TBA

There have been some advances in frost protection in recent years, along with some promising new research that is ongoing. We plan to have a **Cornell statewide frost protection webinar** this season, prior to the pink stage. Stay tuned to our CCE LOF email announcements, Fruit Facts, and newsletters for further updates.

Don't Forget to Sign Up for the 2024 Fruit Facts!

For now, we will continue to send to everyone who was subscribed to receive Fruit Facts last year, but do make sure to sign up for this additional subscription when you enroll in our program via your county office.

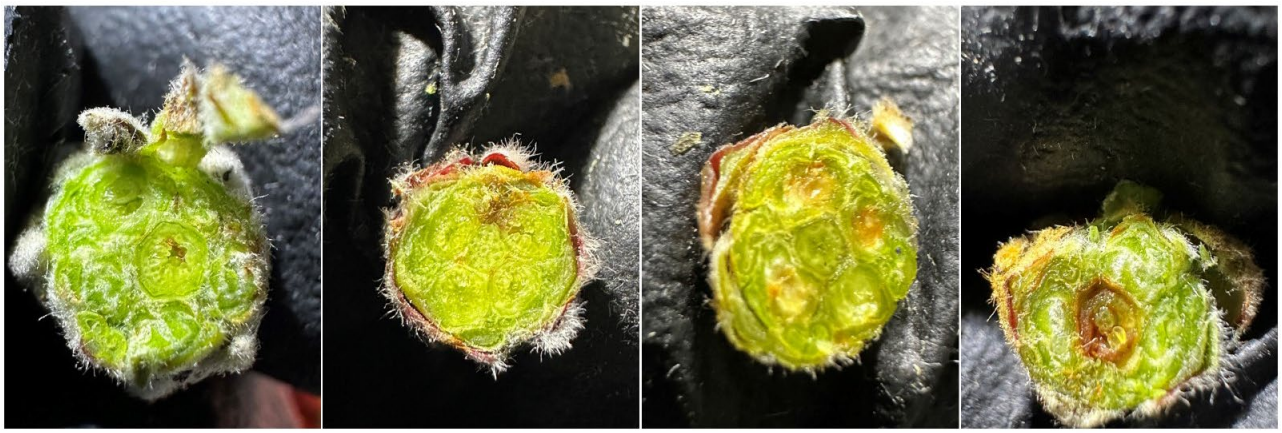
Phenology Updates

Some bud damage occurred because of the low temps registered last Friday 3/22:

We got concerned about the low temperatures registered in some areas last Friday March 22. In some areas, the low temps dipped around 14-18°F. CCE LOF rapidly acted, collected, and dissected buds to assess bud damage in a few inland sites in Orleans, Wayne, and at Cornell Agritech (Hansen block) on Friday 3/22 and Monday 3/25. As expected, we found some cold damage in the LOF region in the range of **10-30%** as shown in the below Table 1. Fortunately, there was not bud damage in the 8 cultivars we sampled at Cornell Agritech (Hansen block) on Friday (data not shown in Table 1). For a better bud assessment and due to the low temps, the samples collected on Friday were forced indoor at room temperature over the weekend and were evaluated on Saturday or Sunday (see below pics of bud damage). Several more inland blocks were visited yesterday. The bud damage again averaged around 10-30%. Two more blocks at an inland site in Wayne (NY-2 and Pink Lady) had both a **15%** bud damage (data not shown in the Table 1). CCE LOF will continue assessing bud damage the rest of the week.

Table 1. Phenology and bud damage assessment conducted in several sites on March 22 and 25, 2024.

Farm	Block	Variety	Date	upper damage	lower damage	total buds evaluated	# trees	% Damaged buds	GT	1/4"G
Toussaint	Ledge Rock	Pink Lady	3/22/2024	8	9	50	10	34%		
Toussaint	Ledge Rock	NY 2	3/22/2024	4	3	50	10	14%		
Pettit	C6	NY 2	3/22/2024	2	2	50	10	8%		
Kast	M1	Idared	3/25/2024		7	30	4	23%	~75	~1%
Kast	M60	NY 2	3/25/2024		4	30	4	13%		
Kast	M60	Gala	3/25/2024		2	25	4	8%	~40%	~40%
Nesbitt	Nice	Gala	3/25/2024		3	30	4	10%	~60%	~30%
Nesbitt	Nice	Honeycrisp	3/25/2024		9	30	4	30%	~50%	



Photos courtesy: Liz Tee, CCE LOF

To Do Today

- If you need to send anyone for the "Special Permit" handlers course, to be able to apply certain restricted use pesticides, those courses will be offered in-person on April 9th (Wayne county) and April 10th (Orleans county). You can register on our website (lof.cce.cornell.edu). The price will increase after April 1st, so register your handlers today.
- A **silver-tip or green tip** application of a high (>15%) metallic copper equivalent (MCE) **copper** fungicide (e.g. Badge, Champ, Cuprofix, Kocide) will help clean up any **apple scab** and **fire blight** inoculum that overwintered in bud scales and will provide an early protection against fungal ascospore release for the following 7-10 days. You might be able to get that on today, if you get a break without high winds. There is likely to be a window later this week as well.

On The Horizon

- Stay tuned and be ready to apply **dormant oil sprays** whenever we get a window without temperatures dipping below freezing in the two days prior or two days after the oil application.

Good to Know

Yesterday someone asked via email the reasoning behind of why **we avoid applying oil 48 hours before or after a frost.** This person has heard this his entire career and has spread the word but wondered if there was any research describing the cause of injury and any science behind it.

Cornell Emeritus Professor Dr. Rosenberger graciously provided the following information to explain the reason of why we avoid oil under cool conditions.

Reason: "Frost breaks open cells in green tissue because the ice crystals expand inside the cells. The microscopic cellular injury usually heals fairly quickly (though it can leave frost mark scars on fruitlets if the flower or fruit are exposed). Oil, like captan, is not very toxic when kept out of cells by intact cell walls. However, oil or captan residues can be pulled into cells damaged by frost because as the ice crystals melt, they take less volume and create a mini vacuum (at least in theory). Even if that is of minor importance, the oil or captan residue will have free entry into damaged cells immediately after a frost.

Every effort has been made to provide correct, complete, and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide. Copyright 2024. All rights reserved. No part of this material may be reproduced or redistributed by any means without permission. Cornell Cooperative Extension provides equal program and employment opportunities.
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.