



Cornell University
Cooperative Extension

Lake Ontario Fruit Program
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“Fruit Facts” – Friday, April 19^h, 2024
Mario Miranda Sazo and Janet van Zoeren

Cornell Statewide Pink Meeting (virtual)
Next Monday April 22 – 3pm - 4:30pm

Registration link: <https://cornell.zoom.us/meeting/register/tJAkd-ysrzkiEtZEDmAvLtdPX164-PrezwT7#/registration>

Co-Hosted by CCE-LOF and CCE-ENYCHP. Hear the latest weather forecast for late April by Jessica Spaccio of NRCC. Hear updates in PACMAN by Dr. Terence Robinson, along with pest updates by Dr. Monique Rivera, and disease updates by Dr. Kerik Cox.

Please register for this zoom meeting using the following link:

<https://cornell.zoom.us/meeting/register/tJAkd-ysrzkiEtZEDmAvLtdPX164-PrezwT7#/registration>. After registering, you will receive a confirmation email containing information about joining the meeting.

More info here: <https://lof.cce.cornell.edu/event.php?id=1925>

Cornell Statewide Frost Protection Webinar recordings

The recordings of the Cornell Statewide Frost Protection Webinar held last Friday are available here:

<https://youtu.be/TIBepfb98ws>

Twilight Meeting to be held April 25th at Apple Shed in Wayne county

This series of monthly meetings will examine seasonal changes in tree fruit and berry crops, demonstrate scouting techniques, and discuss integrative pest management solutions to maximize the health and productivity of berry and fruit plantings.

Our first **Twilight meeting** will be held 7-8:30pm on **Thursday April 25th**. Please **arrive at 6:45pm** for pizza and soda. Thank you to Valent for providing refreshments!

Location: The Apple Shed, 3391 Fairville MapleRidge Rd, Newark NY.

1.5 DEC credits will be offered in categories 1a, 10, and 22.

Feel free to bring pictures or descriptions of pests you are concerned about on your farm.

No pre-registration required; **event is free to attend**.

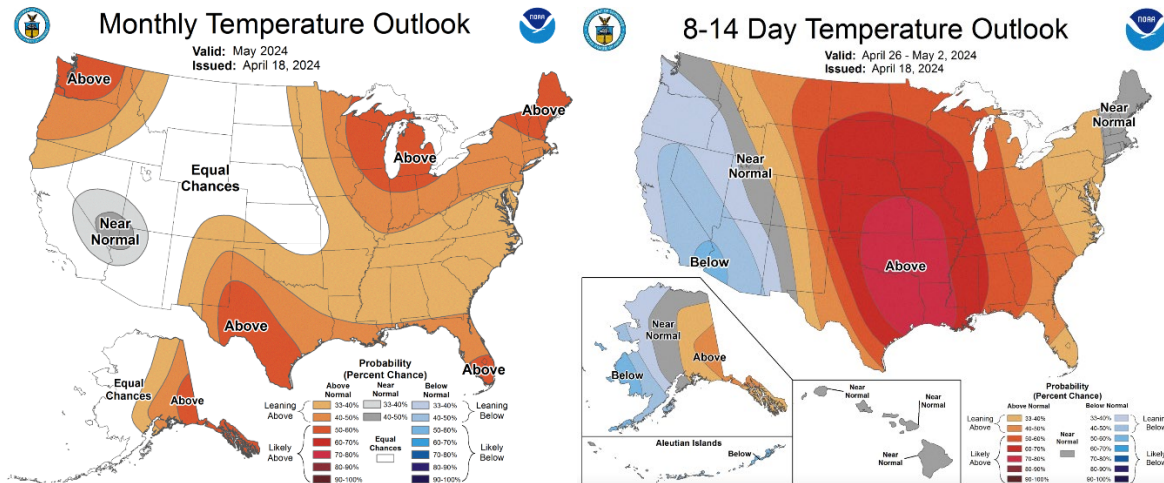
Meetings will be held from 7:00PM - 8:30PM on the last Thursday of every month from April through July. Watch for new meeting locations every month.

Weather Forecast

See graphics below that were updated in the afternoon yesterday by Cornell climatologist Jessica Spaccio from NOAA, Northeast Regional Climate Center at Cornell University.

NOAA's Climate Prediction Center (CPC) 8-14 day outlook for April 26 – May 2 slightly favors above-normal temperatures for most of the state. A sliver of eastern NY is favored to have near-normal temperatures.

The outlook for May favors above-normal temperatures for the entire state. Probabilities range from 40-50% for most of the state, and 50-60% for the northeast corner of the state.



To Do Today

- **Last call to get READY your frost protection devices. Don't wait any longer and get ready for this weekend!**
 - **Also, set the start of wind machines at around 37-40°F instead of lower temperatures for better frost protection results:** Apple growers should check and test the use of frost protection devices (wind machines) in preparation for any cold event this weekend. Wind machines should start at around 37-40F, not at lower temperatures!. Last year wind machines worked better when they were started at around 37-40. Typically, a wind machine can protect 10 acres or so. We emphasize that the best methods to reduce frost risk and prevent crop loss are through **orchard site selection** and the use of wind machines during frost events.
- **New preplant soil pH recommendation for Honeycrisp:** We now suggest the optimum soil pH before planting of Honeycrisp should be **7.2 not 6.5-7.0**. Our new recommendation may seem high to some consultants or growers but in recent orchard plantings where 7.2 pH is maintained we have seen low amounts of bitter pit and excellent tree growth.
- **Have you counted, reassessed pruning severity, and conducted final pruning touches** for Gala and NY-1? For Honeycrisp (also Fuji and EverCrisp) you should be able to conduct/finish precision pruning by the end of this or early next week. **Soon we will be entering the right time window from pink to bloom when it will be easy to identify and count Honeycrisp flower buds per tree.** Then you will be able to prune to the target flower cluster number at that time. Call me if you need any assistance with precision pruning of Honeycrisp (especially with a few situations of low return bloom in 2024) or anything else (315-719-1318).
- **Topping of rootstocks in the on-farm nursery and for a few plant-in-place plantings:** Don't forget that the portion of the rootstock above the inserted bud should have been removed by now.

- **Cooler temperatures over the past days and dry weather coming up means low scab ascospore release until mid-next week.** If you haven't put on a protectant recently you may want to apply something with kickback after the possible showers this afternoon, but if you have put any protectant material on recently you should be ok for the weekend and into early next week.
- **Be on the lookout for spring pests and diseases:**
 - Black rot and other diseased mummied fruits that were not removed during winter pruning. If you see any, remove them out of the orchard now to avoid problems later this season!
 - Tarnished plant bug and Oblique banded leafroller – scout for these by examining ~100 terminal clusters per block, and looking for either TPB feeding holes or OBLR rolled up terminal leaves. TPB requires some careful looking because the feeding holes are often small; however, they sometimes drip a little bit of sap which can be an easier way to spot them. OBLR curled leaves are fairly easy to spot, but you will need to look more closely to know for sure what caused the leaf curling. OBLR or another leaf roller is the most likely culprit this time of year – if you unroll the leaves you would see an almost spider webbing type material holding the leaf closed, and a small wiggly green caterpillar in the middle of the tunnel created. Other potential causes of curled up leaves would be aphids (general cause the leaf to curl down instead of up; you would see many aphids on the underside of the leaf) and apple leaf curling midge (usually also causes a red blistering on the leaf; unrolling the leaf you will see a small maggot instead of a wiggling caterpillar).
 - Dogwood borer larvae feed in trunks of trees (generally the hole will be located where there are burr knot roots, and you may notice an area of damage as trees begin to look weak and decline). Dogwood borer is usually localized to specific blocks, and is best managed using mating disruption. If you see larvae now, you could look into finding disruptors to hang in mid May to prevent future generations.
 - Woolly apple aphid is not supposed to be a “spring” pest, but has already been seen at several locations in WNY with aerial colonies on pruning cut wounds in the interior of the canopy. At this time of year they are more difficult to stop, because they are only just beginning to build up the “woolly” exterior coating, so the white fluff is not so pronounced as in the mid-summer. Scout for WAA by looking at areas where you know there was a hotspot last year, and looking for small amounts of white fluff or aggregating dark bodies in the interior of the tree.

On the Horizon

- **Leave checks/controls/untreated panel sections if you will be using frost protection products this season:** If you are going to test products, you need to leave unsprayed controls within each block that you are testing. You should try to avoid using separate complete blocks as contrasts between control and treatment. If you don't leave controls, you cannot determine potential effectiveness. Dr. Jason Londo is happy to coordinate with growers to evaluate product effectiveness this season. Please let us know if you are planning to test the use of frost protection products.
- **Site location matters:** New stone and pome fruit plantings will be more prone to future frost events if located in low-lying areas where cold air settles, and in areas where wind and air movement are blocked by obstructions such as trees, hills, fences, and or buildings.
- **Do you have enough PGRs?**
 - **Promalin use to improve shape (typiness) of Delicious and Gala:** Use promalin (concentration 25-50ppm; rate of formulated product 1/2pt/100 gal) early king bloom to 50% bloom (well before full bloom!). Apply as a fine mist using 50-100 gallons/acre. Don't apply more than 2 pt/acre. Fruit thinning may occur at high rates. Use of a surfactant increases both typiness and thinning responses.
 - **Consider the use of Apogee at pink for suppression of bitter pit in Honeycrisp.**
- You may also want to consider a **pink insecticide application** if you have a history of damage from **rosy apple aphid, oblique banded leafroller or Tarnished plant bug**. Some highly effective products for RAA include Exirel, Versys Inscalis, Sivanto Prime, Actara and Assail. If you apply a pyrethroid for TPB, that would also help control RAA. However, we recommend you target RAA with one of these other non-pyrethroid materials, in order to preserve all your beneficial natural enemies.

What kills plant tissue by Dr. Jason Londo, Cornell AgriTech

Chilling damage

- Typically occurs in tropical and sub-tropical plant species.
- Combination damage associated with high light but low photosynthetic ability due to low temperatures. Increase in reactive oxygen species damage.
- Changes to membrane function that can lead to damage.
- **Foliar sprays can help prevent this type of damage** through ROS scavenging and generalized plant support.

Freezing damage

- Occurs when the water within plant tissues freeze.
- Ice can form both outside (extracellularly, apoplastic) and inside (intracellularly, symplastic) plant cells.
- Extracellular freezing doesn't necessarily damage the living cell, but ice does create a dehydration stress on the living cell.
- Dehydration can lead to membrane fusion, and lethality when rehydration occurs (thawing).
- Internal freezing of water is also typically lethal in green tissues and sugar/protein/nutrient levels can suppress the freezing point by a degree or two, or by decreasing dehydration.
- In spring, vasculature is connected among plant organs, so freezing in one organ can quickly propagate to other tissues.

What are the advantages and disadvantages of a “pink” insecticide application? The first opportunity to manage insects in the orchard comes with a dormant or delay-dormant (or even later in the season) oil application. Of course, timing for oil can be tricky, since oil can damage plant tissues if it is applied within 48 hours before or after below-freezing temperatures, or if applied within 10 days of a Captan or sulfur application. If timing works out, oil works by covering and smothering many of the insects present in the orchard during the spring, such as aphids, scale insects, and pear psylla. Oil only works if you can get great coverage of the insect's body, and so the more foliage present, the less effective your oil spray was.

The next window for insecticide applications comes at late tight cover or early pink timing. TC/pink is your best opportunity to manage spring pests, including san jose scale, tarnished plant bug, and aphids. The threshold for these spring pests generally depends on damage at packout the previous fall. What that means is that, when deciding if you need a pink insecticide application or not, the most important information is how clean your fruit was last fall. If damage last year was higher than you would like (or if you know from your block's history that a pink spray is necessary), consider the following products.

- Beleaf is effective for TPB management (and moderately effective on aphids) and has lower pollinator toxicity.
- Centaur is effective for San Jose Scale management, with lower pollinator toxicity.
- Esteem is effective for SJS and Rosy Apple Aphid (and possibly WAA?) management, with lower pollinator toxicity.
- Avaunt (for TPB) is highly toxic to bees immediately during and after application, but shows lower toxicity once residue dries. Consider an evening application for Avaunt, or remove blooming weeds prior to spraying, to maintain your wild pollinators.
- Exirel is effective for controlling many species, but also shows higher levels of toxicity to bees.

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.