



“Fruit Facts” – Tuesday, May 23rd, 2023
Mario Miranda Sazo, Janet van Zoeren and Anya Osatuke

Plan to attend TODAY the last WNY 11-12 mm Thinning and Pest/Disease Management Meeting, Tuesday 5/23 (Wayne), from 10:30 AM – Noon. No registration required.

Please join us in Williamson, Wayne County today!

Agenda:

Pest Update – Dr. Monique Rivera, Cornell AgriTech

Disease Update – Dr. Kerik Cox, Cornell AgriTech

Fruit IPM Update – Dr Anna Wallis, Cornell AgriTech

Chemical Thinning Recommendations in the 11-12 mm window - Dr. Terence Robinson, Cornell AgriTech. Terence will give the latest recommendations using the weather forecast and carbohydrate models.

Tuesday, March 23, 10:30 AM – Noon

Donald DeMarree Fruit Farm

7654 Townline Rd.

Williamson, NY 14589

Follow Cornell Fruit Signs

Twilight Meeting this week Thursday at Coulter Farm (3871 N Ridge Rd, Lockport, NY 14094)

Thursday May 25 — 7:00 PM—8:30PM

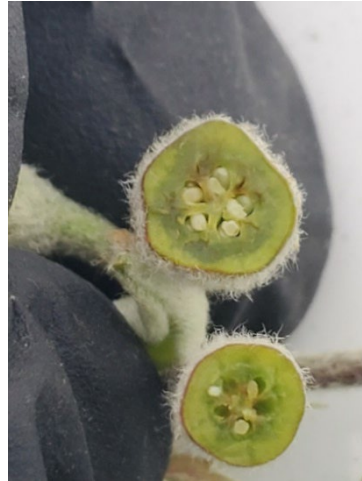
Join specialists Janet Van Zoeren, Anya Osatuke, and Anna Wallis for a conversation about fruit and berry phenology and pest management.

1.5 DEC credits available

To Do Today

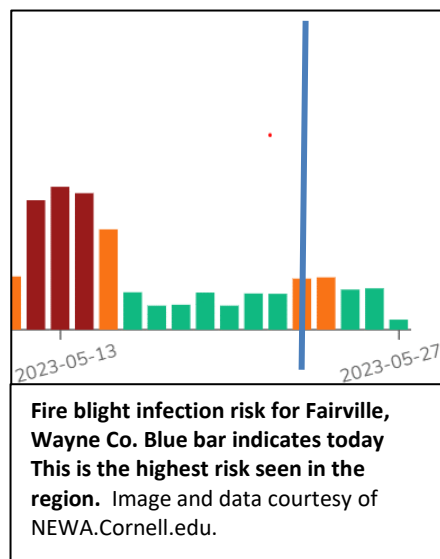
- Hang your mating disruptors asap! Codling moth and Oriental fruit moth flights have already begun, so those disruptors hopefully went out already. Dogwood borer flight will begin in a week or two – hang those disruptors ASAP to be sure to have them out before flight begins. As a side-note on dogwood borer – **I am seeing a lot of blocks with dogwood borer larvae in the burr knots** this year. Do take a minute to look at the graft unions and cut into any burr knots that look spongy or frass-y. Feel free to contact me if you'd like me to come look at burr knots with you! I really recommend you begin use of mating disruption before a high population builds up. Also note that (for better and for worse) mating disruption is entirely species specific – disruptors of dogwood borer have no effect on codling moth, and vice versa.
- **Apple scab** infection event predicted for tomorrow! If you are able to apply Mancozeb or a single site fungicide today, it may be a good idea. We would recommend against Captan this late in the season if you are worried about fruit finish, especially if you will also be including Regulaid in an upcoming thinning spray.

- **A more complete list of 11-12 thinning recommendations for blocks with or without frost damage will be sent tomorrow Wednesday May 24:** The summary will include the thinning recommendations provided by Dr. Terence Robinson in Orleans County yesterday and the ones to be provided in Wayne County this morning. This year the thinning window for inland sites will start on **Friday/Saturday** and will close for lake sites next **Wednesday or Thursday**. Please attend the thinning meeting for a full set of thinning recommendations with a more updated weather forecast today!
 - **What you should do when thinning in cold-injured blocks this season:** In the meantime, we recommend to growers an intensive block-by-block scouting of fruitlets to make good thinning decisions. **Cut fruit in any place in any variety! - Use ladders and check the tops!** It is critical that growers look block by block particularly high ground versus low ground (west versus east hills, carefully check/compare cold damage in south and north areas if you have a wind machine). The damage is very variable from site to site (due to the effects of microclimate with good or bad air drainage). In some cases, there are even reports of more damage in lake sites than inland sites.
 - **We are recommending to growers to evaluate 50 clusters/block (5 trees/block, 5 clusters/tree at the top and 5 clusters/tree at the bottom):**
 - Red Delicious, Empire, and Cortland have shown to be the most sensitive varieties, but again it is variable from site to site.
 - Old trees on more vigorous rootstocks thin easier (111, 107, M.27). They thin with lower rates, more than any dwarfing rootstock (Genevas®, M.9, or B.9) that sets more fruit and thin hard. Young trees thin very easy regardless variety.
 - This year WNY growers should (1) let the fruit grow before they make a thinning decision, and (2) wait until the **king is 13mm** and the **laterals are around 10-11mm**.
 - **To be able to evaluate the freeze injury damage, a cut horizontally across the fruitlet has to be done with a sharp knife or a razor** (as shown in the below pictures taken by Liz Tee last Friday May 19).
 - If the fruitlet **was not affected by the freeze**, the tissues surrounding the seeds should still be **healthy and of green color**.
 - If the tissues are somewhat **brown or creamy**, the fruitlets will **likely fall off**.
 - But in **some severe cases**, the **whole center** of the fruitlet is **dark brown** with **some liquid** meaning that the **cells have been disrupted** and those will **obviously fall off** in the next few days.



- **Fire blight** risk stays low with the continued cool night temperatures, especially up along the lake. No spray needed at this time.
- **Watch for powdery mildew.** We have begun seeing mildew symptoms in high inoculum locations. Some options for PM control include Flint extra, Inspire Super, Luna Sensation, Merivon, Miravis, Rally, and others.
- **Apple petal fall insecticides** went on over the weekend or early this week in most orchards. If you've not yet put your petal fall spray on, consider the following in choosing what to spray.

- **Plum Curculio** management begins as soon as petals are completely off all the trees in the block. Materials effective against PC include: Exirel, Imidan and Verdepryn (also control OFM), Actara (also controls Rosy apple aphid), Assail, and Avaunt. With the cool temps we have this spring, you will likely need at least one follow up cover spray for curculio – more on that in coming newsletters!
- **Oblique Banded Leafroller** management is only necessary if you have a history of high damage. Include Proclaim, Rimon, or Intrepid in the petal fall spray in those blocks.
- **San Jose Scale** can be controlled by Movento (with a penetrating adjuvant), Sivanto Prime, Esteem or Centaur, generally to be applied around the PF or 1st cover timing.
- **Wolly apple aphid** can be controlled by Beleaf, Movento, Sefina, Sivanto or Diazinon at this timing.
- **Mites.** Consider scouting the underside of leaves for European red mite. If you find high populations, highly effective products include Agri-Mek, Apollo, Onager, Savey, Zeal, Kanemite, Nexter, Portal, Acramite, Envidor, Nealta, or Banter. If you already applied for ERM, be sure to rotate to a new IRAC code.



Blueberries:

- Check for frost damage in blueberries. From visiting fields in the Finger Lakes and the Southern Tier region, growers suffered between 10 - 30% crop loss due to frost. Blossoms, newly set fruit, and developing fruit were all affected. This makes me think that we will still have early, mid-season, and late fruit available for picking on time, just at a reduced volume. Frost damaged blossoms have brownish-red petals. They are unlikely to set fruit. Frost damaged fruitlets are light green to beige in color and are brown when broken in half (see photo).



Newly set blueberry fruit killed by frost. Mix of killed and healthy blossoms in background. Image by Anya Osatuke.

Strawberries:

- Strawberries were damaged by frost in spite of many growers' efforts to protect from the cold using irrigation and row cover. In some cases, the crop losses were limited just to blossoms that were newly-opened at the time of the frost. Dead blossoms in strawberry will serve as sources of fungal pathogens, so anticipate increased pressure in bouts of damp weather.

On The Horizon

Oriental Fruit Moth Degree Day accumulation has reached ~130 degree days across the region (out of 350DD to time a larvicide application), so no OFM insecticide is recommended for this week.

Codling moth flight just began this week, and we will begin tallying degree days for CM now.

Good to Know!

Promalin YES or Promalin NO - Why we did not recommend the use of Promalin for the past freeze?: Last week several growers were asking me if an application of Promalin could have been useful to prevent freeze damage in small fruitlets of 4-5mm, or a bit bigger. The below scientific explanation was provided by Dr. Jason Londo, Cornell AgriTech, Geneva.

'After a weird and mild winter, I thought we had dodged the risk of frost this year. Most of our spring has been cool and seasonal and the latest freeze feels like it came out of nowhere. Unfortunately, this late in the spring, when most cultivars have already set fruit, a heavy frost can be a disaster. In truth, we didn't even experience a frost, but more of a freeze event, with sub-freezing temperatures across the region for several hours (7 hours at my house). One of the questions that came up while I was out in the field with Mario this past week was if we should have sprayed Promalin to try and avoid freeze damage to the young apple fruitlets. Promalin is a PGR product produced by Valent that is designed as a frost assist product. It is a combination of two plant hormones, gibberellin and cytokinin. In past studies, Promalin has been seen to significantly increase fruit set on apple trees when frost damage occurs **during flowering** (pink through petal fall). During flowering, one of the most sensitive tissues is the ovule. If temperatures drop low enough to damage the ovule, the apple fruit will most likely not form a seed, and the developing fruitlet will drop from the tree. A viable seed produces hormones that promote fruit development, cell division, and cell expansion. Promalin works by **tricking the fruitlet into thinking there is a seed still alive inside the fruit**. As a result, some of the damage flowers will produce fruit and most of this fruit will form without any seeds, a term called parthenocarpy.

So why didn't we use Promalin for this past freeze and could we have applied it anyway and saved some of the crop? The primary reason is we were just too far into the season, the ovules had already been fertilized and early seeds formed. The damage the fruitlets endured (brown when cut open) was not damage to the ovule and forming seed, but tissue death of the already developing fruit cortex. At this point, adding additional gibberellin and cytokinin can't repair the damaged tissue, and can't fake the apple into forming. Unfortunately, we don't have a lot of tools to deal with the type and timing of our recent freeze. We continue to research ways to protect the crop against frost and freeze damage.

Main message: Promalin is a PGR frost assist product that has been seen to significantly increase fruit set, but **only works if a frost occurs and the product is applied during flowering**. The product cannot repair damage if a freeze occurs after flowering concludes and the freeze damages the developing fruitlet (internal browning).'

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 2023. 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.

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