



## **“Fruit Facts” – Thursday, July 14 2022**

**Today Thursday July 14 at 7pm (EST) is the Fourth and Last Nationwide Virtual Meetup about Labor and AG-Technologies – You can still register!**

**Please register for the last meetup here: [bit.ly/orchardmeetups](https://bit.ly/orchardmeetups)**

This virtual meetup (7pm, EST), is Free!

The link to the one-page flyer is here: [https://rvpadmin.cce.cornell.edu/pdf/event\\_new/pdf96.pdf](https://rvpadmin.cce.cornell.edu/pdf/event_new/pdf96.pdf)

Please join us and hear from a group of scientists describing a series of **AG-technologies** that they have trialed at their respective research facilities and at grower farms. Invited speakers are **Ines Hanrahan** (Washington Tree Fruit Research Commission), **Yu Jiang** (Cornell AgriTech), **Long He** (Penn State University) and **Matt Whiting** (Washington State University). In the last meetup (June 30), we discussed with growers the use of computer-vision/fruitlet counting technologies and other promising technologies for irrigation, nutrition, harvesting technologies, payroll apps, etc.

**Tonight, we will ask some of the following questions to the scientists:**

- How do you see the future and these technologies fitting in?
- What should growers focus on? What will be most impactful?
- Which will be the easiest to adopt?
- What do you think growers need to learn/know to adopt these things?
- What do workers need to be trained on?
- How should we be designing systems for the adoption of technology?
- What do you see are the biggest limitations for the growers to adopt these technologies?
- How can technologies be made accessible to smaller operations?

## **IPM Notes...Janet van Zoeren**

**Spotted wing drosophila** is at “sustained trap catch” (i.e., we have trapped swd two weeks in a row) on five out of the seven farms where we have monitoring traps. Raspberries, blackberries, cherries, blueberries and thin-skinned grapes need to be managed for SWD from now until harvest is over. Insecticides should be re-applied at least every seven days and more often following a rain. Choose the most effective insecticides with pre-harvest intervals that work for your picking schedule. Rotate insecticides according to their modes of action. Quick reference guides:

- [Tree Fruit and Grapes Guide](http://www.hort.cornell.edu/fruit/pdfs/swd/treefruit-grape-insecticides.pdf) <http://www.hort.cornell.edu/fruit/pdfs/swd/treefruit-grape-insecticides.pdf>
- [Berries Guide](https://rvpadmin.cce.cornell.edu/uploads/doc_981.pdf) [https://rvpadmin.cce.cornell.edu/uploads/doc\\_981.pdf](https://rvpadmin.cce.cornell.edu/uploads/doc_981.pdf).

You can learn more about regional monitoring efforts for spotted wing, as well as tips for management of this pest, on the NYS IPM SWD webpage (<https://blogs.cornell.edu/swd1/>).

Please take a few minutes to complete our Value of the SWD blog Qualtrics survey about the SWD blog. Here is the direct url to the survey: [https://cornell.ca1.qualtrics.com/jfe/form/SV\\_3IOcXAL2ysRBSBM](https://cornell.ca1.qualtrics.com/jfe/form/SV_3IOcXAL2ysRBSBM).

**Summer diseases** such as **sooty blotch and flyspeck, black rot, white rot and bitter rot** are now going to be our main focus as we move into mid-summer. Fungicide covers for the rots should go on every 14-21 days. SBFS applications can be timed using the [NEWA model](http://newa.cornell.edu) ([newa.cornell.edu](http://newa.cornell.edu)). To effectively use the model, you’ll need an approximate petal fall date, and to input the date of your last fungicide application that was effective against SBFS. Products that are effective for SBFS include Luna Sensation, Merivon, Pristine, Sovran, Flint, and Captan+Topsin. All of your SBFS products will also help manage black,

white, and bitter rots. For more information about the summer diseases, check out the NYS IPM [Apple IPM Intensive](#) recording (begins at 7:45min), or the following webinar recordings from ENY CHP and Srdjan Acimovic: [Bitter Rot](#), [Sooty Blotch and Fly Speck](#), [Black Rot and White Rot](#).

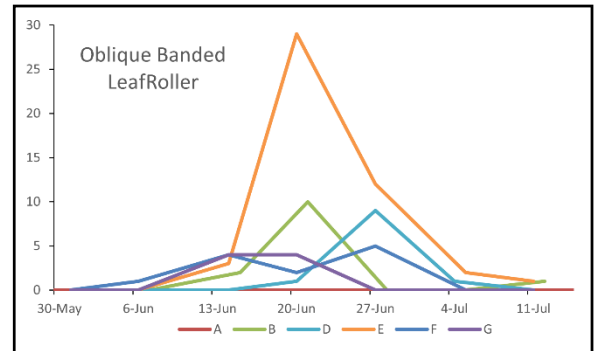
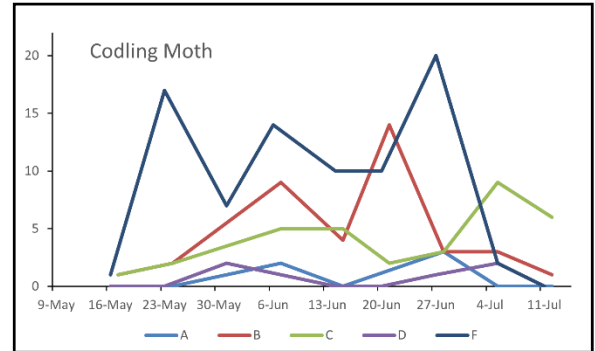
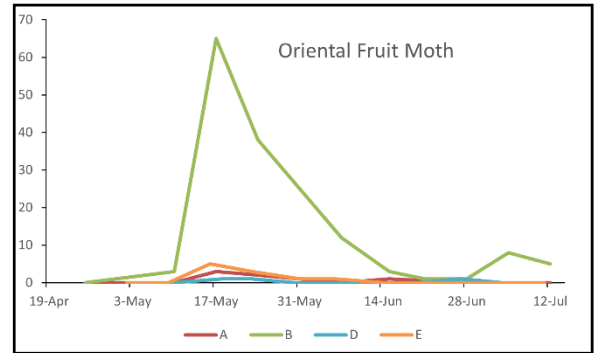
**Scab** lesions are beginning to show up in some blocks. If scab is present in your orchard, consider single-site products such as Aprovia, Cevya, Flint, Fontelis, Inspire Super, Luna Tranquility, Luna Sensation, Merivon, Miravis, Rally, Rhyme, etc.

**Insect apple pests** are in a bit of a lull.

**Oriental Fruit Moth** and **Codling Moth** numbers continue to be low. There isn't a clear flight trend across the region based on our monitoring this summer, but both pests seem to be in between flights currently. **Oblique banded leafroller** flight has also finished.

**Apple maggot flies** have not yet been seen in our baited monitoring traps. A suggested action threshold is when 5 or more adults are caught on a baited red sphere trap per week. Planning ahead, apple maggot management options include Altacor, Assail, Avaunt, Delegate, Exirel, Imidan, Verdepryn and the pyrethroids.

**Any questions about pest management, please call or email me:**  
[jev67@cornell.edu](mailto:jev67@cornell.edu), 585 797 8368.



## Horticultural Notes...Mario Miranda Sazo

**Implications on fruit weight (grs/fruit) due to lack of precipitations and more comments:** Early this week we evaluated fruit weights of small fruited cultivars like Gala at several irrigated and unirrigated blocks. Fruit weights for **Gala** ranged from **42 to 57 grs/fruit** on Tuesday July 12. **The highest values were measured on blocks that received irrigation in the last 3-4 weeks and averaged 55 grs/fruit.** The average fruit weight in Gala blocks **without trickle irrigation was around 45-46 grs/fruit.** Therefore, it is essential to have irrigation for tall spindle plantings of small fruited cultivars to maximize fruit size at any given crop load.

- Water stress at any time of the season reduces fruit growth rate with permanent loss in fruit size, which is difficult to recover later.
- Also, very dry soil conditions can reduce the availability of nitrogen, phosphorous, potassium, calcium, and boron to tree roots.
- We hope some of the rains we got yesterday will help to mitigate the negative effects of the 2022 drought on fruit size and yield.
- Don't be afraid to turn on the irrigation in young blocks and mature plantings if rainfall doesn't occur at your site the next few days, or if hot conditions suddenly arrive in WNY.
- Focus irrigation on small fruited varieties like Gala, Empire, Macoun, and continue "babysitting" NY1 with frequent but small amounts of water applied at least 2-3 times per week, providing 2-3 gallons per tree as minimum.
- New Honeycrisp plantings (and those 'green trees' orchards) without trickle should be watered with tanks and a hose, 2-3 times per week (same amount of water/tree as previously suggested).
- Please remember that any lack of rainfall coupled with a heat can affect growth of a weak tree and fruit growth rate at this stage.

- **Remember, if irrigation fails, fails nutrition (including the needed soil calcium uptake for Honeycrisp!).**
- Honeycrisp, Gala, and NY-1 fruit producers, especially those located in the west side of Rochester, should not be afraid to turn on trickle irrigation in young blocks and mature plantings with the current drought being experienced in that part of our region.

**Sunburn: Apples Become Susceptible to Sunburn at about 38 – 40 mm fruitlet diameter – or Roughly Golf Ball Size:**

Sunburn can be caused by either heat or light, or both. When caused by heat, ambient air temperature is not as important as fruit surface temperature. Each variety has its own fruit surface temperature threshold for sunburn to occur. Some varieties, like Cripps Pink, require a very high FST – something like 120° F. Other varieties have a much lower threshold. For example, sunburn occurs on Cameo when the FST reaches 115° F. Many of the newer managed varieties appear to have an even lower FST threshold, Minneiska appears to be one of those as does Smitten.

**Types of sunburn:** Sunburn caused by light can be from UV-A, UV-B, or both. There is also another type of sunburn called photo-oxidative sunburn that is caused by sudden exposure to light, as occurs after hand thinning, mechanical pruning, summer pruning, or re-positioning limbs by tying.

**Best methods for preventing sunburn:**

- The use of shade cloth. This reduces both heat and light exposure.
- Overhead evaporative cooling in combination with Raynox. The cooling prevents / reduces sunburn caused by heat, and the Raynox prevents / reduces sunburn caused by both heat and light.
- Best is overhead evaporative cooling by itself, but this is only effective for sunburn caused by heat.

**Sprayable protectant materials:**

These basically come in two categories – **particle films like Surround (Kaolin clay)**, and the **calcium carbonates like PurShade**. There are others as well, but these all work by creating a whitish film on the apple that reflects both heat and light. These will typically reduce sunburn incidence by up to 50%. The problem with these is that they do leave a heavy white film on the apple that can be very difficult to remove from the fruit on the packing line, especially from the stem bowl and calyx where brushes can't reach. Also, bi-colored apples do not color well under these coatings. Under heavy splotches and droplets, the fruit develops a mottled appearance.

**The other sprayable protectants are the Raynox brands:** These are a carnauba-based waxy matrix that filter light and reduce FST. These also typically reduce sunburn incidence by about 50%. These do not leave the heavy white film residue, so fruit colors normally underneath, and there are no issues on the packing line. There are a couple of different formulations of Raynox – Raynox; Raynox Plus; and Raynox Organic. Regular Raynox requires the addition of a water conditioner, and it contains two emulsifiers – one of which is morpholine. Morpholine has a low or no MRL tolerance in many export markets, so a grower should check with his/her packer before using it. Raynox Plus needs no water conditioner, and uses a nonionic emulsifier so there is no morpholine to worry about. Same with Raynox Organic.

If growers have a hot spell coming up, it would certainly be worthwhile to get ahead of that with one of the sprayable protectants. While not as effective as starting the program earlier (apples become susceptible to sunburn at about 38 – 40 mm fruitlet diameter – or roughly golf ball size), it is better than doing nothing and should still provide enough protection to be worth the cost.

**A couple of tricks that can help:**

- If you have a tower sprayer that can apply from the top of the canopy down, those are more effective than traditional airblast sprayers because they apply the product where it is most needed.
- Also, if your rows are oriented North – South, you can spray only the west sides of the rows. Most sunburn comes from afternoon sun exposure, not morning.

If you do apply sprayable protectants, they should be applied in the morning before ambient air temperature reaches 85° F. One application should last for a few weeks until the fruit grows through it.

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 2022. 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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