



Healthy Fruit, Vol. 29, No. 10, June 8, 2021

Prepared by the University of Massachusetts Amherst Fruit Team

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Current degree day accumulations

| | |
|---|--------|
| UMass Cold Spring Orchard, Belchertown, MA (Since March 1) | 7-June |
| Base 43 BE (NEWA, since March 1) | 999 |
| Base 50 BE (NEWA, since March 1) | 587 |

Upcoming pest events

Adapted from [Scaffolds Fruit Journal](#)

| | |
|----------------------|---------------------------------|
| Coming events | Degree days (Base 43 BE) |
|----------------------|---------------------------------|

| | |
|--|-----------|
| Codling moth 1st flight subsides | 866-1260 |
| Lesser appleworm 1st flight subsides | 1002-1538 |
| Lesser peachtree borer flight peak | 809-1734 |
| Obliquebanded leafroller 1st flight peak | 851-1214 |
| Oriental fruit moth 1st flight subsides | 823-1094 |
| Pear psylla 2nd brood hatch | 967-1185 |
| San Jose scale 1st generation crawlers present | 1033-1215 |
| Spotted tentiform leafminer 2nd flight starts | 980-1155 |

Upcoming meetings

Virtual Honeycrisp Meetup: Crop Load Management

A three-part series of conversations about Honeycrisp.

<http://treefruit.wsu.edu/event/virtual-honeycrisp-meetup/2021-06-03/>

As a follow-up to the 2021 IFTA Virtual Honeycrisp Tours, these meetups will provide an opportunity to review challenges, best practices, and new recommendations for Honeycrisp production.

Led by a panel of scientists and growers across regions involved in the USDA-SCRI Root2Fruit project and leading Honeycrisp producers.

June 17 - Rootstocks (Register here:

https://wsu.zoom.us/webinar/register/WN_h5662X2oRAWhq3lxcf7WNA)

July 1 - Nutrient Management (Register here:

https://wsu.zoom.us/webinar/register/WN_PEUvC-sZRHmkeTI7YHgA8Q)

Fruit twilight meeting, TUESDAY, June 8, 2021, 5:30 PM, Honey Pot Hill Orchards, 16 Boon Road, Stow, MA

Topics during orchard tour will include codling moth/apple maggot fly/brown marmorated stink bug/spotted wing drosophila management, NEWA weather station and models, Accede EUP thinning results, return bloom promotion using PGR's. 1 Pesticide recertification credit will be available. A light dinner will be served.

Fruit twilight meeting, TUESDAY, June 15, 2021, 5:30 PM, Outlook Farm, 135 Main Road, Westhampton, MA

Topics during orchard tour will include pear psylla/apple maggot fly/brown marmorated stink bug/spotted wing drosophila management and using PGR sprays to promote return bloom. 1 pesticide recertification credit will be available. A light dinner will be served.

[NH Tree Fruit Virtual Twilight Meeting June 2021](#)

Wed, 06/23/2021

6:00pm - 8:00pm

UNH Extension Field Specialist Jeremy Delisle will host this meeting featuring; Dr. Jaime Piñero, Elizabeth Garofalo and George Hamilton who will discuss seasonal insect, disease and sprayer calibration issues. Please use this link to pre register:

<https://unh.zoom.us/meeting/register/tJUrcu2spjvkE93o0Zfs7XhALoWtRcMZUx50>

Pesticide credits are pending.

Massachusetts Fruit Grower's Association Annual Summer Meeting, July 14, 2021, Clarkdale Fruit Farms, 303 Upper Road, Deerfield, MA

Details coming soon...

The way I see it...

Jon Clements

June drop has/will kick in this week with the heat. I have no doubt that the apple crop will not be excessive, and in a lot of cases is looking just right. There are exceptions of course. It's too late to do anything but wait it out now before you start hand thinning, although an [ethephon rescue thinning spray](#) may not be out of the question later this week when the weather cools down. It's not too early to start hand thinning peaches though...

We are having a [twilight meeting at Honey Pot Hill Orchard tomorrow evening](#), Tuesday, June 8, at 5:30 PM. What might we cover during the orchard tour? Codling moth & brown marmorated stink bug (Jaime), thinning results (Duane), and Accede EUP results (Jon and Jim). Jim Wargo from Valent will be our guest, and I am sure Andrew and Chelcie Martin will find plenty to talk about. It will be hot, we will try to take it easy, bring a bottle of water, and the Martin's will be treating us to some chicken and lasagne (or so I hear). Hope to see you there.

Here is a little gotcha, what bug is causing this feeding damage? Current theory is mullein plant bug, or the apple brown bug? Or maybe too obvious, tarnished plant bug?

https://www.canr.msu.edu/ipm/diseases/mullein_plant_bug



Insects

Jaime Piñero

Weekly report of insect pest captures in monitoring traps at Cold Spring Orchard (Belchertown, MA)

Period: 6.1 - 6.7.2021

| Insect | Average captures/trap | Notes |
|--------------------------|-----------------------|-----------------------------------|
| Obliquebanded leafroller | 1 | Pheromone-baited delta trap (CSO) |
| Codling moth | 1 | Pheromone-baited delta trap (CSO) |

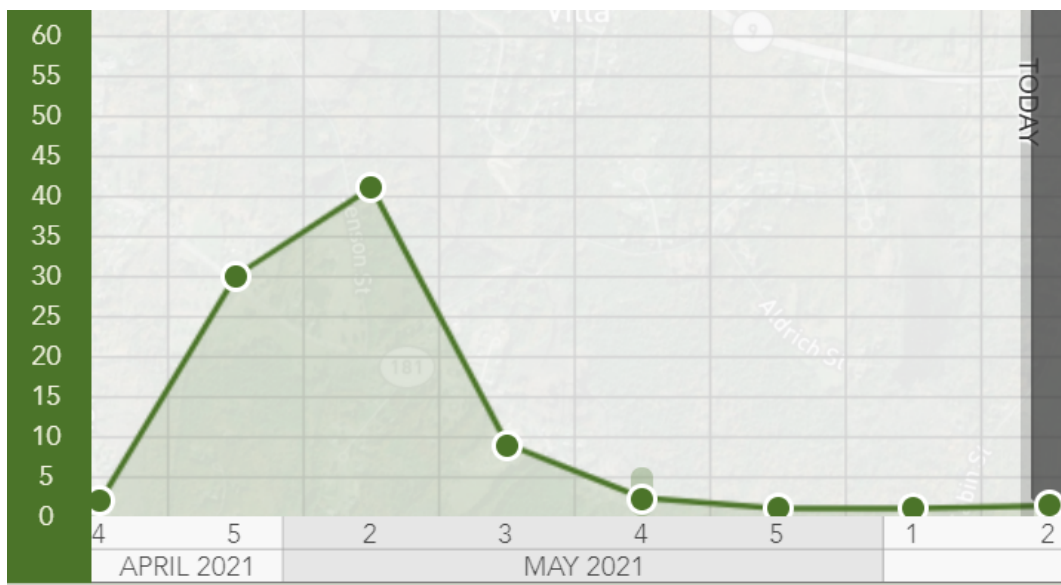
| | | |
|---------------------|-----|---|
| Oriental fruit moth | 1 | Pheromone-baited delta trap (CSO) |
| BMSB | 0.6 | Pheromone-baited clear sticky card (13 traps across MA) |
| SWD | 0.4 | Comparison of fresh and fermented diluted Concord grape juice vs. commercial lure (20 traps in all) |

Obliquebanded leafroller (OBLR). The first OBLR of the season was captured at CSO on June 7th. Using the date of first OBLR sustained captures as a biofix (at CSO, we haven't set a biofix), use the degree-day model to determine when OBLR eggs are hatching and most susceptible to insecticide. Apply insecticide starting at 360 DD (base 43F) after 1st adult trap capture. May need 2-3 sprays 10-14 days apart. Thinning of fruit and pruning water sprouts in mid-summer is helpful in reducing fruit damage

Codling moth (CM). Comparatively low CM captures in 4 monitored commercial orchards including CSO. One orchard reporting high CM captures. CM trap-based threshold: > 5 CM per trap per week using standard lures. High trap counts are a warning to prepare for an application in 5-7 days. If trap counts continue to exceed threshold throughout the season, maintain insecticide coverage on a 2-week interval.

Oriental fruit moth (OFM). We are still at the tail-end of the first flight. For the second through fourth flights, the threshold is >10 moths per trap per week.

The chart below shows OFM captures by week at CSO.



Brown Marmorated Stink Bug (BMSB). For the last 7 days, six BMSB were captured by monitoring traps in two orchards (3 BMSB per orchard). Such numbers are lower than those recorded from mid- to late-May.

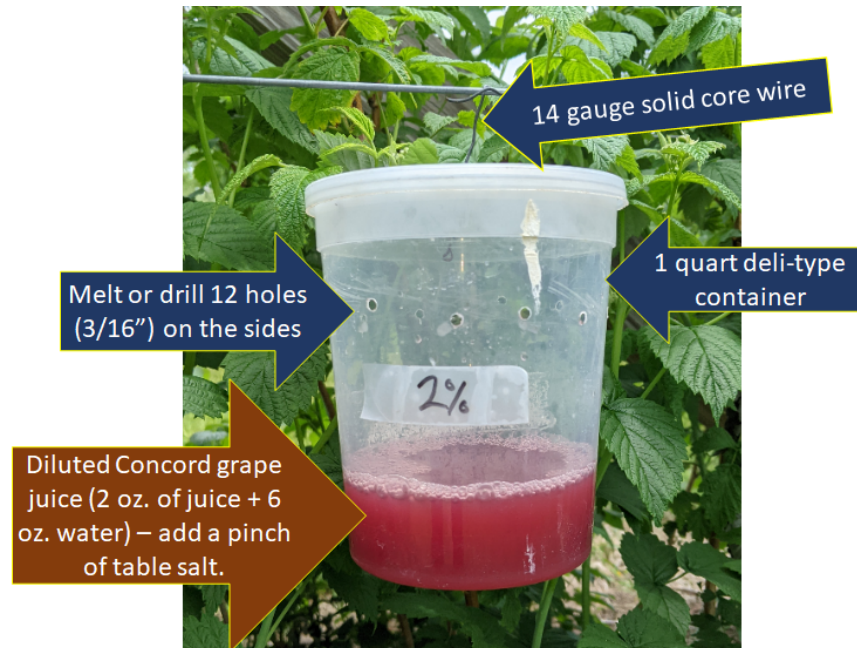
Research update: The trap cropping study described in a previous Healthy Fruit has been initiated with the sowing of seeds in four participant orchards. We will compare the ability of sunflower and buckwheat to enhance the response of BMSB to its pheromone using ghost traps. As a control, we will have ghost traps in the ABSENCE of trap cropping.

Spotted-wing drosophila. Contrary to our predictions, SWD activity has been very low. One male and one female were captured by one trap on June 2nd. Before that, one female was captured on May 19 (first capture of the season) in a different orchard.

Research update: For the last two years, we have been evaluating the effects of fermentation of diluted Concord grape juice. We have discovered that the addition of table salt (see recipe below) increases the attractiveness of the juice to female SWD, and this effect lasts at least two weeks. This means that growers can use a cheap material to monitor SWD at their farms.

Bait recipe: For one trap: mix 2 ounces of Concord grape juice with 6 ounces of water, and 1 pinch of table salt. For 6 traps (bait each trap with 8 ounces of the mixture): 12 ounces of Concord grape juice, 36 ounces of water, and 1 teaspoon table salt.

Deploy traps in the lower part of the tree/bush canopy, preferably in a shaded area. The traps can remain in place for two weeks, time at which they can be replaced. Below is a picture of the trap type we use to capture SWD (this trap can also be used in association with commercial SWD lures - just add 6 oz of unscented soapy water as a drowning solution).



Apple Maggot Fly. For the third year in a row, we will evaluate the ability of perimeter-row sprays using sugar as phagostimulant, in combination with the 5-component lure deployed in perimeter-row trees, at managing AMF. Very good results were obtained in 2019 and 2020 (for details, see Fruit Notes articles - Winter 2020 & 2021).

In 2021, we will do this research in 10 orchards (7 in MA, 2 in NH, 1 in ME) starting in late-June.

Diseases

[Liz Garofalo](#) and Dan Cooley

Scab. We can call the primary done. Enough time has gone by since the final big infection period to see any new infections. It has been a relatively low-risk year for scab, with only a few big infection periods, and time to get fungicides on before and after. Still, take a close look at the places where scab is likely.

If you find something, using captan in combination with hot weather over 80 F, like we've been having, is a very effective way to stop the spread of apple scab. Captan really should be at the center of any effort to arrest new scab infections. If you combine it with another fungicide to help deal with summer rots or mildew, that will also help, but use captan as the main material for eradication.

Use two applications at approximately 7 day intervals right after scab is discovered, applied when temperatures exceed 80 F if possible. You can cut rates a little below the full rate, 3 to 4 lb. / A Captan 80WP or equivalent, in order to stay under season limits. After that, apply two applications at 10 to 14 day intervals. This should get scab in check, unless the weather turns cooler and wetter.

How do you know if you've been successful? There is, unfortunately, no clear answer. It does help to understand how scab lesions function if they are not sprayed. Generally, after the first appearance of the fuzzy lesions, there is a burst of spore production. This is one of the most dangerous times in a scab epidemic, because each of the thousands of spores in a lesion may cause new infections. Peak spore production in each lesion continues for a week or two, then drops off to relatively low amounts after about 4 weeks. By then, all or part of the lesion will usually appear much darker than it did initially, and may be brown or even black. Natural resistance in the tree increases from June through the summer, especially if weather is hot and dry. So, epidemics slow down naturally. But they don't stop. Lesions may appear smooth, and reddish, brown or black, making them look "burned out". But they generally continue to produce a few spores through the summer. At any point, wet, cool weather can bring on new infections.



Early scab (Liz Garofalo)

Notes from the field

[Liz Garofalo](#)



Multiple apple scab infection events are now showing lesions. If you have not already gone out to scout, now is *definitely* the time.

Horticulture

Jon Clements, Editor

The week in a few pictures...

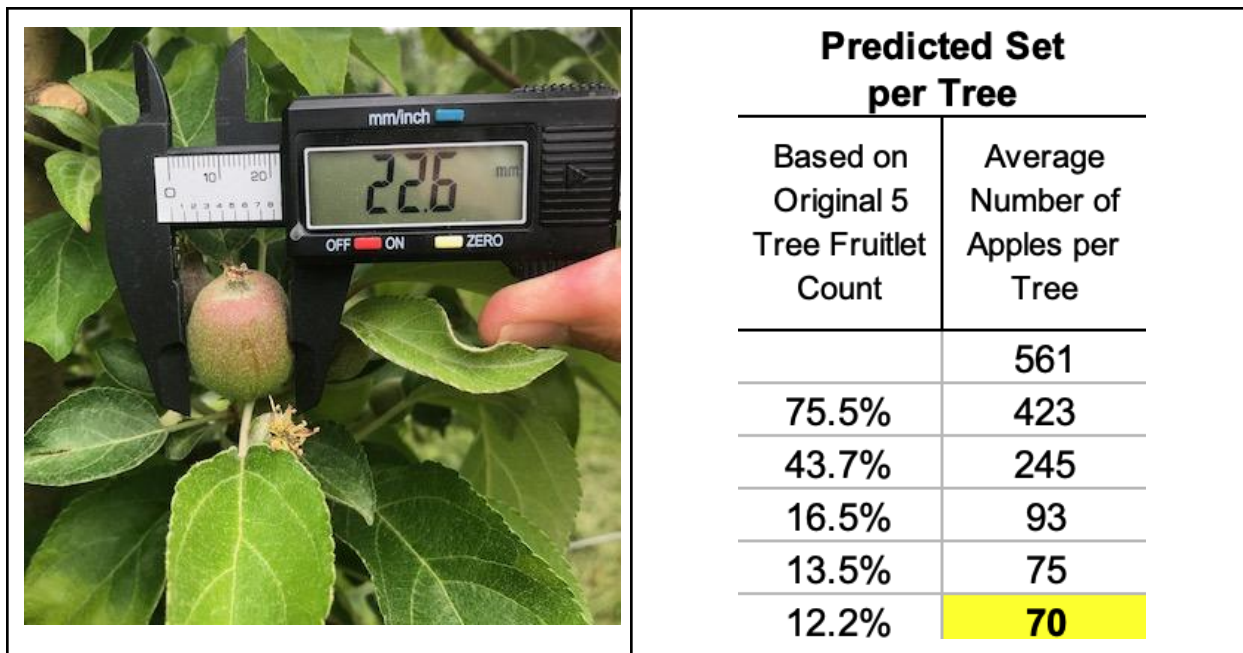
Impressive results: branching 1-year old wood on newly planted apple trees using a double-bladed pruner... double-sided notching was made just above the dormant bud just when trees were starting to break bud. Note the picture of notching was taken just now, the notching is actually done when the buds are starting to break, just post-dormancy.



Apple leaf yellowing/drop one week following ACCEDE application to Golden Delicious. This is to be expected unless it gets excessive, indicating the active ingredient of ACCEDE is working. Expecting more fruit drop as ACCEDE is an effective thinner at larger fruitlet sizes. ACCEDE is being applied to several Massachusetts orchards this year under an Experimental Use Permit, expect full registration in 2022.



After measuring and entering numbers into the fruitlet growth rate model/Ferri spreadsheet, these Honeycrisp are looking pretty good! Target crop load is 65 apples per tree, hoping not too many more will fall off! Will get a final fruit count just before harvest.



Guest article

New Recommendation for Return Bloom Sprays Applied in 2021 for Good Repeat Bloom in 2022

Terence Robinson, Cornell University

Reprinted from CCE ENYCHP [Tree Fruit News](#), June 2021, Volume 9, Issue 3

For many years we have recommended four summer sprays spaced 10 days apart beginning on June 21 (longest day of the year) of either 10ppm NAA or 1pt of Ethrel. This timing is usually when fruits are 25mm in diameter. This program has worked well for many biennial varieties like Fuji, Golden Delicious, Macoun, Jonagold and Delicious. However, with Honeycrisp this four-spray program has been inconsistent in inducing return bloom. Some years there is a significant improvement in return bloom from these summer sprays but in other years there is no improvement in return bloom. The reasons for this inconsistency have been unclear but our recent work points to two important reasons why the summer return bloom sprays do not consistently work for Honeycrisp.

1. Work done by Poliana Francescato in my lab while I was on leave showed that flower initiation for Honeycrisp occurs much earlier in the season than for other varieties. The peak period of flower initiation is 45-55 days after full bloom. For WNY with an average bloom date of May 5, the peak period of flower initiation is mid-June to late June. Thus,

starting the summer sprays of Ethrel or NAA at an earlier date would better overlap with the date of flower initiation. It appears that the traditional timing of summer sprays is too late.

2. In some years the number of flower clusters and initial fruit number is very high. If the seed number per fruit is also high resulting in a large number of seeds on the tree, then return flowering is strongly inhibited by the gibberellins produced in the seeds. Under this scenario the flower initiation stimulating properties of Ethrel or NAA are counter balanced and completely negated by the excessive GA level in the plant. In other years with fewer initial flower clusters or with lower seed count per fruit then the total GA load in the plant from a more moderate number of seeds per tree allows the NAA or Ethrel sprays to stimulate flower initiation.

These clues have led us to emphasize 1) precision pruning for Honeycrisp to reduce the initial flower bud load to no more than 1.8 times the target fruit number. This avoids having an excessive number of seeds producing too much GA to inhibit flowering. 2) We have also emphasized bloom thinning and Petal Fall thinning to reduce the fruit number to the target number very early in the season to ensure that at 45 days after full bloom when flower initiation occurs, there are not too many fruits, seeds and GA in the tree.

We now introduce a new recommendation to begin the series of summer return bloom sprays of Ethrel or NAA on Honeycrisp earlier in the season beginning at the 16mm fruit size stage. For strongly biennial varieties (Honeycrisp and Fuji) we suggest 4 sprays at 10-day intervals of Ethrel beginning when fruits are 16mm. The first 2 sprays should be at a low rate of ½ pint/100 and last 2 sprays at a higher rate of 1 pt/100). In addition, once the 4 sprays of Ethrel are completed, we recommend to apply 2 more sprays of 10ppm NAA at 10-day intervals.

This new recommendation comes with strong caution. Ethrel is a powerful thinner from full bloom until fruits are 18mm. Its effects are very powerful when temperatures are above 80°F. Thus, there is some risk of thinning action when the first Ethrel spray for return bloom is applied at 16mm fruit size. To minimize the risk of thinning at this time we recommend that it only be applied when temperatures are below 80°F.

This new recommendation of early Ethrel sprays is most important during the “on” year and will help ensure repeat bloom in the following year. Its success depends on not having an excess number of seeds on the tree since the high GA load from excessive number of seeds will overwhelm the flower inducing properties of Ethrel. Thus, strict attention to precision pruning and precision thinning to achieve the target fruit load early in the season will be key to success.

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Maurice Tougas
Shoots already growing. Dont see much sense!

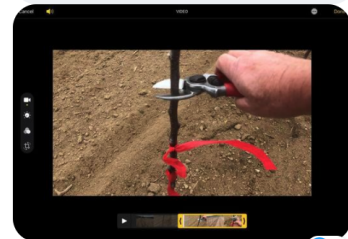
Like · Reply · 16h



1



Jon Clements
I hesitated to post this picture, it was done at bud break, this was for illustrative purposes only. Here...



Like · Reply · 15h



1

Chris Hedges replied · 2 Replies



Dale Goldy
Jon, instead of holding the clippers flat, put the blades on an angle. That way when you go around the tree the score cuts shouldn't line up. We stress to our employees that the cuts should NOT intersect after going around the leader.

Like · Reply · 13h · Edited



2

Useful links

UMass Fruit Advisor: <http://umassfruit.com>

[UMass Extension Fruit Team YouTube Channel](#)

[UMass Fruit Loop IPM Podcast](#)

[Scaffolds Fruit Journal \(1995-2020\)](#). With the retirement of Dr. Art Agnello from Cornell University, this publication has come to an end. See Peter Jentsch's blog below.

Network for Environment and Weather Applications (NEWA): <http://newa.cornell.edu>

Follow me on Twitter (<http://twitter.com/jmcextman>) and Facebook (<http://www.facebook.com/jmcextman>)

[Acimovic Lab at Hudson Valley](#)

[Peter Jentsch's Blog](#)

The next Healthy Fruit will be published on or about June 15, 2021. In the meantime, feel free to contact any of the UMass Fruit Team if you have any fruit-related production questions.

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