



Healthy Fruit, Vol. 29, No. 9, June 1, 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)	31-May
Base 43 BE (NEWA, since March 1)	804
Base 50 BE (NEWA, since March 1)	342

Upcoming pest events

Coming events	Degree days (Base 43 BE)
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Black cherry fruit fly 1st catch	702-934
Black stem borer 1st flight peak	635-901
Codling moth 1st flight peak	562-890
European red mite summer egg hatch	737-923
Lesser peachtree borer flight peak	809-1734
Obliquebanded leafroller 1st catch	793-976
Redbanded leafroller 1st flight subsides	610-891
Spotted tentiform LM 1st flight subsides	682-941
White apple leafhopper adults 1st present	679-1041

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 3 - Crop Load Management (Register here:

https://wsu.zoom.us/webinar/register/WN_kY92ZJLFTA2e-YTuarMp2w)

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 Hill 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/tJUrcu2spjkeE93o0Zfs7XhALoWtRcMZUx50>

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

Dare I say it's fairly quiet out there and things are progressing "normally?" (A lot quieter than it was 10 years ago on this date in Springfield.) We got nearly four inches of rain in Belchertown over the last week. According to the NEWA apple irrigation model (<http://newa.cornell.edu/index.php?page=apple-irrigation>), that amount was 69,000 gallons per acre which erased the significant negative cumulative water balance from a week ago! Good news! The effect of chemical thinners applied over the last week or so is starting to show up, and overall, we are going to see some pretty significant "June drop" starting any day now. (I think.) Most of you are done chemical thinning and will be able to touch up with hand thinning, but if you want to apply another chemical thinner the door is closing rapidly, a combination of Maxcel (64 oz.) plus carbaryl (1 pt.) plus oil (1 pt.) per 100 gallons can be effective up to the time fruitlets reach 20 mm or so. For more, see Duane Greene's comments in Horticulture. That combo is also useful for de-fruiting young trees. If you have the nerve, you could also try some "rescue" thinning with ethephon (<https://ag.umass.edu/fruit/fact-sheets/late-season-rescue-thinning-with-ethephon>). But I hope you don't have to. Speaking of ethephon, see some updated return bloom enhancement for Honeycrisp recommendations in Horticulture. Finally, the return of in-person fruit twilight meetings starts next week. Hope to see you at Honey Pot on June 8...



The Beauty Bush (*Kolkwitzia amabilis*) blooming at the UMass Orchard on June 1 is about as “normal” as it gets around here...

Insects

Jaime Piñero

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

[Period: 5.25 - 5.31.2021](#)

Insect	Average	Notes
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	captures/trap	
Codling moth	1	Pheromone-baited delta trap (CSO)
Obliquebanded leafroller	0	Pheromone-baited delta trap (CSO)
Oriental fruit moth	8	Pheromone-baited delta trap (CSO)
BMSB	0.15	Pheromone-baited clear sticky card (13 traps across MA)
SWD	0	Comparison of fresh and fermented diluted Concord grape juice vs. commercial lure (20 traps in all)

Codling moth (CM). The first CM of the season was captured at CSO on May 20th. BIOFIX at CSO was set for May 26th. Each of the four monitored orchards had CM in traps, ranging from 1-7 per trap in a week's period. Thus, CM populations continue to be low at this moment at these orchards. As a reminder, if > 5 CM adults are caught per trap per week using standard lures, there can be problems in fruit from future generations. 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. If you are using BIOFIX to coordinate the timing of insecticide sprays, then the degree-day model suggests the best spray dates for the first generation should be at 150 DD (base 50°F) for ovicidal materials (Rimon, Intrepid, Esteem), at 250-360 DD for larvicidal materials. This is because first CM eggs are laid at about 50 DD and the first eggs usually hatch after about 220 DD.

Oriental fruit moth (OFM). In addition to the natural decline in activity, the cold, wet weather that prevailed for the last days suppressed OFM captures. The chart below shows OFM

captures by week at CSO.



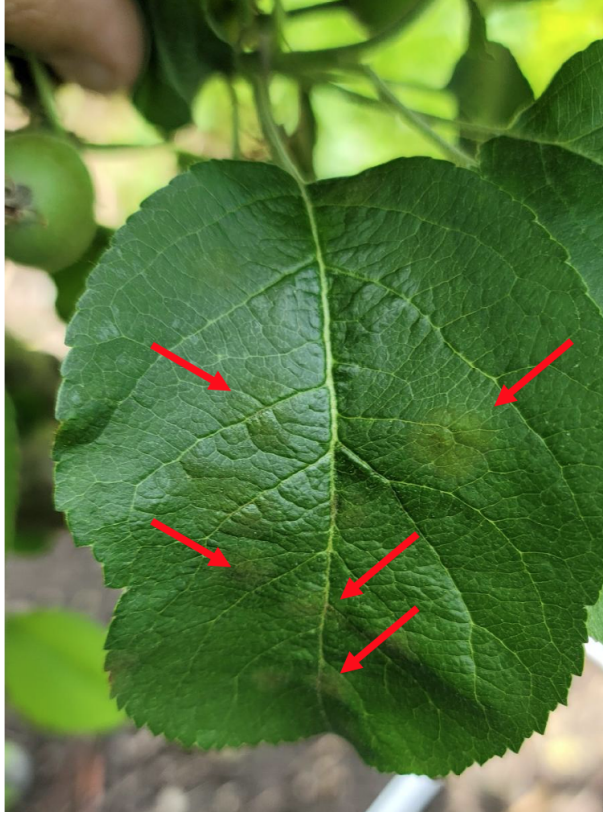
Spotted-wing drosophila. Zero SWD were captured in odor-baited traps deployed at five locations. We expect some SWD activity by the end of the next week.

Brown Marmorated Stink Bug (BMSB). Only two BMSB were captured by a monitoring trap in one orchard. No BMSB were caught in traps in the remaining 12 orchards.

Diseases

[Liz Garofalo](#) and Dan Cooley

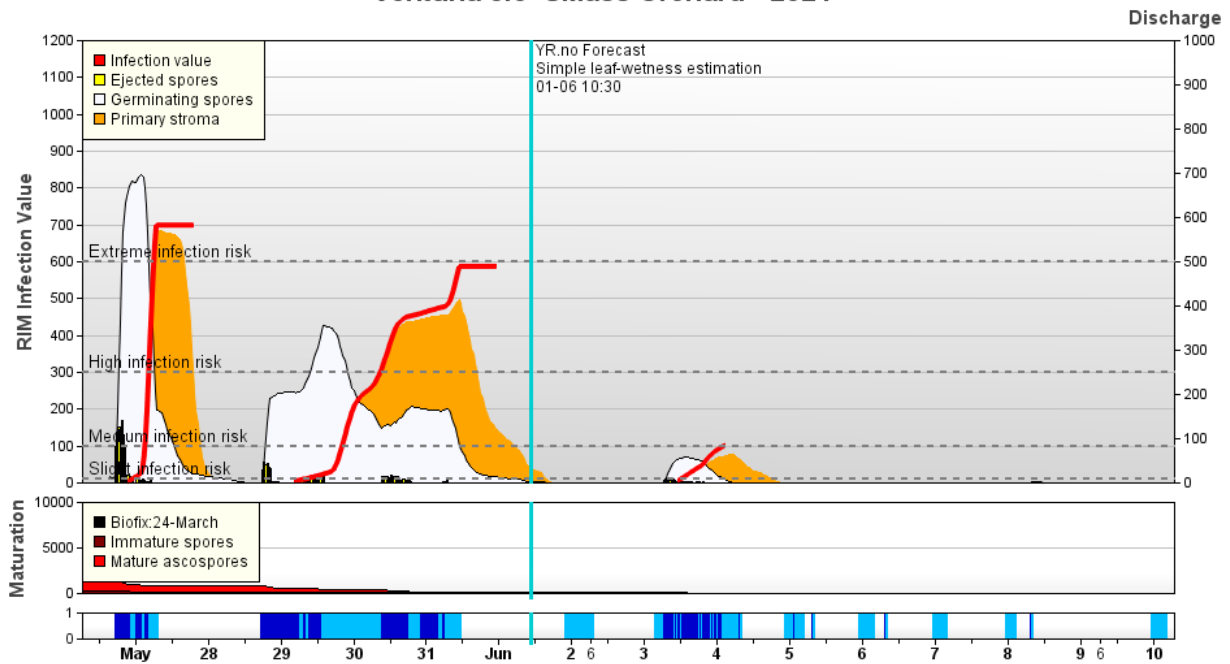
The heavy rain that fell over the Memorial Day weekend generated a high risk of **apple scab** infections. Not only that, but with over 3.5 inches of rain in some places, protectant fungicides were probably washed off by the end of the weekend. It is worth considering a fungicide with post-infection activity as soon as possible, at least in those areas where scab risk is highest. Keep in mind that at this point, secondary scab infections are also a risk, and early scab infections have started to show clearly, at least if you know what you're looking for. The scab on the leaf in the picture below is light green, and if you look closely, slightly fuzzy. Those are lots of spores, each of which can cause more scab infections.



New scab infections on an untreated test tree at UMass Cold Spring Orchard. Red arrows indicate a few infections. These are actively growing spores, which can cause new infections. (Photo Paul O'Connor UMass)

While the rain released a lot of ascospores, they were not quite the last ascospores of the season. While counts are low, we are still seeing primary ascospores in lab tests. [RIMpro](#) also shows a very low number of remaining ascospores for this season with a final, “medium infection risk” event forecast for June 3. With the heat and dry weather, it may seem like it’s late to still have a risk of primary infection. But historically and in terms of apple tree growth, it’s about normal. Spores didn’t develop much during the dry weather, but started up again with rain. And as can be seen, early season infections are growing.

Venturia 3.0 UMass Orchard - 2021



Graphical representation of the current state of primary apple scab according to RIMpro. Two significant infection events occurred over the Holiday weekend and one more is estimated to occur on June 3.

With incidence of **powdery mildew** (PM) in apple increasing in some orchards, look out for **rusty spot** (RS) in nearby peach blocks. While powdery mildew pathogens can often be very specific to a single species, in the case of tree fruit the same pathogen that causes PM in apple, *Podosphaera leucotricha*, causes RS in peach. In peach blocks near apple blocks with a PM issue, peaches should be protected against rusty spot. Peaches are susceptible until pit hardening. DMI fungicides (FRAC 3), QoIs (FRAC 11), SDHIs (FRAC 7) and sulfur are effective.



Rusty spot (powdery mildew) on peach (PF-13 Lucky), 19-June, 2019 at UMass Orchard
(Jon Clements)

Notes from the field

[Liz Garofalo](#)



Plum curculio observed ovipositing on apple fruitlet on May 27. Keep your eyes peeled for fresh scars! Squishing PC is not an effective means of management, but, I gotta say, I got great satisfaction out of making sure this one never oviposited again.



What looks like fireblight but isn't? In this case, it's **nectria twig blight**. This typically weak fungal pathogen has fooled many of us into a moment of panic. On closer inspection, however, you will see that the vascular tissue is not stained as you generally see with fireblight. That is a result of the canker caused by the fungus girdling the base of the shoot affected rather than traveling through the shoot as with fireblight. You will also most likely notice an old pruning cut

associated with this shoot flagging (photo below). You may also see salmon colored fruiting bodies along the canker.



While necrotic canker can affect a handful of varieties, I have only ever seen it in MA in Rome apple. Do not confuse necrotic twig blight (photos above) caused by *Nectria cinnabarina* with necrotic canker caused by *Neonectria ditissima* the pathogen that causes significant canker damage in Europe. Necrotic twig blight does not have any recommended fungicidal treatment as it is not usually severe. On a dry day, prune out and remove affected tissue.

Horticulture

Jon Clements, Editor

Last week, during the CCE Capital Region 18 mm thinning meeting last on Zoom, Dr. Terence Robinson presented some new recommendations for promoting return bloom of apples. The use of ethephon (Ethrel, Motivate) is a bit suspicious because it can cause thinning of larger fruit — especially if it is hot, do not apply if the forecast temperature is much over 80 degrees — but he insists at this half pint rate starting when the fruits are 16 mm (I say wait until 18-20 mm to be on the safe side) that should not be a problem and that Honeycrisp in particular need this early kick-start to flower bud initiation. So, here you go, his (not necessarily mine) recommendation, give it a try, particularly if your Honeycrisp or Fuji are “on” this year.

New Recommendation Return bloom sprays applied in 2021 for good repeat bloom in 2022 (Dr. Terence Robinson)

1. For mildly biennial varieties spray 4 sprays of Ethrel (1pt/100) or 10 ppm NAA beginning when fruits are 25 mm in diameter at 10 day intervals. (Probably beginning June 15.)
2. For strongly biennial varieties (Honeycrisp and Fuji) spray 4 sprays of Ethrel when fruits are 16 mm (about June 1) at 10 day intervals (first two sprays 1/2 pint/100 and last two spray 1 pt/100). Follow the Ethrel sprays with 2 more sprays of 10ppm NAA.

Chemical Thinning Suggestions for the first week in June (Duane Greene)

Over the past week the weather has been unfavorable for thinning or providing stress on a tree to allow thinners to work effectively. Consequently, fruit growth was not as robust as one would expect if warmer temperatures prevailed. I have observed fruit sizes range from 15 to 24 mm depending on variety and block. Under normal conditions I would be somewhat distraught with the number of fruit on the trees at this late stage in the thinning season. However, trees have not been seriously stressed in a week and the weather forecast is for warm to very warm temperatures to occur over the next week. There are variable fruit sizes on a spur so you may wish to delay additional thinner application to see how many of these will naturally abscise. If fruit size in your orchard is between 16 and 20 mm then I think that it is still possible to thin using standard thinning chemicals. Carbaryl at 1 pt to 1 qt per 100 gal should be included with other thinners. If NAA is applied at higher rates when fruit are large (above 17 mm) during very warm to hot weather fruit size may be affected even though thinning may be achieved. Normally, I do not recommend the use of MaxCel at larger fruit sizes but with warmer weather forecast it may very well be successful this year. The addition of carbaryl is important with MaxCel. I have not had much experience with the use of ProTone at larger fruit sizes, but with temperatures forecast to reach the upper 80 in the coming week, this may be a possibility as well. (Ed. note: combine with carbaryl and oil too? Otherwise it is a weak to mild thinner?)

Unfortunately, apple growers do not have available ACCEDE this year for general use but this thinner is specifically targeted for use at 18 to 20 mm fruit size range. Unlike most thinners, it is most effective when applied at this size range. It is being evaluated in several orchards under an Experimental Use Permit in Massachusetts this season and hopefully it will be available to all growers next season.

Rescue thinning is often resorted to when fruit reach 20 to 25 mm. Rescue thinning generally involves the use of ethephon plus carbaryl. I recommend that growers should probably delay the use of ethephon until trees are exposed to more stress so that the effects of previous thinners have been fully expressed.

Guest article

No Guest article this week...

Facebook Me

No Facebook Me this week...

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 8, 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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