Healthy Fruit, Vol. 26, No. 10, June 5, 2018

Jon Clements, Author (unless otherwise noted) and Editor

Contents

Current degree day accumulations

UMass Cold Spring Orchard, Belchertown, MA	4-Jun
Base 43 BE (NEWA)	896
Base 50 BE (NEWA)	538

Upcoming pest events

Coming events	Degree days (Base 43)	Meaning?
Codling moth 1st flight peak	563 to 991	1st sustained trap catch = biofix set to start DD model for insecticide timing
Dogwood borer 1st catch	754 to 1243	If used, mating disruption should be up soon; alternately, any time now for directed insecticide trunk spray
European red mite summer egg hatch	737 to 923	Consider the use of highly refined summer oil sprays beginning now at one gallon per 100 gallons finished spray
Lesser peachtree borer flight peak	853 to 1767	If used, mating disruption should be in place
Oblique-banded leafroller 1st catch	797 to 980	Hang pheromone traps to monitor presence/absence and set biofix
Oriental fruit moth 1st flight subsides	829 to 1103	Getting late for mating disruption, petal fall insecticides should be taking care of
Peachtree borer 1st catch	781 to 1320	If used, mating disruption should be in place
Spotted tentiform leafminer 1st flight subsides	678 to 946	Should be scouting for mines as a result of egg-laying by this 1st generation

Ag-Radar Summary

Key insect life cycle and management dates

Note: for 2018, we have ten Massachusetts orchard locations subscribed to AR: Amherst, Belchertown (2 locations), Brookfield, Deerfield, Easthampton, Groton, Leominster, Northboro, and Westhampton. The website for looking at AgRadar for these locations is: http://extension.umaine.edu/ipm/ag-radar-apple-sites/. What follows is the AgRadar summary for the Belchertown location.

Estimated Apple Scab Ascopsore Maturity, 5-June -- 100%; the next rain should release all the available primary spores if it has not happened already. **Key Apple Scab Dates:** First primary scab infection (including those with only night rain) that lasts past Half Inch Green starts: April 25. If present, lesions from the season's first primary scab infection period would become visible and begin producing conidia for spread of secondary scab on: May 7, Monday. Date of 'Final' significant primary scab ascospore release is: June 4, Monday. 'Final' defined as best guess of 99+% cumulative ascospore release, and high probability that at least 95% of ascospores have been released. Secondary scab protection and scouting should continue until 2nd generation lesions from the season's final ascospore release have had time to begin appearing.

Codling Moth (CM) -- 1st generation, first sustained trap catch biofix date: May 15, Tuesday. Codling moth development as of June 5: 1st generation adult emergence at 54% and 1st generation egg hatch at 4%. In most orchards, insecticide targeted against plum curculio and apple maggot prevent codling moth damage. If targeted codling moth control is needed, key management dates are: Optimum first application date for RIMON ovicide against 1st gen. CM eggs is at 75-100 CM degree days after the biofix for first sustained trap catch of adults: May 23 to May 24. For ESTEEM, the optimum first application timing is at 100 DD: May 27. For INTREPID, the optimum first application timing is at 150-200 DD: May 27 to May 31. For RIMON, ESTEEM, or INTREPID, second application date is at 20% egg hatch: June 12. For standard insecticides or Granulovirus, best timing for first of two applications is at 3% CM egg hatch: June 2, Saturday, 1st generation 20% CM egg hatch: June 12, Tuesday, = target date where a only one spray needed to control 1st generation CM.

ObliqueBanded Leafroller (OBLR) -- 1st generation OBLR flight begins around June 7, Thursday.

Oriental Fruit Moth OFM -- 2nd generation OFM flight begins around: June 30, Saturday. 2nd generation - first treatment date, if needed: July 8, Sunday. 2nd generation - second treatment date, if needed: July 21, Saturday.

Plum Curculio (PC) -- Increased risk of PC damage as McIntosh and similar cultivars increase in fruit size: May 23, Wednesday. Earliest safe date for last PC insecticide spray: May 27,

Sunday.

Spotted Tentiform Leafminer (STLM) -- 2nd STLM flight begins around: June 16, Saturday. Rough guess of when 2nd generation sap-feeding mines begin showing: July 7, Saturday. Optimum first sample date for 2nd generation STLM sapfeeding mines is July 14, Saturday.

Upcoming meetings

CANCELLED because of a death in the family...~~**TUESDAY, 12-June, 2018.** Fruit Twilight Meeting. Mann Orchards Riverside Farm, 445 Merrimack Street, Methuen, MA. 5:30 PM. Light dinner will be served. 2 pesticide re-certification credits. There is a $20 meeting fee for those receiving pesticide credits. The Fitzgerald family will be our hosts and we will also have special guest Win Cowgill attending.~~

From Mary Concklin @ UConn
Twilight Meeting: The CT Pomological Society Annual Summer Twilight meeting will be held on **WEDNESDAY, June 13, 2018** at 6 PM. Bishops Orchard, 520 New England Rd, Guilford, CT. RSVP is requested for dinner planning purposes. E-mail Michaele Williams at michaele.w@bishopsorchards.com or text to 860-304-3506 and include your name and # attending. No cost to you. This is open to everyone. Join us, meet new friends and catch up with old ones. Discussion on pest issues with Dr. Jaime Pinero, UMass Extension's new fruit entomologist; I will discuss disease issues; Evan Lentz and Casey Lambert, UConn iPiPE interns, will discuss the iPiPE program; staff at Bishops will give a tour of the farm; and more. 2 Pesticide credits will be available.

From Heather Faubert @ URI
RIFGA Twilight Meeting, **THURSDAY, June 14, 2018** at 5:30. Barden Family Orchard, 56 Elmdale Rd, North Scituate, RI. During meeting we will assess this year's crop and cover topics such as summer pruning, and insect, disease, and weed management and more. Meeting is free with annual dues payment of $40, or $20 for non-RIFGA members. ($20 for MFGA Members.) Registration is not necessary. Light dinner will be served. Two hours pesticide recertification credit available.

TUESDAY, July 10, 2018. Massachusetts Fruit Growers' Association Annual Summer Meeting, UMass Cold Spring Orchard, 391 Sabin Street, Belchertown, MA. 10 AM to 3 PM. Registration and more information coming soon.

The way I see it

Jon Clements

Three twilight meetings next week, you can't afford to miss this opportunity! I realize it will involved some driving for many of you. (For me/us too!) **June 12 CANCELLED** because of a

death in the family...~~But, on Tuesday, June 12, Win Cowgill will join us to look over the 1000's of young peach and apple trees planted this year by the Fitzgerald boys at their recently acquired Mann Orchards Riverside Farm, 445 Merrimack Street, Methuen, MA. (Take note of the address, this is NOT the main store located on Pleasant Valley Street.) Win has a lot of experience training and coercing young apple and peach trees to grow up properly!~~ Then, on Wednesday, June 13, at least I will be traveling to Guilford, CT, a straight shot down I-91 from Springfield, to Bishop's Orchard. Bishop's is a fine example of a "Farm ~~Super~~ Market" as they call it. Please RSVP as noted above, and if anyone is interested in car pooling (to any of these meetings) let me know, although I may be leaving early to avoid traffic jams. Finally, on June 14 we will be joining Heather Faubert at Barden Family Orchard in RI. Gil and Sandie are very industrious, and have one of the finest Honeycrisp apple tall spindle planting I have (arguably) seen. I have not been so excited about June fruit twilight meetings in many years, I hope many of you can take the time to travel and be there!

Insects

Jaime Pinero

Spotted Wing Drosophila Outlook for 2018

It's that time of the year again when growers of fruit susceptible to spotted wing Drosophila (SWD) throughout Massachusetts need to start thinking about SWD on their farm.

In 2017, growers from some northern U.S. states including Michigan and Massachusetts reported an early start to spotted wing Drosophila(SWD). This information suggests that in 2018 SWD may become active and start reproducing earlier than normal and be a bigger problem than in recent years. In fact, a couple of locations in NY State have already reported the first 2018 captures of SWD in monitoring traps! One of the locations where 2 female SWD were found (1 each in 2 traps), was in a cherry orchard that was heavily infested last year located south of Lake Erie in Western NY.

Based on the above, I am concerned SWD will be an issue for fruit growers who have escaped SWD in the past because in previous years growers were harvesting earlier than the SWD surge.

This year, the UMass Extension Fruit Program will continue with the monitoring system for SWD in selected locations throughout Massachusetts.

In terms of SWD research, starting in a few weeks the attractiveness of some commercially-available fruit juices, either alone or in combination with selected plant volatiles will be evaluated in traps at the UMass Cold Spring Orchard (in cherry trees) and at Carlson Orchards (in peach trees). The goal is the assess the viability of developing a mass trapping

system that could help reduce SWD populations before crop harvest, potentially making insecticide sprays more effective. Research updates will be provided.

Another line of research involves the potential use of odor-baited attracticidal spheres (same used for apple maggot control) laced with an insecticide to reduce SWD populations. This field-scale experiment will start in July.

A couple of growers have asked me whether SWD can attack plum. The answer is yes. A 2017 report on the susceptibility of commercial Michigan plum cultivars to SWD can be found here:

http://msue.anr.msu.edu/news/susceptibility_of_commercial_michigan_plum_cultivars_to_swd

A note on plum curculio (PC) oviposition:

The heat-unit accumulation model developed by Reissig et al. (1998) relates cumulative fruit injury to cumulative heat units (degree-days base 50°F = DD_{50}) following 95% petal fall of McIntosh. It indicates that the last spray against PC should have sufficient residual activity for effective control until **308 DD_{50} have accumulated since petal fall.**

So far, the NEWA Apple Insect Model indicates that accumulated degree days (base 50°F) petal fall through 6/5/2018 is **246**. However, because of the cooler weather following petal fall, this year this model may not help growers that use this PC oviposition model save an insecticide spray. While this model has proven useful under some conditions for predicting how long insecticide protection should be maintained on orchard trees to prevent late-season PC injury, one shortcoming of using this model involves uncertainty of the extent to which insecticide residue truly remains effective because it assumes sufficient insecticide protection to fruit for about 10-14 days after insecticide sprays.

Diseases

Dan Cooley

Take a look at Liz Garofalo's take on primary scab - I agree with her. Since there are only a few spores being caught, the grass is getting tall and a lot of apple leaves have broken down in the past couple of weeks, we can call an end to primary season with Monday's rain. If that rain causes infections, they should become visible in about two weeks.

Visible infections have been around in both unsprayed trees and commercial orchards for a couple weeks now. In commercial blocks, keeping fruit clean should be the goal. As stated last week, a steady program of full rates of captan applied at 7 to 14 days until terminal buds set is

the most straightforward approach. It will be effective, and will not risk development of resistance that would happen with single-site materials.

Some concerns about resistance development have come up this season, because people are having difficulty getting scab under control. I wouldn't jump to that conclusion first, but would look at coverage and timing issues first. Realize that in general there was more scab last year, so there was extra inoculum this year. However, if you have been using a lot of the same fungicide, and maybe not ALWAYS mixing in captan or mancozeb, you may want to think about changing your a.i., the FRAC group, from whatever you've been using. Unfortunately it's difficult to get a resistance test, but contact me if you have a serious concern.

Horticulture

Rescue Thinning of Apples with Ethephon - Duane Greene

Once fruit grow to about 20 mm they become quite insensitive to the mainstream thinners commonly used from bloom until fruit grows to about 15-18 mm. Thinning with ethephon during the 20 to 25 mm fruit size stage can be effective but it can't be termed completely reliable. Sometimes it works well and other times it does not thin as well. The effectiveness is frequently linked to the weather condition following application but even this is difficult to predict. Hot weather following application may lead to increased thinning.

It has been my experience that the use of 300 ppm (1 pint/100 gal of ethephon plus 1 qt of carbaryl) is a good moderate rate to start with. Some varieties are more sensitive than others. Golden Delicious is quite sensitive and a lower amount should be used with this variety. Suggestions for thinning specific varieties can be found in the UMass fact Sheet F-129R written by Wesley Autio and Win Cowgill.

Many orchardists are fearful of overthinning with ethephon. I have observed many more instances where the above-suggested ethephon rate under-thinned more often than over-thinned. Ethephon is an important thinning tool that should not be fear but respected. It is my general impression that it is underused. The alternatives to not using ethephon are not good. These include increased labor to hand thin, reduced fruit size and lower fruit quality at harvest and a reduction in return bloom. Orchardists should be aware that using ethephon on early maturing varieties may advance ripening. Be aware of the possibility of early ripening.

Hawkeye's corner (notes from the field)

Liz Garofalo

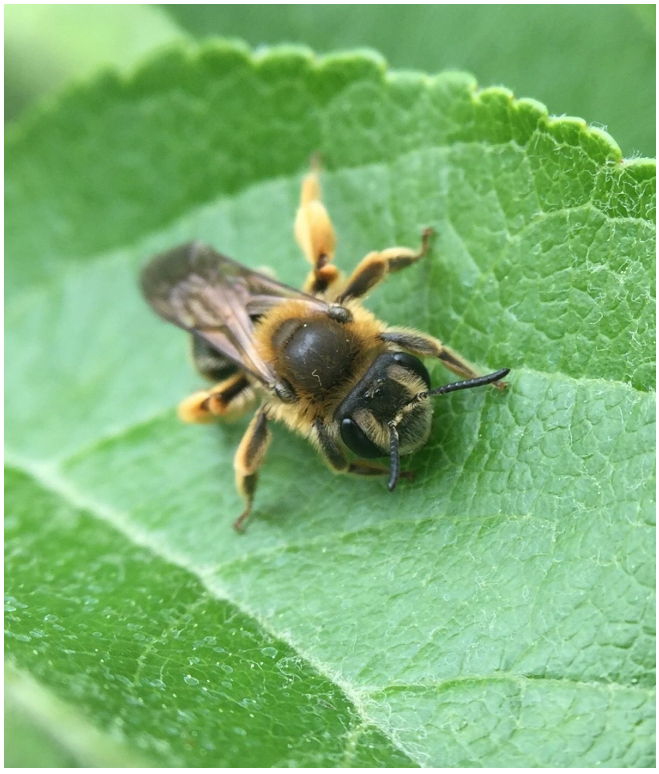
Oh for tha luva…
In spite of all the rain we had Monday (ranging from .68"-1.14"), we are *still* catching **scab** spores from our MA study sites. Thankfully, however, in a drastically reduced number. So few, actually, that I'd even venture so far as to say that we are all done with primary apple scab season for the year (secondary scab is a whole other matter). Later in the summer we will give you an update on what we found on our trap trees for this year (that'll be the proof in the pudding, so to speak). Reports of scab lesions are coming in from around the state, so, get out and check your high pressure blocks for active lesions.

Weeds are doing well these days. No surprise there. They love this weather just as much, if not more than our crops. By their nature, weeds have evolved the ability to adapt to and thrive in a broader climatic range than is “optimal” for our crops. This enables them to successfully colonize and out utilize resources otherwise meant for our fruit. Also, it allows then to, literally, choke out the crop.

Once weeds, in this case **bindweed**, an extra problematic weed, gets into the canopy, management is even more difficult as targeted herbicides can damage trees as much as crops.

Native **brown stink bug** (*Euschistus servus*) nymphs are hatching and on the move. Not to be confused with the highly destructive, extra nasty, low down and dirty **brown marmorated stink bug**… Which, at this point in the year is just making a nuisance of itself in window sills and other in home spaces. If you haven't, you should check out the Stop BMSB website for all kinds of interesting and helpful information on the invasive brown marmorated stink bug. Our native species, like the pictured **brown stink bug**, are not generally considered a problem…

Don't forget to check out AgRadar's Honey Bee Activity Chart!



The basic idea from the chart (make spray applications when pollinators are not likely to be foraging) applies for native species too.

On a completely unrelated side note, look who I ran into at the Hadley Asparagus Festival!

The place was practically crawling with Extension. Of all my sightings last week, I was most gratified to spot Tom Smiarowski representing all of Extension to the community.

Guest article

No Guest article this week...

Facebook Me

Peter Mitchell shared a post to the group: Massachusetts Fruit Growers.

23 hrs ·

I know many growers don't grow cider fruit because, A: There is no assured market, and B: The Price point is too low. However, if MA had the NY Farm-Cidery Laws, would you be willing to plant cider fruit?

> **Peter Mitchell**
> 23 hrs
>
> Cornell does great work, and apples grow well in NY. But, this article omits the great support for both growers and cider makers provided by the NY Farm-Cidery ...
>
> See More

FRUITGROWERSNEWS.COM

Cornell research is growing the hard cider industry in New York - Fruit Growers News

Like Comment

Elizabeth W. Garofalo, Kanwar Kamalender Singh Parihar and 4 others

Useful links

UMass Fruit Advisor: http://umassfruit.com

Scaffolds Fruit Journal: http://www.nysaes.cornell.edu/ent/scafolds/

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

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Acimovic Lab at Hudson Valley

Peter Jentsch's Blog

The next Healthy Fruit will be published on or about June 12, 2018. (Although it may be a little late next week as I will be off M-W.) In the meantime, feel free to contact any of the UMass Fruit Team if you have any fruit-related production questions.

Thank you sponsors…

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