



**UMass
Extension**

Healthy Fruit

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Prepared by the University of Massachusetts Fruit Program

Jon Clements, Author (unless otherwise noted) and Editor-in-Chief (Except this edition which has been hijacked by Hawkeye)

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Upcoming Pest Events

Coming Events	Degree Days Base 43°F	Degree Days Base 50°F
Apple maggot Peak catch	2130-2636	1431-1821
American plum borer 2nd flight peak	2005-2575	1351-1777
Codling moth 2nd flight peak	1954-2672	1302-1846
Lesser appleworm 2nd peak	2144-3071	1433-2129
Obliquebanded leafroller 2nd flight starts	2213-2621	1488-1812
Oriental fruit moth 3rd flight starts	2250-2800	1521-1943
San Jose scale 2nd flight peak	2137-2493	1440-1742

Upcoming Meetings

Saturday, August 17, 2019 - 9:00am to 4:00pm

UMass Mt. Ida Campus 777 Dedham St., Newton, MA 02459

[Fight the Mite!](#)

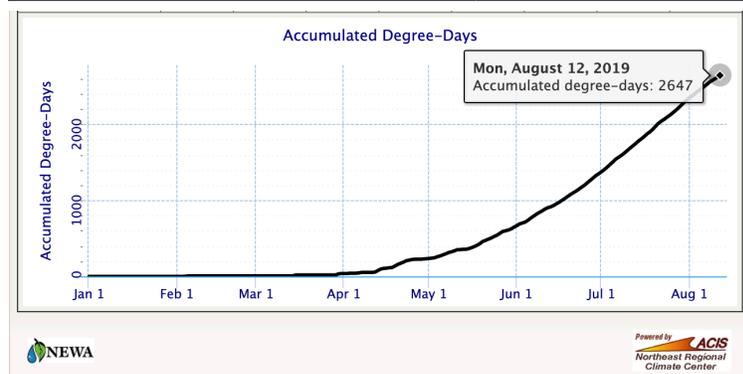
Learn how to fight the mite! This full-day, interactive workshop, co-hosted by the MDAR Apiary Team and UMass Extension, will leave you prepared to control Varroa in your hives. It will include:

- > Vital information on Varroa life history and biology
- > Integrated pest management (IPM) basics, considerations for Varroa mites and opportunity to create your own IPM plan
- > Introduction to and hands-on demos showing how to safely apply miticides and non chemical control...

And much more! The cost of the workshop is \$50. Please pay at the door with cash or check.

Current Degree Day Accumulations

UMass Cold Spring Orchard, Belchertown, MA	1 Jan. - 6 August, 2019
Base 43°F	2489
Base 50°F	1688



Accumulated and forecast degree day accumulations, base 43°F, for Belchertown, MA

December 10-12, 2019, Manchester, NH

[New England Vegetable & Fruit Conference](#),

Mark your calendars and book your rooms! **New England Vegetable & Fruit Conference and Trade Show** includes more than 25 educational sessions over 3 days, covering major vegetable, berry and tree fruit crops as well as various special topics. A Farmer to Farmer meeting after each morning and afternoon session will bring speakers and farmers together for informal, in-depth discussion on certain issues.

The Way I see It

Jon Clements

Peach harvest is getting into full swing but it appears to be about a week later than average. Risingstar and PF5 are being picked at the UMass Orchard. Redhaven appears to be about 10 days off. Silver Gem nectarine, a new introduction from Adams County Nursery, is very nice and ready. Brown rot is catching hold in some of the nectarines, maintain a strict fungicide program. Spotted wing drosophila was observed in peaches in bird pecks and rots — be forewarned, but I don't think sound peaches are susceptible. Keep up with harvest and don't let fruit get too soft.

I will start testing apple maturity the week of August 11. The extended forecast looks warmer than average so I expect apple harvest to get off to a slow start. (We'll see.) Apples are LARGE and the crop keeps getting bigger as apples expand in size. Ugh, where once good thinning programs seemed successful, alas there are too many apples now. Not too late to do some hand thinning to improve quality — Honeycrisp in particular are very sensitive to over-cropping that results in poor quality apples.

New England Tree Fruit Management Guide

The New England Extension tree fruit specialists -- which include myself, Dan Cooley, Jaime Piñero, and Elizabeth Garofalo at UMass. Mary Concklin at UConn, Heather Faubert at URI, Terry Bradshaw at UVM, George Hamilton and Anna Wallingford at UNH, and Glen Koehler and Renae Moran at UMaine -- have officially launched, and updated for 2019 -- an online edition of the New England Tree Fruit Management Guide. Note that it is easy to print any of the sections, if you want to have old-school reference, for example, to hang on your spray shed wall. Also, it is quite mobile-friendly so make a home screen shortcut to here: [New England Tree Fruit Management Guide](#) Or, if you would like to purchase a hard copy, please visit the Extension Bookstore here: [Online Catalog](#)

New England Small Fruit Management Guide

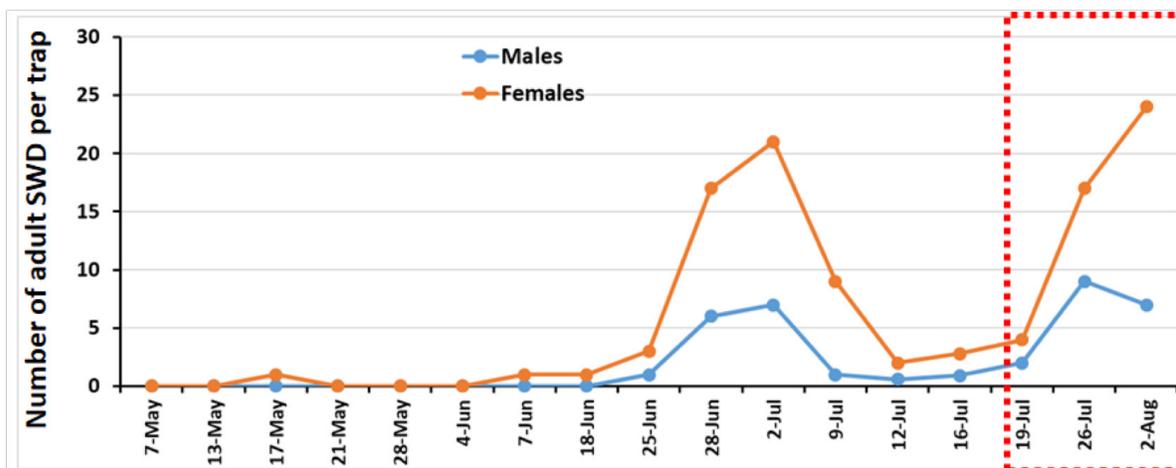
Likewise, the New England Extension small fruit specialists-- Sonia Schloemann, Hilary Sandler, and Elizabeth Garofalo at the University of Massachusetts; Mary Concklin at the University of Connecticut; David Handley and Lily Caulderwood at the University of Maine; Becky Sideman, Cheryl Smith, and Anna Wallingford at the University of New Hampshire; Heather Faubert at the University of Rhode Island, and; Ann Hazelrigg and Gabriella Maia, and Christopher Callahan at the University of Vermont-- have all work together to bring you the most updated version of the New England Small Fruit Management Guide which you can access online for free here: [New England Small Fruit Management Guide](#) Or, you can order a hard copy from the Extension Bookstore here: [Online Catalog](#)

Insects

Jaime Piñero

Apple Maggot Fly. Captures of adult AMF remain low in most monitored orchard blocks. The action thresholds of 1-2 AMF and 5 AMF for unbaited and baited sticky spheres, respectively, were reached this week in only a couple of blocks. We will keep you updated about AMF numbers for the following weeks, as AMF seems to be appearing later than expected.

Spotted Wing Drosophila. SWD populations are on the rise, as evidenced by captures in diluted grape juice-baited traps (see chart below). Make sure you implement and maintain an insecticide program against SWD, as this is the only effective way to manage this invasive pest.



Research update. We are currently conducting field experiments aimed at determining whether the addition of borax to diluted grape juice can reduce the captures of non-targets in traps.

Diseases

Liz Garofalo

July 2019 Precipitation		
Location	Total Precipitation (inches)	Number of Days With Rain
Rowe, MA	3.85	9
Greenfield, MA	2.91	8
Belchertown, MA	4.35	7
Fitchburg, MA	4.33	7
Lawrence, MA	5.57	7

The five locations selected are meant to represent, generally, the whole state and were largely chosen based on the completeness of the dataset. Precipitation data was downloaded from [SC ACIS](#), NOAA Regional Climate Center.

With the exception of Greenfield, the big rain event for the above locations was the July 22/23 storm that dropped more than two inches in some locations.

Peach harvest is in full swing and, of course, **brown rot** management should be high priority with any new rain events that come up. When harvesting, remove infected fruit to minimize spread of spore to sound fruit and decrease disease pressure (inoculum) going into next season. As the forecast stands right now, Tuesday looks like ~40% chance of rain. But, with thunderstorms rolling through, there is always the possibility of an errant rain storm here and there. When managing brown rot, or any other pest, resistance management is a critical component of the program. When including a premix in the program, be careful the FRACs of the premix are not the same as any other already applied. For example, if you choose Luna Sensation, do not use either a FRAC 7 or 11 or another premix with either of those FRACs prior to or following its application.

RESISTANCE MANAGEMENT CONSIDERATIONS FOR BROWN ROT IN PEACHES*			
FRAC Code	Trade Name	PHI (Days)	Efficacy
3	Indar 2F	0	Excellent
7	Fontelis 1.67	0	Excellent
17	Elevate 50WDG	0	Excellent
7, 11	Luna Sensation	1	Excellent
3, 9	Inspire Super	2	UK
44	Serifel Biofungicide	0	OMRI

* This list is not complete. Inclusion of materials does not indicate endorsement, nor does exclusion indicate disfavor. For more options, please visit the online [New England Tree Fruit Guide](#).

Horticulture

Jon Clements

ReTain on peach, nectarine, and plum for harvest management and improvement of fruit quality

A reminder that ReTain can be used on peach, nectarine, and plum for harvest management and improvement of fruit quality. From the ReTain label: Depending on cultivar, orchard conditions, and grower objectives, one or more of the following benefits will be associated with using ReTain on peach, nectarine, or plum:

- Improved harvest management
- Additional time for increase in fruit size
- Maintenance of fruit firmness
- Reduced pre-harvest fruit drop
- Improved fruit quality
- Enhanced storage potential

Apply one pouch per acre of ReTain to peach, nectarine, or plum one to two weeks prior to the anticipated beginning of the normal harvest period* of untreated fruit. ReTain efficacy requires that fruit and foliage receive thorough spray coverage. To ensure thorough coverage adjust water volumes based on tree size and spacing and use calibrated spray equipment (i.e., orchard air blast sprayer). Excessive spray application volumes that result in spray runoff will reduce product performance. In most cases, 100 gallons per acre has been shown to be effective. For optimal response, use ReTain with a 100% organo-silicone surfactant. Use a final surfactant concentration of 0.05 to 0.1% (v/v) in the spray tank. To reduce foaming, add the adjuvant last and minimize agitation.

*The normal harvest period for a particular orchard block refers to that time when fruits not treated with ReTain would be harvested. To help determine the beginning of the normal harvest period, refer to historical trends for harvest dates and the “days from full bloom to harvest” interval for each cultivar in your area, and closely monitor the fruit maturity development for the current season.

Predicting Potential for Bitter Pit Incidence in Honeycrisp Apples

A recent post to Penn State Fruit Times outlines a procedure to predict susceptibility of Honeycrisp apples to bitter pit based on apple peel nutrient analysis and average shoot length:

<https://extension.psu.edu/predicting-potential-for-bitter-pit-incidence-in-honeycrisp-apples>

Bitter pit development is more problematic during storage, although we see plenty on tree at harvest. Calcium sprays are advised. I'd be interested in seeing your results if anyone submits samples to the Penn State Lab using this procedure. I plan to do some at the UMass Orchard.

Still not too late to do foliar nutrient analysis

That's right, it's not too late. As long as you do it **this week**. According to Mary Concklin, resident New England fruit nutrient expert:

Tissue analysis for tree fruits, berries and grapes is a very useful tool in detecting nutritional deficiencies before they become severe enough to limit growth and fruit production. Tissue analysis indicates the level of nutrients in the plant. The best time to collect leaves for tree fruit and berries is 60-70 days after petal fall, or mid-July through early August, variety dependent. This is the time when most nutrients are stable in the plants. The procedure follows:

1. Collect 60-100 leaves/petioles from the middle of this year's shoots. No spur leaves.
 - Collect leaves/petioles from multiple plants of ONE variety. The reason is that there are differences, even minor, in the nutrient requirements of different varieties. Mixed samples will not be a representative sample of either.
 - Choose leaves/petioles that are free from insect and disease damage.

- For routine analysis, choose plants that are representative of the block/variety including age. Don't leaves/petioles from non-bearing plants with those that are bearing. The results won't be representative of either.
 - For problem areas, also include a separate sample for the same variety in an adjoining block for comparison.
2. Rinse them in distilled water (available at grocery stores) to remove contaminants. Well water and town water may have minerals that will lead to an inaccurate reading.
 3. Air dry
 4. Fill out the tissue analysis form(s) and send off to the lab for testing. DO NOT place in zip lock bags or the tissue may become moldy. Paper bags are preferred.
 5. Results will be emailed or snail mailed to you.

You have several choices as to what lab to send your tissue samples to, including (but not limited to):

- UMass Soil and Plant Nutrient Testing Laboratory <https://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory>
- UConn Soil Nutrient Analysis Lab <http://www.soiltest.uconn.edu/analysis.php>
- Penn State Analytical Services Lab <https://agsci.psu.edu/aasl/plant-analysis/plant-tissue-total-analysis>
- Waypoint Analytical <https://www.waypointanalytical.com/>

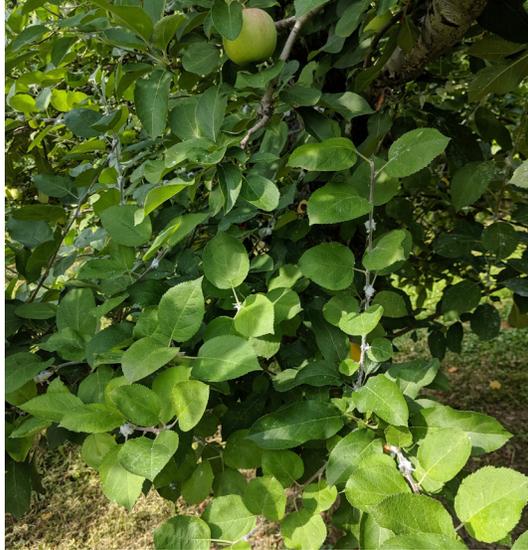
Small Fruit Update

Sonia Schloemann

There is no official small fruit update for Healthy Fruit this week. See the insects section for a brief update on spotted wing drosophila.

Hawkeye's Notes From the Field

Liz Garofalo



Woolly apple aphid (WAA) seems to be cropping up more and more every year. They are difficult to kill due to the waxy excretions that give them their “woolly” appearance. While many of the same predators that feed on green apple aphid and others will also prey on WAA, more broad spectrum insecticide use can reduce predator populations. A little summer pruning to open the canopy and increase spray penetration on larger trees is one way to increase management of WAA. The WAA picture to the left was taken by Quinn Bazinet, fruit team summer intern. Note the many aerial colonies on new growth.

See the table below for a short list* of materials to use against WAA. Always remember to rotate Groups (active ingredients/IRACs)!

IRAC	Trade Name	Rate	REI	PHI	Efficacy
4A	Admire Pro	2.8 fl. oz.	12	7	High
4A	Assail 30SG	2.5 to 4 oz.	12	7	High
4A	Belay	4 to 6 fl. oz.	12	7	High
9C	Beleaf 50SG	2 to 2.8 oz.	12	21	High
23	Movento	6 to 9 fl. oz.	24	7	High
none	Aza-Direct	OMRI listed 12.5 to 42 fl. oz.	4	0	moderate

* This list is not complete. Inclusion of materials does not indicate endorsement, nor does exclusion indicate disfavor. For more options, please visit the online [New England Tree Fruit Guide](#).

Guest Article

Ed. note from Jon: Although I don't want to reprint here w/o permission, I can direct you to this most excellent review of research on chemical thinning by Tory Schmidt of the Washington Tree Fruit Research Commission that appears on-line in Good Fruit. Please take a look at it.

[Good to Know: Steady growth with research in chemical thinning](#)

WTFRC's Tory Schmidt show how industry sees big returns on modest investments

"Of course, topics like irrigation, insects, diseases, nutrition, etc. are all important, but there are very few decisions growers make regarding management of established orchards that have greater impact on their bottom lines than how to thin their crops."

Thank you sponsors...



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