Healthy Fruit, Vol. 28, No. 20, September 1, 2020

Prepared by the University of Massachusetts Amherst Extension Fruit Team

Contents

Upcoming pest events
Upcoming meetings
The way I see it
Insects
Horticulture (including apple maturity report)
Small Fruit Update
Guest article
Facebook Me
Useful links
Thank you sponsors...

Upcoming pest events

Adapted from Scaffolds Fruit Journal

Coming events	Degree days (Base 43 BE)

Apple maggot flight subsides	2772-3258
Black stem borer 2nd flight subsides	2927-3353
Codling moth 2nd flight subsides	2846-3462
Lesser appleworm 2nd flight subsides	2794-3488
Lesser peachtree borer flight subsides	2996-3488
Obliquebanded leafroller 2nd flight subsides	3108-3468
Oriental fruit moth 3rd flight subsides	2928-3412
Redbanded leafroller 3rd flight subsides	3124-3436
San Jose scale 2nd flight subsides	2673-3419
San Jose scale 2nd flight subsides	2673-3419
Spotted tentiform leafminer 3rfd flight subsides	3244-3480

Note: as of 31-August at the UMass Orchard in Belchertown, MA we are at **3,338** DD's Base 43 BE from January 1. This will be the last upcoming pest events and degree day accumulations for 2020. See you beginning January 1, 2021!

Announcements and Upcoming meetings

Apple harvest open office hour. Tuesdays at noon through harvest (or when I call it quits or no one shows up). Apple maturity update, PYO logistics, open discussion. Via Zoom, https://umass-amherst.zoom.us/j/7562823263, Meeting ID: 756 282 3263 One tap mobile +16468769923,,7562823263# US (New York)

UMass Vegetable Program: Agricultural Water Twilight Series
The UMass Extension Vegetable Program is offering a series of online twilight meetings all about water! We will welcome Extension specialists and farmers from Massachusetts and beyond to cover a range of water-related topics.
Part I: Water Use Regulations, Water Monitoring Tools, and Efficient Irrigation
Wednesday, September 16, 2020 - 6:00pm to 7:30pm
Speakers:

- Rachel Schattman, UMaine Agroecology Lab - Water use regulations in New England
- Joshua Faulkner, UVM Extension – Moisture monitoring technologies and irrigation efficiency
- Tim Wilcox, Kitchen Garden Farm, Sunderland, MA – Tile drainage, wells, and irrigation equipment

Register here

Part II: Water System Mapping and Water Testing for FSMA
Wednesday, September 23, 2020 - 6:00pm to 7:30pm
Speakers:

- Massachusetts Department of Agricultural Resources Produce Safety Inspection Program - Massachusetts' draft produce safety regulations and update on water testing rules
- Scott Monroe, Purdue Extension - Water sampling, understanding risks to source water and understanding water test results
- Phil Tocco, MSU Extension - Water distribution system mapping and inspections

Register here

Part III: Post-harvest Water Quality and Sanitizer Use

Wednesday, September 30, 2020 - 6:00pm to 7:30pm
Speakers:

- Amanda Deering, Purdue Extension - Background on the different sanitizer materials available or practicalvfor small-medium scale growers and how to measure and monitor them
- Phil Tocco, MSU Extension – Sanitizer use demonstration

Register here

The way I see it…

Jon Clements

The drought has subsided at the UMass Orchard in Belchertown, where we have received 5.3 inches of rain in August. Apples are generally large with a few exceptions. Partially on account of a light crop, particularly Honeycrisp. Macs with a heavy crop and may or may not have received adequate irrigation are on the small side. I hope you have all got some rain.

Red skin color has developed nicely over the past couple weeks and I expect this trend to continue with no hot weather in the forecast. (That could change and likely will by mid-month.) My hunch is apple maturity is right on track with average, but might be accelerating. Little drop has been observed to date -- with the exception of dropped apples with all the wind we have had of late -- but it's going to kick-in soon. The time for NAA application would be any day now when the first Macs start to drop. See this relevant recap about using NAA in a previous Healthy Fruit: http://healthyfruit.info/hf090517ved818.html#h

My apple maturity report is included below under Horticulture. Macs are still green. Gala needs another week to ripen. Honeycrisp, your mileage may vary, but they can be harvested starting later this week. Akane? Yes, but see Duane Greene's comments on Akana below. And don't forget you might get more if you visit during my open office hour, every Tuesday at noon: https://umass-amherst.zoom.us/j/7562823263

Insects

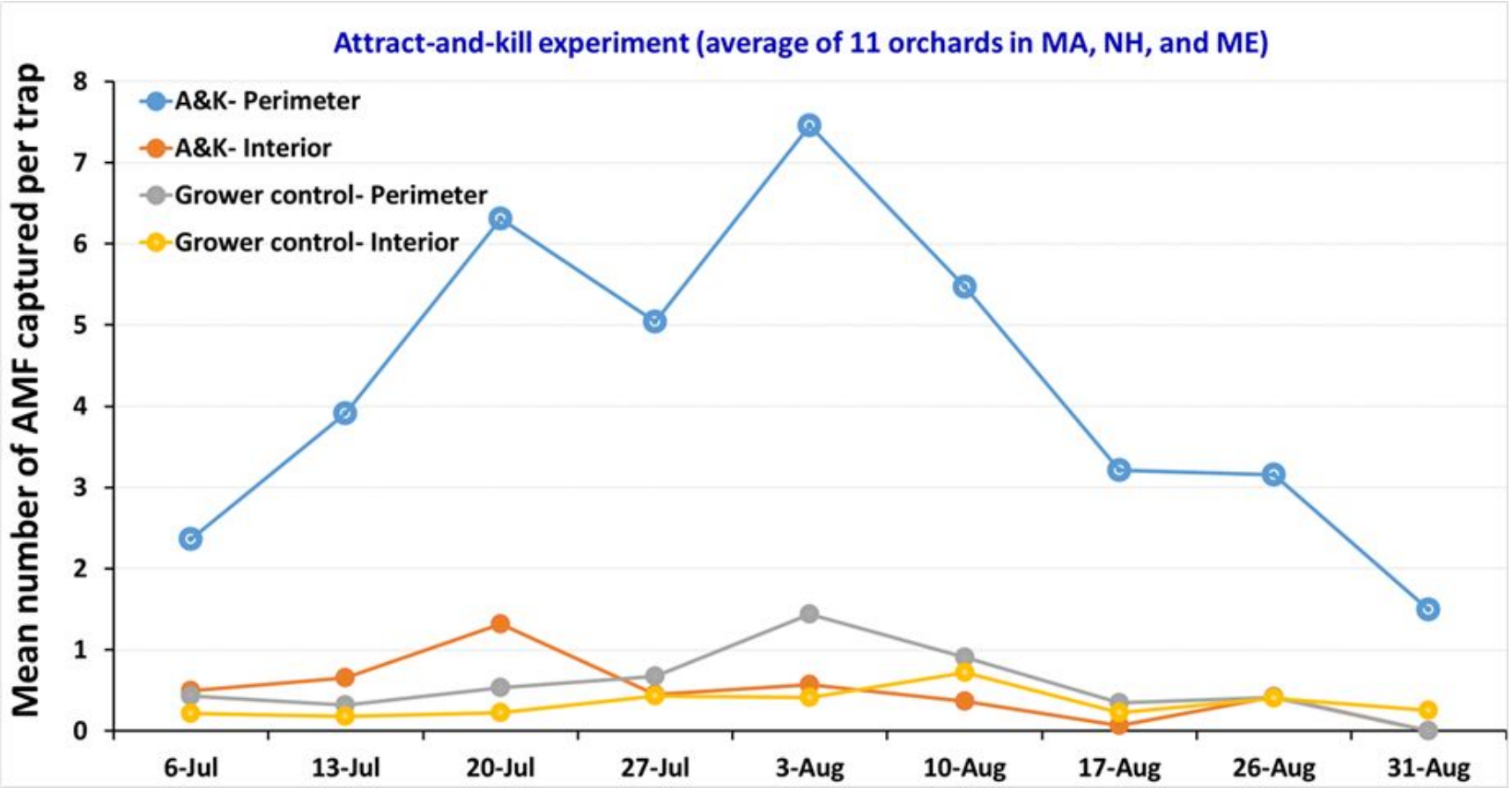
Jaime Piñero

Weekly report of insect pest captures in monitoring traps at CSO (Belchertown, MA)

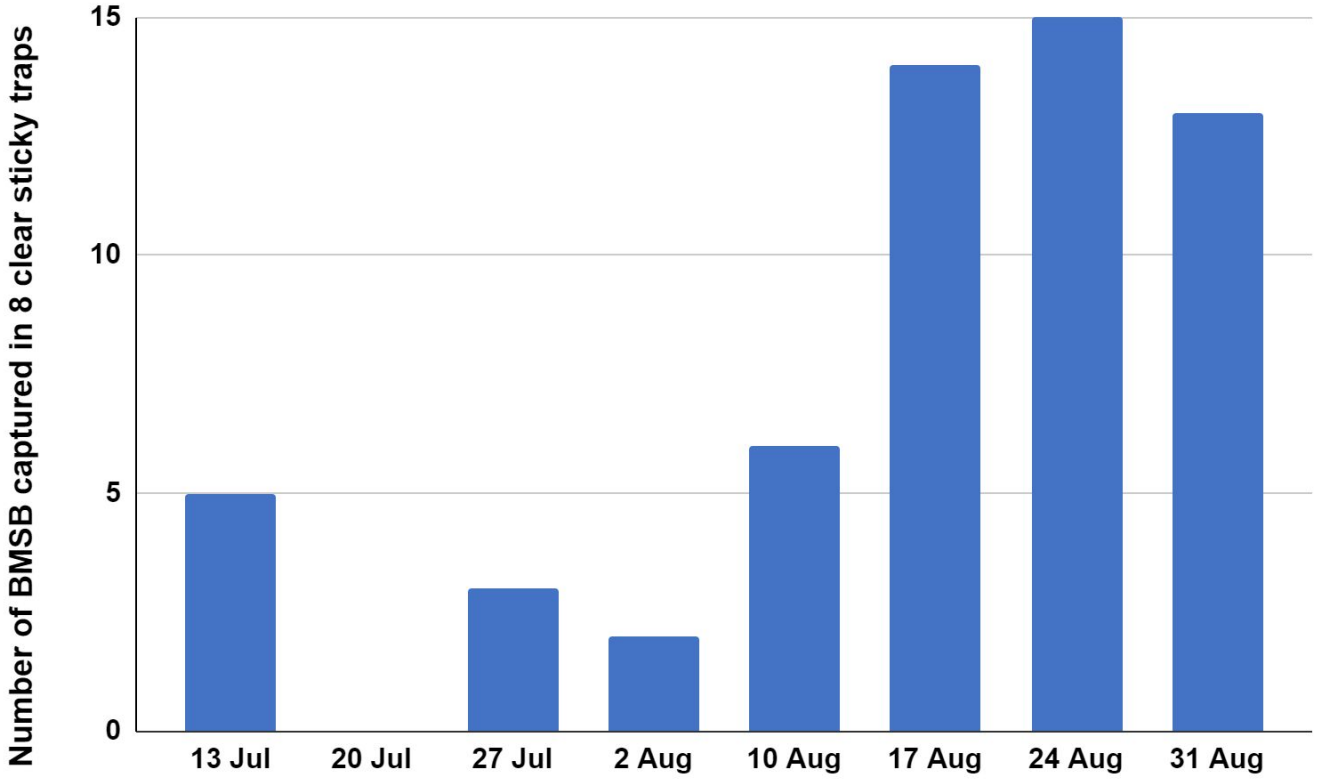
Period: 8.25 - 8.31

Insect	Average captures/trap	Notes
Redbanded leafroller	0	Pheromone-baited trap
Oriental fruit moth	2	Pheromone-baited trap
Codling Moth	0.5	Pheromone-baited trap
Spotted tentiform leafminer	17	Pheromone-baited trap
Obliquebanded leafroller	0	Pheromone-baited trap
Spotted Wing Drosophila	148 (19 Aug.)	Males and females combined. Diluted Concord grape juice-baited trap
Apple Maggot Fly	0.75	Unbaited sticky-coated red spheres
BMSB	15 (24 Aug.) 13 (31 Aug.)	Clear sticky cards baited with BMSB pheromone

Apple maggot fly. AMF activity is winding down in some, but not all, monitored orchards. Below is a chart showing the seasonal pattern of AMF captures in attract-and-kill blocks and in grower control blocks. The light blue line represents captures in odor-baited perimeter-row trees in A&K blocks. As expected, the lures pulled flies to the perimeter. Growers sprayed insecticide mixed with sugar as a feeding stimulant, only to the perimeter. There seem to be no differences in the number of AMF in the interior of A&K blocks and grower control blocks. The grower control blocks were managed using the growers' standard approach.



Brown Marmorated Stink Bug. Captures of BMSB adults in pheromone-baited clear sticky traps continue to be greater than last year. We have just found established BMSB populations in the western part of the state, in orchards where we had not monitored before. The chart below shows the temporal pattern of BMSB captures in the trap crop area at the UMass Cold Spring Orchard.



Sunflower, millet, and sorghum seem to be attracting some BMSB. Buckwheat was blooming for several weeks, but not anymore. Some of the BMSB have been observed walking/feeding on trap crop plants, without being caught in the pheromone-baited traps.

Below are some pictures taken on Aug. 31. Can you find the BMSB adults and nymphs?

Click **HERE** to see SHORT VIDEO OF TWO BMSB ADULTS ON A SINGLE SUNFLOWER HEAD

(Thanks for recording, Ajay!)

Horticulture

Apple maturity report

J. Clements

All observations from UMass Orchard, Belchertown, MA unless otherwise noted. Target maturity numbers: red color, >50%; firmness, >14 lbs.; soluble solids, >12; DA, 0.60 to 0.40 for Honeycrisp, 0.65 for Gala, 1.00 for Golden Delicious, 1.15 to 1.00 for Red Delicious (higher DA = more "green"); starch index, 4-6.

2020 Date	Variety	Drop	Diameter (inches)	Color (% red)	Firmness (lbs.)	Brix	Starch Index	DA Meter	Comments	Picture
8/31	Lindamac McIntosh	nil	3	50-75	16	10.5	2-4	NA	Still green	
8/31	Snappy Mac McIntosh	nil	2.8	50-75	18	11	3-5	NA	Nope, green	

8/31	Honeycrisp	few	3.4	50-75	18	14	4-6	0.59	Farther along than I thought, harvest could start later this week	
831	Buckeye Gala	none	2.9	90	21	12.1	2-4	0.56	Start harvest later this week	
8/31	Ginger Gold	none	3.5	NA	17	11.1	2-4	0.69	Ready for harvest, biggest and brightest yellow apples	

8/31	Silken	none	3.2	NA	17	11.3	2-3	0.40	Wait a week (despite low DA)	
8/31	Akane	nil	3.1	75-100	17	13.9	6-8	0.60	Ready to start harvest	
8/31	MAIA-SM	none	3.2	95	21	13.9	6	0.68	Some watercore, otherwise very nice	

Akane - don't harvest it too soon!

Duane Greene

Akane is an apple variety we have grown here at UMass for over 50 years. My first introduction to this apple was on Orchard Hill on the UMass Amherst campus. Akane is an apple the late Jim Anderson was very fond of. I have harvested Akane over a wide range of maturity. Akane acts differently from many varieties that we routinely grow and work with. It is a variety that is one of the apples to ripen early in the season, during the late summer. Akane is medium sized and develops red color quite early, too early in my estimation since it is extremely tempting to harvest Akane exhibiting good red color too early. I have learned that the Cornell starch chart is not a good parameter to base harvest on. Generally, an almost completely dark red apple with a starch reading of 5 should be harvested or at it has reached and acceptable level of maturity for taste. Not so with Akane. If you wait until the starch reading reaches 8, the color should be outstanding and the taste should be improved along with a reduction in acidity. If you allow fruit to stay on the tree (they drop very little) it will develop a much improved taste and the aroma of ripening apples will just fill the room. Akane keep quite well in refrigerated storage for an early season apple. I have stored Akane for 6 to 8 weeks easily when harvested at a starch-index of 8. While I do not expect anyone who grows Akane to leave all of their fruit on the tree until they mature to a starch level of 8, I would hope that you would just leave a few trees to mature to that starch level. The taste will be noticeably better.

Another attribute of Akane is that it is one of the best cooking apples (apple pie apples) that we grow, especially if you use apples that have matured to a starch level of 8. It is better than many I have tried and clearly the best of the early-maturing apples for cooking.

Akane at the UMass Orchard on 31-August, 2020

Geneva 41 apple rootstock has a little problem

Jon Clements

Not to belabor the point, but it's kind of well known that Geneva 41 (G.41) rootstock is brittle at the graft union. When planting nursery trees, great care must be taken to not subject the graft union to forces that might break it. Otherwise, G.41 is a great rootstock largely because it is fire blight resistant and is a reasonable alternative to M.9. BUT, similar to what we saw with Geneva 30 before that rootstock lost favor, "established" apple trees on G.41 in the orchard can also break off when subjected to twisting, rocking, or bending off the vertical. Such is what happened during a couple recent wind storms at the UMass Orchard in Belchertown. Admittedly, wind gusts between 50 and 60 mph were recorded, which resulted in a significant number of apple trees on G.41 breaking off at the graft union. Not at all cool. Trees were of varying age (but all young) and variety, grown as a tall spindle "supported" with a 4-wire trellis. (There may be some variety incompatibility issues, but there are too many options there to tease that out.) To be honest, the trellis failed in a few cases, but even where the trellis did not fail, trees broke off. My observations for not letting this happen includes:

1. You can't overbuild your trellis, posts -- preferably 6-7 inch -- should be no more than 20-25 feet apart (every seven trees), with good, solid end post construction detail, and hi-tensile wires have to remain TIGHT at all times. This should prevent the trees from moving too far from vertical in the wind.
2. I would not let long branches get going on G.41, remove big branches, keep the canopy no more than 3 feet wide. This should help with twisting of the tree in wind, which can result in breakage
3. Keep crop load manageable, not too heavy.

Bottom line is apple trees on G.41 rootstock subject to twisting or bending are going to break off at the graft union and you will NOT be a happy camper. Want to see more? https://youtu.be/XLXvrBFY6H4 Good luck..

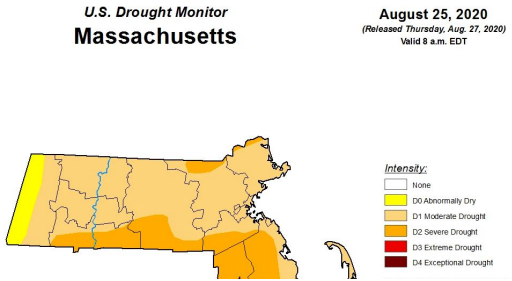
Apple tree on G.41 rootstock broken off at graft union

Support system failure results in apple tree failure on G.41

Small Fruit Update

Sonia Schloemann

CROP & WEATHER CONDITIONS



Weather - Severe Drought conditions now cover southern regions of Central and Southeastern MA representing about 25% of the state. Most of the rest of the state is in Moderate Drought with far western Berkshire County Abnormally Dry. As such,

irrigation remains among the most important field activities for MA Fruit Farms. Irrigation ponds are running low so prioritizing the irrigation schedule may be difficult. Other soil moisture conservation strategies such as tarping, mulching and modified mowing schedules may also be needed.

Strawberries - Day Neutral varieties are being harvested now. Spotted Wing Drosophila (SWD), Tarnished Plant Bug (TPB) and Botrytis Gray Mold are the main concerns. Keep fields thoroughly picked and remove cull fruit to help minimize the impact of these problems. Spray recommendations can be found in previous Berry Blasts and by looking at the NE Small Fruit Management Guide. Plasticulture fields are being planted now through the first couple of weeks of September. June bearing varieties set next year's flower buds at this time of year. A nitrogen application now (up to 30-40 lbs actual N/acre) can help plants store energy in crowns and set fruit buds. Some leaf diseases and insect problems can linger and cleaning them up now will help plants enter dormancy in a healthy state. Also scout fields for weed problems that can be addressed in the fall.

Brambles: Spent floricanes should be removed from summer fruiting types. This allows sunlight penetration into the remaining primocanes and helps fruit bud initiation on the full length of the canes. No fertilizer should be applied at this time. Monitor for two-spotted spider mite and control if necessary. Fall raspberries are still in production. Spotted Wing Drosophila (SWD) populations are high now and require sustained control through frequent and thorough harvest, sanitation and weekly spraying of recommended materials. Botrytis fruit rot infections are a concern where there is a lot of carryover inoculum as days shorten and evening dew periods lengthen or if wet weather returns. See New England Small Fruit Guide for recommended materials and rates.

Blueberries: Scout fields for weeds to prepare for late season management strategies. Flag bushes where Blueberry Scorch or Blueberry Stunt are suspected so they can be rouged out after leaves fall. Only non-nitrogen fertilizer applications should be made this late in the season if leaf tissue tests indicate deficiency.

See the New England Small Fruit Management Guide for recommended materials and rates for any insect or disease mentioned above.

RETIREMENT NOTICE: I want to announce my retirement from the UMass Extension Fruit Team effective Sept. 1, 2020 after over 33 amazing years with the program. Dr. Jaime Piñero will assume the interim leadership role for the UMass Fruit Team, assisted by Ms. Liz Garofalo. With their guidance, the Fruit Team will be in very capable hands. Small Fruit programming via the IPM Berry Blast and Healthy Fruit Newsletters, on-farm or online trainings and twilight meetings, as

well as grower assistance via the umassfruit@umass.edu email will continue for the coming year albeit with reduced capacity. Future programming decisions beyond 2021 will be made in the context of budgets and conditions that are hard to predict at this moment. Our hope is to restore our staffing as soon as possible. Wishing you all the very best. ~ Sonia Schloemann

Guest article

No guest article this week...

Facebook Me


Jon Clements was live.
4h
Apple harvest open houase September 1, 2020
Play
UMassAmherst
0:38 / 43:12
3
1 Comment 48 Views
Like
Comment
Share
Most Relevant
Write a comment...
Matt Milkovich · 0:23
I like the banter.
Like · Reply · 3h

Useful links

UMass Fruit Advisor: http://umassfruit.com

UMass Extension Fruit Team YouTube Channel

UMass IPM Fruit Loop Podcast

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

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 September 15, 2020. 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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Nourse Farms

New England Vegetable & Berry Growers' Association

Massachusetts Fruit Growers' Association