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Jon Clements, Author (unless otherwise noted) and Editor

Contents

- [Current degree day accumulations](#)
- [Current bud stages](#)
- [Upcoming pest events](#)
- [Upcoming meetings](#)
- [The way I see it](#)
- [New England Tree Fruit Management Guide](#)
- [Insects](#)
- [Diseases](#)
- [Horticulture](#)
- [Guest article](#)
- [Facebook Me](#)
- [Useful links](#)
- [Thank you sponsors...](#)

Current degree day accumulations

UMass Cold Spring Orchard, Belchertown, MA	2-April
Base 43 (NEWA)	57
Base 50 (NEWA)	19

Note that apple green tip should occur app. 101 DD (Base 43), although obviously there is a range. We are at silver tip (2-April) in Belchertown. If the current forecast stands, we won't be even close to 100 DD's for another week (at least).

Current bud stages

Current bud stages. April 2, 2018, UMass Cold Spring Orchard, Belchertown, MA

				
McIntosh apple Silver tip	Honeycrisp apple Dormant	Gold bosc pear Dormant	Redhaven peach Dormant	Regina sweet cherry Dormant

Upcoming pest events

Coming events	Degree days (Base 43)
Green fruitworm 1st catch	50 to 148
Pear psylla adults active	31 to 99
Pear psylla 1st oviposition	40-126
McIntosh silver tip	63-107
McIntosh green tip	98-145

Upcoming meetings

10-April, 2018 (Tuesday) Fruit Twilight Meeting at 5:30 PM. UMass Cold Spring Orchard, 391 Sabin Street, Belchertown, MA. <http://coldspringorchard.com/> Shawn McIntire will be our host. Jaime Pinero, our new UMass Extension fruit entomologist will be welcomed. 2 pesticide recertification credits will be offered. Light dinner will be served. \$20 admission for those receiving pesticide credits. Contact: Jon Clements, 413-478-7219. Pre-registration is not necessary.

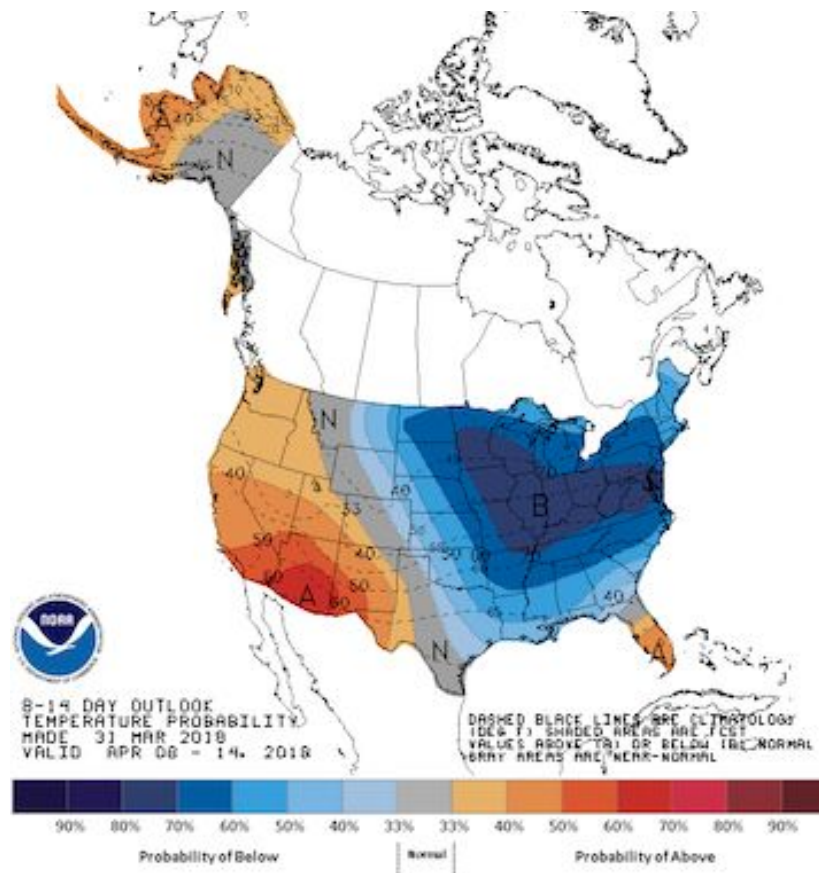
11-April, 2018 (Wednesday) Fruit Twilight Meeting at 5:30 PM. Carlson Orchards, 115 Oak Hill Road, Harvard, MA. <http://www.carlsonorchards.com/> The Carlson brothers will be our hosts. 2 pesticide recertification credits will be offered. Light dinner will be served. \$20 admission for those receiving pesticide credits. Contact: Jon Clements, 413-478-7219. Pre-registration is not necessary.

12-April, 2018 (Thursday) Fruit Twilight Meeting at 5:30 PM. Henry J. Steere Orchards, 150 Austin Avenue, Greenville, RI. <http://www.steereorchard.com/> In cooperation with Rhode Island Fruit Growers' Association. Two hours of pesticide credit should be available (pending) and a light dinner will be served. The meeting is free for RIFGA members and \$20 for non-members. Contact: Heather Faubert, 401-874-2967 or Jon Clements, 413-478-7219. Pre-registration is not necessary.

The way I see it...

- This MAY be your last Healthy Fruit (HF), unless you go to the UMass Extension Bookstore (<http://umassexextensionbookstore.com>) and purchase a new [2018 subscription to HF](#) (\$65, e-mail delivery only) in the next week or two. Alternately, you can send me (Jon Clements, 393 Sabin St., Belchertown, MA 01007) a check for \$65 (tips accepted) made out to 'University of Massachusetts.' Make sure you note it is for Healthy Fruit subscription, and includes your e-mail address. You can also use [this mail-in form](#) to order Healthy Fruit and other UMass fruit publications. You can ignore this of course if you have already sent in your payment. Thanks.
- Sometimes I run into some confusion regarding our UMass fruit program publications and membership in [Massachusetts Fruit Growers' Association](#) (MFGA). MFGA membership is \$200 (\$25 for non-grower members) and includes a complimentary subscription to American Fruit Grower. It does not include any UMass fruit program publications. You can join or renew your MFGA membership using a credit card [here](#). (You can also make a voluntary donation to the UMass Cold Spring Orchard Research & Education Center, UMass Apple IPM Program, and/or MFGA's Horticultural Research Fund.) You can also join or renew MFGA using a mail-in form [here](#). Note that using the mail-in form you can also order UMass fruit publications, but I don't recommend ordering UMass fruit publications with your MFGA membership using that form. If you want to order UMass fruit publications, I recommend you use [this mail-in form](#). (Or you can order and pay using a credit card at the [UMass Extension Bookstore](#).) I hope that clears things up a bit. I encourage you to both join MFGA and order the UMass fruit publications that are of interest to you. More information on our UMass fruit publications is available [here](#). If you have any questions, please get in touch with me.
- OK, we are off to another slow start to spring. (Arghh, as a layperson and not a grower, I'd just as soon have it warm.) Green tip, well I don't see it happening to soon, although I think apple buds are primed and ready to roll as soon as we get *any* warm weather. Spraying anything is a moot point with this cold, and there is really no need to spray anything right now. But, a copper spray on apples (before half-inch green), and on peaches (before bud break) and oil on pears (psylla) should be in the pipeline for when it warms up. I suspect many of you still have brush to move or chop? And who has snow left still? I know I still have pruning to do... :-)

- It may be cold and unsettled, but Fruit Twilight Meetings must go on. We have a full schedule next week, and we will be welcoming our new UMass Extension fruit entomologist, Jaime Pinero, at all of them. Hope to see you there, I suspect we will argue about pruning...



New England Tree Fruit Management Guide available online

- The New England Extension tree fruit specialists -- which include myself and Dan Cooley at UMass, Mary Concklin at UConn, Heather Faurbert at URI, Terry Bradshaw at UVM, George Hamilton and Alan Eaton at UNH, and Glen Koehler and Renae Moran at UMaine -- have officially launched 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: <http://netreefruit.org>. Finally, if you really, really want a printed version, and especially if you have Amazon Prime, search 'New England Tree Fruit Management Guide' on amazon.com.

Insects

Jaime Pinero

Entomology and arthropod IPM research and Extension are back to being fully staffed at UMass! I am fully available and happy to assist individuals in the tree fruit industry with the management of arthropod pests through research and Extension.

The main goal of my research and Extension program is to maximize the economic and social impacts while reducing the environmental impacts of tree fruit production through the development and implementation of effective arthropod pest management tools. The major focus of my research will be to develop and/or optimize attract-and kill systems for key pests such as plum curculio, spotted wing drosophila, and apple maggot fly. Research on other pests will be developed as needed.

Attract-and-kill systems can be powerful tools in ecologically-based IPM, as they influence insect behavior through a dual-pronged approach. The “*attract*” component takes advantage of the olfactory cues used by insects to locate mates, food, and egg-laying resources, which include pheromone lures and plant volatiles. These olfactory cues can also be paired with visual cues such as colors that are attractive to the target insect. The “*kill*” component involves targeted application of insecticides, use of toxic baits, or insecticide-treated netting (see picture below), a novel approach being evaluated by Dr. Tracy Leskey (USDA-ARS) and other researchers. For the three targeted pest species listed above, attract-and-kill systems can comprise trap trees (aka sentinel trees), bait stations, and mass trapping.

I very much look forward to working with you. I will be seeking your help (your input is essential) to aid in the prioritization of research and Extension efforts for additional arthropod pests. Please feel free to contact me at jpintero@umass.edu or (413) 545-1031 (campus office), or text/call me at 808-758-2019 (cell).



Example of insecticide-treated netting being evaluated by researchers as part of an 'attract-and-kill' system targeting the brown marmorated stink bug (BMSB), a serious invasive pest of specialty crops. Attraction takes place by means of BMSB pheromone dispensers.

Picture credit: Dr. Tom Kuhar, Virginia Tech.

Diseases

Dan Cooley

Dormant Treatments for Apple Scab

Last year apple scab was widespread in New England. Following that, there should be more scab inoculum than usual this spring. That has two impacts on management. It makes early scab sprays more important, and it increases the overall risk of scab throughout the season.

That makes sanitation more important than ever. Green tip is right on us, and fall is the best time to use leaf chopping and a urea spray. Still, spring treatments are very effective. If you didn't do any fall chopping or urea, it's critical to do some now. Leaf chopping should be at the top of the list. It destroys leaves and decreases the chance that they will release scab spores. If time allows, a urea spray on the fallen leaves will also help breakdown. Even if you did some sanitation treatment last fall, if you still see a lot of leaves in the orchard, another trip with the chopper would be helpful.

Dormant to Green Tip Copper

Dormant copper is primarily a fire blight treatment. The basic goal is to get enough metallic copper on trees to last until about Pink to suppress fire blight bacteria.

Regardless of fire blight history, apply copper at silver to green tip *every year and cover the whole orchard*. Old Mac's on M7's may not be in much danger, but they can support fire blight bacteria, and if they aren't covered with copper the *Erwinia* on them can move to, say, new Honeycrisp on M9, or other very susceptible trees, and do significant damage.

Don't apply copper later than Half-Inch Green. It can damage leaves and russet fruit. If weather is predicted to be near freezing, copper and oil can damage leaves, but should be okay on trees that are dormant to Silver Tip.

Apply at least 2 lb. of metallic copper per acre. There are too many copper products to list so I won't try, but most formulations have 20% to 50% metallic copper. Some newer products have much less, such as Cueva at 1.8%. That decreases the chance of tissue damage on new leaves and fruit, but doesn't last very long, and isn't economically viable. To get 2 lb./A metallic you'd need to use over 100 lb./A of Cueva!

Good coverage is important. You want to get the copper into the cracks and crevices on the trees, so apply as dilute a spray as is practical. Mix with oil, at least 1 qt./100 gal., though you can go higher if you're also trying to control scale and mites.

In an orchard with little scab pressure, the copper will be adequate to control scab for the first 5 to 7 days after Green Tip, though it's safer to add a low rate of an EBDC fungicide (usually 3 lb/A mancozeb) as well.

Phytophthora Root and Crown Rot

Last year, some growers had problems with root rots on newly planted trees. While other factors probably played a role, the primary villain was *Phytophthora*. This has led to questions about root dipping trees prior to planting this year.

For *Phytophthora*, the only product labeled as a root dip is Aliette. Trees can be dipped in 3 lb./100 gal. Aliette for 30 to 60 minutes prior to planting.

Other fungicides effective against *Phytophthora*, metalaxyl and mefanoxam, are sold as several products, and can be drenched on trees immediately after planting, and through the season. Metalaxyl is the older product, originally sold as Ridomil, and now available as Metastar 2E. Mefanoxam is a more recent spin-off, and is sold as Ridomil Gold SL. They are closely related products. While tests in the 90's showed some benefit from dips, the labels for these products specifically recommend against them. In reality, a soil drench right after trees go in the ground should be just as effective, if not more so.

Ed. note: not a bad idea to plant on berms in soils with questionable drainage and/or a history of root/crown/collar rot. JC

Horticulture

Jon Clements

Plant trees as soon as you receive them and soil conditions are right; soak roots for up to 24 hours in a water with a bit of nutrient solution; roots just barely in the ground, graft union 4-6 inches above ground!

Finish apple pruning using primarily thinning cuts! Leave stubs in tall-spindle plantings for renewal shoot growth (within reason, longer stubs are better, 1-2 inches?) Hold off on peach pruning as long as you can, until it warms up -- I like to prune peaches during bloom.

Not too early to think about a pre-emergent herbicide application. Alion on older trees is the gold standard, pre-emergent control of both grassed and broadleaf weeds. Prowl H2O is good on grasses, Chateau on broadleaves. Consult the [tree fruit herbicide table](#) in New England Tree Fruit Management Guide. Gallery is a MUST on new plantings!

Hawkeye's corner (notes from the field)

Liz Garofalo

Good grief it's almost April! Temperatures are climbing, though not as quickly as last year (phew!). Soon enough, it will be time to pack away your flannel sheets and start scouting for pear psylla. I'm sure you recall they overwinter as adults. These "winter adults" are a darker color than their summer counterparts making them somewhat difficult to distinguish from all the other tiny winged critters flitting about when it gets to be about 50°F and sunny this time of year. Once you have spotted them, however, you can readily distinguish their reddish-brown bodies from other insects by their cicada-like shape. Psylla hold their wings tented over their bodies, making them look almost as if they are carrying translucent little pup tents on their backs. In addition to inspecting pear shoots for adults, you can use a beating tray in the early morning to monitor adult populations. You can, also, fairly easily, find their small (ok, really small) yellowish-orange eggs deposited along bud scales, old bud scars and bark crevices. You really don't want to let these winter adults lay any more eggs than you absolutely have to. The population will increase exponentially with each overlapping generation. A 2% dormant oil application will deter egg laying (and kill adults on contact, bonus!). CAUTION Do not make oil applications when there is a risk of freezing temperatures. Psylla egg laying begins around 84DD (Base 43°F). When using other insecticides for pear psylla control, it is very important to keep good records of your applications so you can effectively rotate IRACs (modes of action) to prevent resistance development. Pear psylla is the quintessential poster child for insecticide resistance development. This makes oil an even more appealing management option, as the insect cannot readily develop resistance to it.



Pear psylla: overwintered adult.



Pear psylla: eggs

Guest article

No guest article this week...

Facebook Me



Bear Swamp Orchard & Cidery added 3 new photos. 3 hrs · 🌐

Still snow in the orchard, even got another inch yesterday! We are still finishing up pruning. Just did our last maple sugaring boil of the year too. Some signs that Spring might be coming, hopefully...



👍 16

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Useful links

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

Scaffolds Fruit Journal: <http://www.nysaes.cornell.edu/ent/scaffolds/>

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 April 10, 2018. 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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