



Healthy Fruit, Vol. 25, No. 2, April 11, 2017

Jon Clements, Author (unless otherwise noted) and Editor

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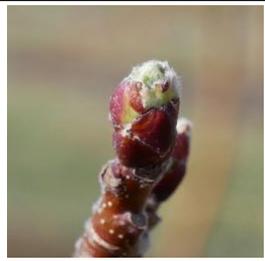
Current degree day accumulations

UMass Cold Spring Orchard, Belchertown, MA	10-April
Base 43 (NEWA)	115
Base 50 (NEWA)	34

Note that apple green tip should occur app. 101 DD (Base 43), although obviously there is a range. We are at green tip today (11-April) in Belchertown. Based on the degree-day forecast, we will be at half-inch green in Belchertown on app. 15-April.

Current bud stages

Current bud stages. April 11, 2017, UMass Cold Spring Orchard, Belchertown, MA

				
McIntosh apple green tip ++	Honeycrisp apple early green tip	Gold bosc pear swollen bud +	Redhaven peach swollen bud +	Regina sweet cherry swollen bud

Upcoming pest events

Coming events	Degree days (Base 43 BE)
European red mite egg hatch	231-337
Green apple aphids present	111-265
Green fruitworm peak catch	99-212
Obliquebanded leafroller larvae active	158-314
Oriental fruit moth 1st catch	223-324
Pear psylla 1st oviposition	40-126
Pear psylla 1st egg hatch	174-328
Redbanded leafroller 1st flight peak	228-378
Rosy apple aphid nymphs present	134-244
Spotted tentiform leafminer 1st catch	115-215
Spotted tentiform leafminer 1st oviposition	143-273
McIntosh green tip	98-144
McIntosh half-inch green	150-198
McIntosh tight cluster	206-258

Upcoming meetings

12-April, 2017 (Wednesday) Fruit Twilight Meeting at 5:30 PM. Sunny Crest Orchards, 24 Hawkins Lane, Sterling MA. Bill Broderick will be our host. 1 pesticide credit will be offered. Light dinner (pizza/sandwiches) will be served. \$20 admission. Contact: Jon Clements, 413-478-7219. Pre-registration is not necessary.

20-April, 2017 (Thursday) Fruit Twilight Meeting at 5:30 PM. Phantom Farms, 2920 Diamond Hill Road, Cumberland, RI. In cooperation with Rhode Island Fruit Growers' Association. Terry Bradshaw, from the University of Vermont will share his expertise on orchard weed control, focusing on non-herbicide control. 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.

25-April, 2017 (Tuesday) Fruit Twilight Meeting at 5:30 PM. Outlook Farm 136 Main Road, Westhampton, MA. Brad Morse will be our host. 1 pesticide credit will be offered. Light dinner will be served. \$20 admission. Contact: Jon Clements, 413-478-7219. Pre-registration is not necessary.

25-April, 2017 (Tuesday) Airblast Sprayer Calibration Demonstration at 3 PM. Outlook Farm 136 Main Road, Westhampton, MA. (Preceding the Fruit Twilight Meeting at 5:30 PM.) Co-sponsored by UMass Extension Integrated Crop Management Program (eIP). 1 pesticide credit will be offered. Contact: Jon Clements, 413-478-7219. Pre-registration is not necessary.

For more information and updates, see [Upcoming Events](#)

The way I see it

Jon Clements

- This WILL be your last Healthy Fruit (HF), unless go to the UMass Extension Bookstore (<http://umassextensionbookstore.com>) and purchase a new [2017 subscription to HF](#) (\$50, 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 \$50 (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.
 - What a difference a week makes. Last Tuesday the temperature pretty much flat-line at 39 degrees and fruit tree buds were pretty much in the same state as they were in late February when we had our last "heat wave." Now we are having another "heat wave." As the say in Vermont, there is winter, and then there is a few months of pretty "rough sledding." We'll be at half-inch green if not further along by the end of the week. Pest management recommendations pretty much stay the same for now, oil, copper, some mancozeb fungicide if it rains. Soon, the easy-season will be over. Horticulturally, finish pruning, start to think about fertilizer, plant trees in any dry spell (the sooner the better), and come to the twilight meeting at Bill Broderick's Sunny Crest Orchards tomorrow (Wednesday) evening at 5:30.
 - Have you dealt with the WPS updates? Here is the "executive summary" as short and sweet as I can make it:
 - if you use a product that requires a **respirator**, you need to have an annual medical evaluation and an annual respirator fit test
 - EPA WPS **posters** now required at both WPS Central Notification Location and decontamination site(s) (if you have one)
 - **SDS** (Safety Data Sheet, formerly MSDS Material Safety Data Sheet) now required at WPS Central Notification Location within 24 hours of application and before workers enter treated areas and remain posted for 30 days after end of REI
 - annual WPS Handler and Worker **training** required before any work starts!
 - handlers and early-entry workers must be at least **18 years of age**
 - **field posting** required for any product with an REI greater than 48 hours in addition to any label requirement
 - **want to know more...**[WPS COMPARISONS OF THE REVISED PROTECTIONS TO THE PREVIOUS PROTECTIONS](#) (January 2017)
-

New England Tree Fruit Management Guide (beta) available on-line

- 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 started to contribute to an on-line edition of the New England Tree Fruit Management Guide. Call it a beta version if you will, but we think it has some value in 2017 as we continue to work on it. (Consider it dynamic? Work-in-progress? Under construction?) But many of the spray tables (for lack of a better description) are filled out. 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>.
-

Insects

Jon Clements

NOW, right NOW, yes NOW, is ideal time to be applying oil with copper to apples and pear for **mites, scab, pear psylla, scale**. 1.5 to 2 % depending on bud stage is indicated. Copper and oil are compatible (check copper label though), but not oil and Captan. Do not apply oil within 48 hours of a frost/freeze event. (I don't see that in the forecast, but as you know, it changes daily.) GOOD LUCK!

For those of you lucky enough to live near the beach, winter moth is more than likely knocking on your door and ready to land on your apple (and blueberry) buds right now. You know who you are, and insecticidal intervention is needed very soon. Check the section on [winter moth in the on-line New England Tree Fruit Management Guide](#) and below are the insecticide options listed in the Apple Spray Table for winter moth at green tip. (Thanks Heather Faubert.)

Winter moth	1B	Imidan 70W	2 to 5 lb.	4 days	7	High	Must be applied at beginning of winter moth egg hatch to be effective.
	5	Delegate 25WG	4.5 to 7 oz.	4	7	High	Must be applied at beginning of winter moth egg hatch to be effective.

Diseases

Dan Cooley

Preparing for Bloom

If it's summer in April, can bloom be far behind? It's unfortunate that we have this early heat, but there's nothing we can do about it, except be ready for rapidly growing trees.

One thing that sometimes gets lost during preparations for pest management is the order for streptomycin. Unlike fungicides and insecticides, strep isn't required every year. Rather than ordering it early, growers may wait until they need the strep before trying to buy it. But when bloom hits, this may be a problem.

For one thing suppliers may not have a large supply, and if they sell out quickly, it may be days before they get more. In addition, strep needs to be put on in a relatively narrow window. It has about 24 hr. of post-infection activity, and protects only those flowers open when it is sprayed. If bloom is moving quickly, as it does when it's warm, blight-favorable weather, then it may be necessary to put on two or even three applications within a week.

The good news is that streptomycin has at least a two-year shelf life. Given the serious consequences of fire blight, keeping at least enough strep on hand for an application to high-risk trees is a good idea. Ideally, the whole orchard should be treated when strep goes out, but having a reserve ready for rapid response on those Honeycrisps on M9 reduces risk of a major fire blight outbreak.

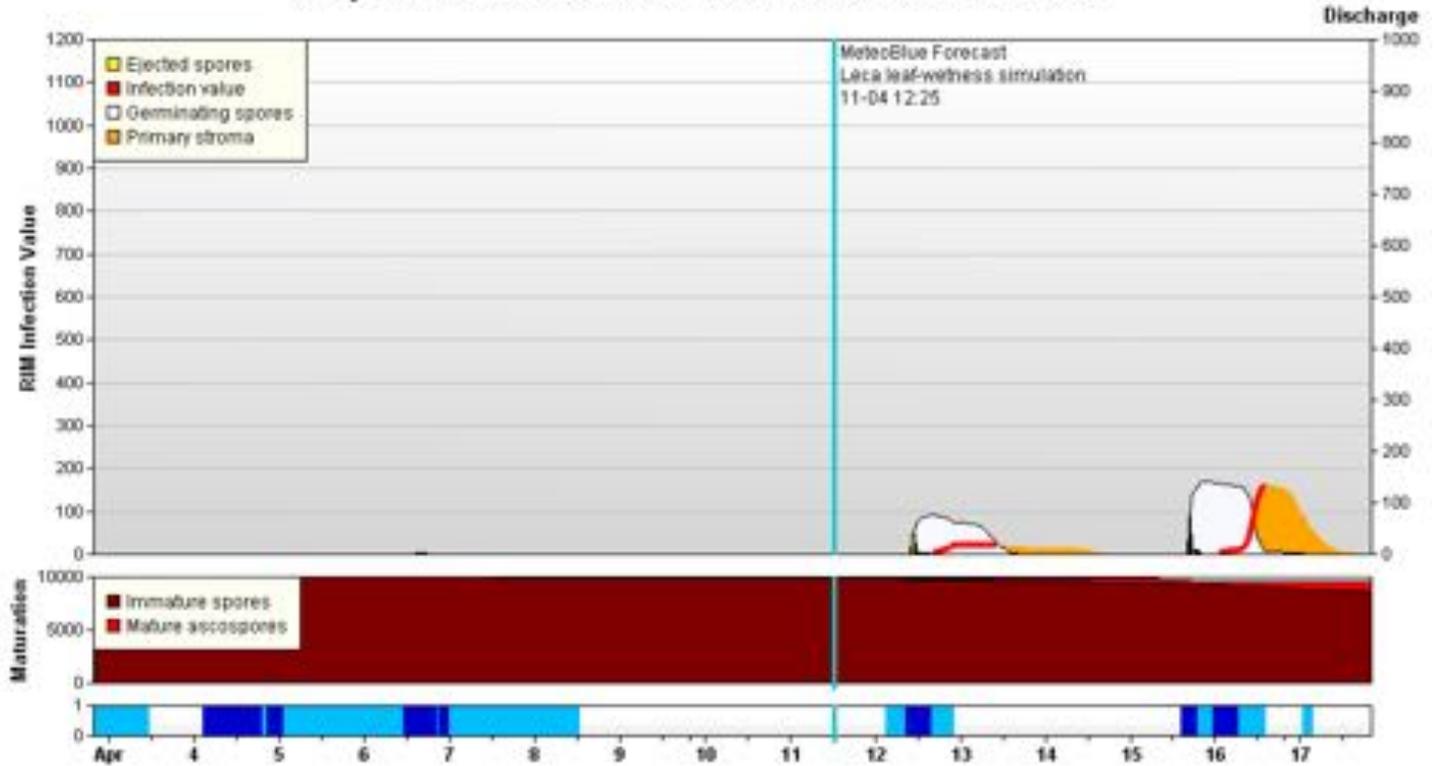
Is it scab season yet?

Our lab observations by Liz Garofalo so far indicate that there are a few mature ascospores in our overwintered apple leaves from western MA, but so far none have been captured in our release tests. That is, they look ready to go but aren't quite there.

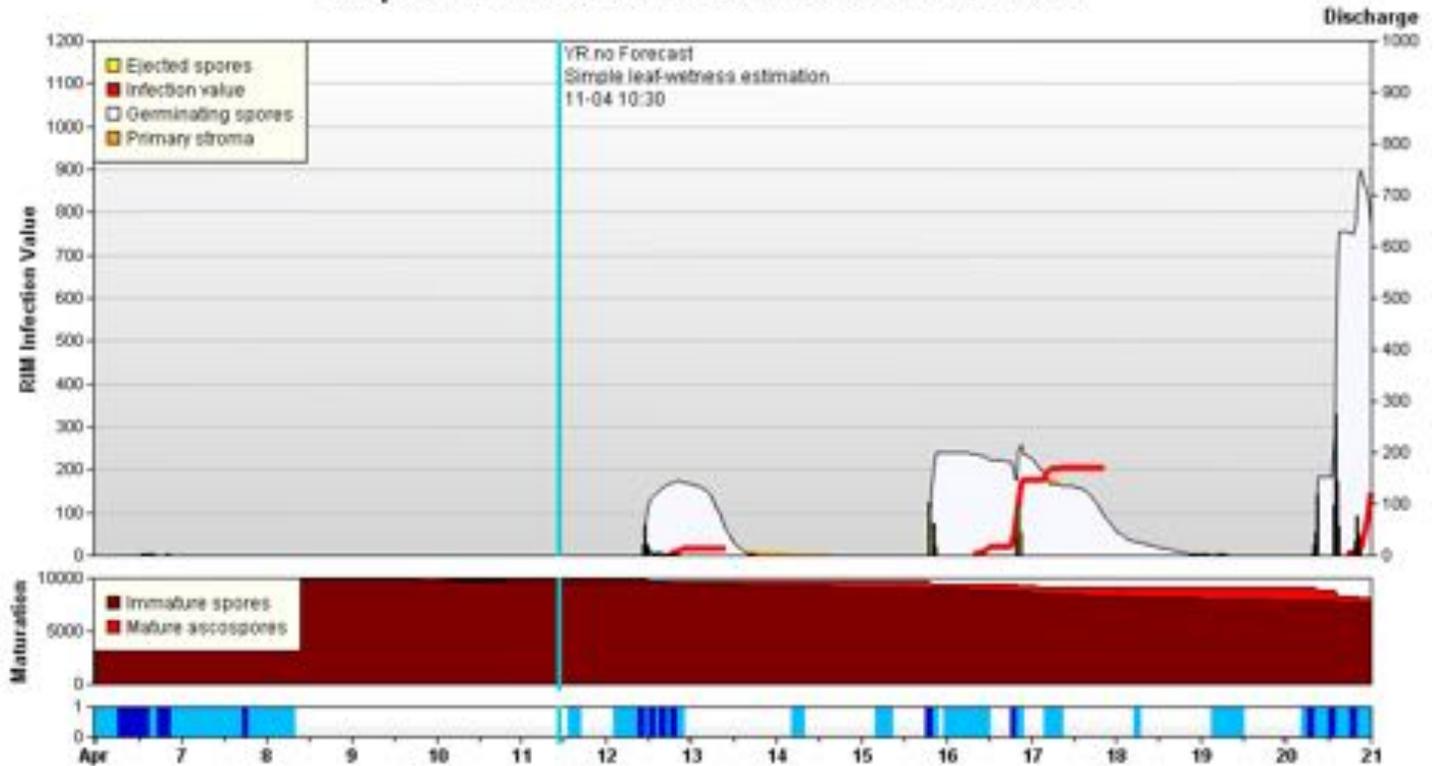
This next week will probably change that, and we'll see our first spores shoot out. With rapid tree growth, wetting on Wednesday or over the weekend has the potential to cause scab infection. If you have green tip or more, it's time to spray.

Ed. note: following are two RIMpro outputs as of today from Belchertown. The first (Belchertown-MB) is based on 100% virtual data, the second (Belchertown) is using historical data from on-site weather station. Note they are pretty much in agreement, although the forecast for Belchertown extends out farther (FWIW). Note that a RIM value (red line) of less than 200 is considered a pretty insignificant infect. (I.e., clean orchard should probably not have to be protected with fungicide, depending on your risk aversion factor. Remember, it's only a forecast too, could change daily.) Following those is the current NEWA output for Belchertown. Do you know what your current apple scab/risk assesment situation is?

RIMpro-Venturia location: MA-Belchertown-MB - 2017



RIMpro-Venturia location: MA-Belchertown - 2017



Green Tip Date: 4/10/2017

Ascospore Maturity Summary

	Past	Past	Current	5-Day Forecast			Forecast Details	
Date	4/9	4/10	4/11	4/12	4/13	4/14	4/15	4/16
Ascospore Maturity	-	1%	2%	3%	3%	4%	4%	6%
Daily Ascospore Discharge	-	0%	0%	1%	0%	0%	0%	0%
Cumulative Ascospore Discharge	-	0%	0%	1%	1%	1%	1%	1%

[Ascospore Maturity Graphs](#)**Infection Events Summary**

	Past	Past	Current	5-Day Forecast			Forecast Details	
Date	4/9	4/10	4/11	4/12	4/13	4/14	4/15	4/16
Infection Events	No	No	No	Yes	No	No	No	No
Days to Symptoms	-	-	-	9-10	-	-	-	-
Average Temp (F) for wet hours	-	-	71	63	45	46	50	54
Leaf Wetness (hours)	0	0	1	8	2	2	2	4
Hours ≥90% RH	5	0	2	0	0	0	0	3
Rain Amount	0.00	0.00	0.00	0.06	0.00	Night 5% Day 4%	Night 6% Day 19%	Night 41% Day 33%

Download Time: 4/11/2017 12:00

Horticulture

Jon Clements

Not much to report here, as mentioned, peach and cherry pruning should be ongoing (or apples and pears if not done), trees can be planted when soil conditions permit (no mudding in!, make sure graft unions are high out of the ground!), fertilizer applications can begin soon, and have some Apogee/Kudos on-hand to begin applications for growth control at bloom.

[Critical Spring Temperatures for Tree Fruit Bud Development](#) (from Michigan State University Extension, nice to print and put on wall so you can stare at and worry, although things look pretty good right now, but note apples are most sensitive to sub-freezing temperatures at petal fall)

Guest article

MORE ON OILS FROM LAST WEEK'S ARTICLE (and white prunicola scale)

Art Agnello, Entomology, Geneva; ama4@cornell.edu

Re-printed from [Scaffolds Fruit Journal](#), Vol. 26, No. 3, April 10 2017

Another scale we've been seeing in upstate NY orchards that might otherwise have been identified as white peach scale (*Pseudaulacaspis pentagona*) is almost certainly a closely related species (*P. prunicola*), which has the common name of white prunicola scale. According to scale authorities, this species is so closely related to *P. pentagona* that for years no one was aware that the white peach scale was not one but two species. Evidently, the prunicola scale is more common in temperate climatic zones, and scales found in upstate NY and New England will most likely be *P. prunicola*.

Infestations on apple and cherry as well as peach, are characterized by numerous white scales that cluster on the trunk and scaffolds, giving them a whitewashed appearance. Feeding reduces tree vigor, and foliage of affected trees may become sparse and yellow; heavy infestations can cause death of twigs, branches and entire trees if left unattended. This species overwinters as an adult female and deposits eggs in the spring. Horticultural oil is recommended as a dormant spray and insecticides can be used against crawlers in mid-June through early July (about 700–1150 DD base 50°F from March 1). Materials such as Movento or Centaur would be two good candidates at such a time. [Refs: Johnson & Lyon 1988, *Insects that Feed on Trees and Shrubs*; Davidson et al. 1983. *Proc. Entomol. Soc. Wash.* 85: 753-761].



white prunicola scale on peach tree at UMass Orchard, Belchertown, 12-May, 2017

ERRATUM - Oils and Copper

Last week, I cautioned that oil probably shouldn't be used when active captan or copper residues were present, to avoid phytotoxicity. This was too broad a statement, since it implied that oil is incompatible with copper products, which is not the case. I was referring to the more specialized cases of active copper residues present on the tree causing damage when oil is applied onto them during periods when freezing temperatures are likely to occur. I was reminded by a respected source that there never used to be any problems mixing oil with Bordeaux mixture, so incompatibility would not be an issue. Sorry to have overstated this issue. Dave Rosenberger provides some more useful insight on this topic, which I appreciate:

I'm not aware of any intrinsic problem from mixing oil and copper EXCEPT in situations where hard frosts are expected within several days after applications or if any of the new copper formulations specifically include a warning about oil compatibility. Following freezes, anything on the plant surface will get sucked into cells as frost crystals melt. Either oil or copper alone can exacerbate frost injury, but I think that the two together are especially damaging (although I can't say I have personal experience or observations to back up the concept that oil+copper are worse than either alone when applications are followed by frost).

Up until oil prices rose drastically in the late 1990s or thereabouts, many growers used 3% oil with their copper sprays so as to get both fire blight protection and insect control. When oil prices rose, this dropped from common usage because it was cheaper to use 2% or 1% oil at later bud stages, and we then suggested that growers use only 1 quart/100 gal of oil with copper to act as a spreader. Thus, I don't see a problem with combining the two unless, as noted above, there are specific label warnings to that effect or in situations when frost is expected within several days after application

One final issue: In general, copper sprays should not be applied with anything that lowers the pH of the spray solution, since acidic solutions will make copper more phytotoxic. I have never checked the pH of spray oils,

but I have no reason to believe that the newer oils are any more acidic than what was used 35 years ago. And to complicate the pH question even further, the relatively new low-rate Magnabon copper (CS2007, as I recall) is formulated in a very acidic solution (pH in the high 3 to low 4 range, as I recall). I would not recommend this product at GT anyway, but putting such an acidic solution of copper with spray oil may (or may not?) increase risks of phytotoxicity.

Facebook Me

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Ben Clark

3 hrs ·

A great way to start the day!



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Peter Mitchell Jealous! I'm sitting in the Worcester RMV.

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Ben Clark Pears and peaches covered! Trees are responding to the warmth...

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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>

Follow me on Twitter (<http://twitter.com/jmcextman>) and Facebook (<http://www.facebook.com/jmcextman>)

[David Rosenberger's Blog](#)

[Peter Jentsch's Blog](#)

The next Healthy Fruit will be published on Tuesday, April 25 or thereabouts, 2017. (NO Healthy Fruit next week as I am on assignment, although there may be some "chunks.") As always feel free to get in touch with any member of the UMass Fruit Team (<http://extension.umass.edu/fruitadvisor/team-members>) if you have questions or comments.