



Healthy Fruit, Vol. 30, No. 5, May 3, 2022

Prepared by the University of Massachusetts Amherst Fruit Team

Jon Clements, Editor

Current degree day (DD) accumulations






UMass Cold Spring Orchard, Belchertown, MA (NEWA, since March 1)	2-May
Base 43 BE	276
Base 50 BE	105

Upcoming pest events

Pest	DD's Base 50 F. BE	Recommendation
San Jose scale (adult)	36-129	Apply oil
European red mite (egg hatch)	51-129	Apply oil
Obliquebanded leafroller (larvae)	90-109	Monitor for larvae presence
Aphids (1st egg hatch)	109	Monitor, if rosy apple aphid present apply insecticide at open cluster through pink
Green fruitworm (1st egg hatch)	109	Post-bloom sprays recommended

Current bud stages

Current bud stages. 2-May, 2022, UMass Cold Spring Orchard, Belchertown, MA (more current bud stages [here](#))

				
McIntosh apple <i>Early pink</i>	Honeycrisp apple <i>Very early pink</i>	Gala apple <i>Tight cluster +</i>	Crispie pear <i>Bloom</i>	Redhaven peach <i>Bloom</i>

Upcoming meetings

Every Tuesday at noon - UMass Fruit Team Open Office Hour
<https://umass-amherst.zoom.us/j/97190816203> Bring your own lunch.

Wednesday, May 4, 2022, 4:30 PM - UMass Fruit Team Twilight Meeting, Mann Orchards Riverside Farm, 445 Merrimack Street, Methuen, MA. 1 pesticide recertification credit. A light supper (BBQ!) will be served. *Note the 4:30 start time!*

Thursday, May 12, 2022, 12:00 PM - UMass Fruit Team Grape Noon Zoom with Dr. Elsa Petit (Note this will be a grape-centric meeting, we don't expect to discuss tree fruit topics.)

Wednesday, May 18, 2022, 5:30 PM - From Heather Faubert: "We will have a true Twilight Meeting on May 18 at 5:30-8:00 at Spencer Morris's apple orchard at 71 Long Lane, Warren, RI. Spencer is growing primarily cider varieties for his cidery, [Sowam Cider Works Company](#), in downtown Warren. NOTE: The meeting is at the orchard on Long Lane, not at the Cider Works Company. We will not be serving food, and you need to bring your own chair if you want to sit. Feel free to bring a bag lunch for yourself. Two hours of pesticide recertification credits are available."

Podcast reminder: Don't forget to check out the [UMass IPM Fruit Loop](#), the audio version of Healthy Fruit. We are getting episodes out on a slight delay right now but should be up to speed next week.

The way I see it

Jon Clements

Managed to stay firmly planted despite the wind last week. It was certainly a stretch that does not happen too often, although I have noticed these low pressure systems get wound up over the Canadian maritimes more often than not lately. Blame Nova Scotia. The extended slog from green tip to bloom, whenever that is going to be, is making the spur leaves look a little weak. We really need some warm weather to move things along and get bloom over with. I will say the peach bloom looks good, and there is no frost in the forecast at least. Stay tuned on that one though. At this point we are a solid week or more behind last year, I don't see a snowball bloom coming up. Is anyone going to bloom thin with ATS or lime sulfur? Kind of doubt it this year but I may change my tune in a week. I am thinking a really safe and very good idea would be an Amid-Thin application across the board as soon as apple (and pear) bloom hits. Fire blight? Conditions certainly are not favorable right now, but watch the models closely as you get into bloom and particularly during late bloom when we are bound to see some 80's for temperatures. Our twilight meeting at Mann Orchard in Methuen is still on for Wednesday, May 4 at 4:30 PM rain or shine. We'll keep our fingers crossed for the rain ending by 4:30 PM. Hope to see you there, but if you plan on coming, please indicate your attendance here <https://forms.gle/F3PgCYrrZyQ9rRzu7>

Entomology

Jaime Pinero

Petal fall, a critical time for insect pest control in apple. While insect pest activity continues to be low in the five orchards that are being monitored, including the UMass Cold Spring Orchard, it is time to start planning for the petal fall insecticide spray targeting all trees in the blocks. The insecticide application at the petal fall stage on apples is frequently well synchronized with the optimal period for the control of plum curculio (PC), European apple sawfly (EAS), rosy apple aphid (RAA), and Oriental fruit moth (OFM).

The choice of insecticides used at petal fall on apples should be solely determined by the pest(s) complex present in orchards. Undoubtedly, the most important pest being targeted is PC. Some broad spectrum products such as Imidan and Avaunt eVo should provide high levels of PC control. Avaunt eVo should provide moderate levels of control of OFM and CM.

If no dormant oil was applied during the pre-bloom period, then European red mite populations can be reduced with an application of Agri-Mek (or other formulations of abamectin) plus a penetrant (i.e., horticultural oil) at the petal fall stage. Abamectin still offers good control of ERM and spotted tentiform leafminers, and fair to good control of white apple leafhopper. Agri-Mek should be applied before the leaves harden off, generally no later than 10 days after a petal fall. These are just examples of effective miticides. Additional miticides are listed in the petal fall spray table of the [New England Tree Fruit Management Guide](#).

If rosy apple aphid and leafhoppers need to be controlled, then neonicotinoids such as Admire Pro 4.6SC (imidacloprid) at 2.8 fl.oz./acre, Assail 30SG at 2.5-4 oz/acre will provide the

additional broad spectrum activity needed. The anthranilic diamides Exirel (cyantraniliprole) at 13.5-20.5 fl. oz./acre and Verdepryn (Cyclaniliprole) at 5.5 to 11.0 fl. oz./acre (the higher rates will be needed for effective PC control) can also control multiple pests.

Below is an updated table of insecticides that are moderately or highly effective against insect pests at petal fall.

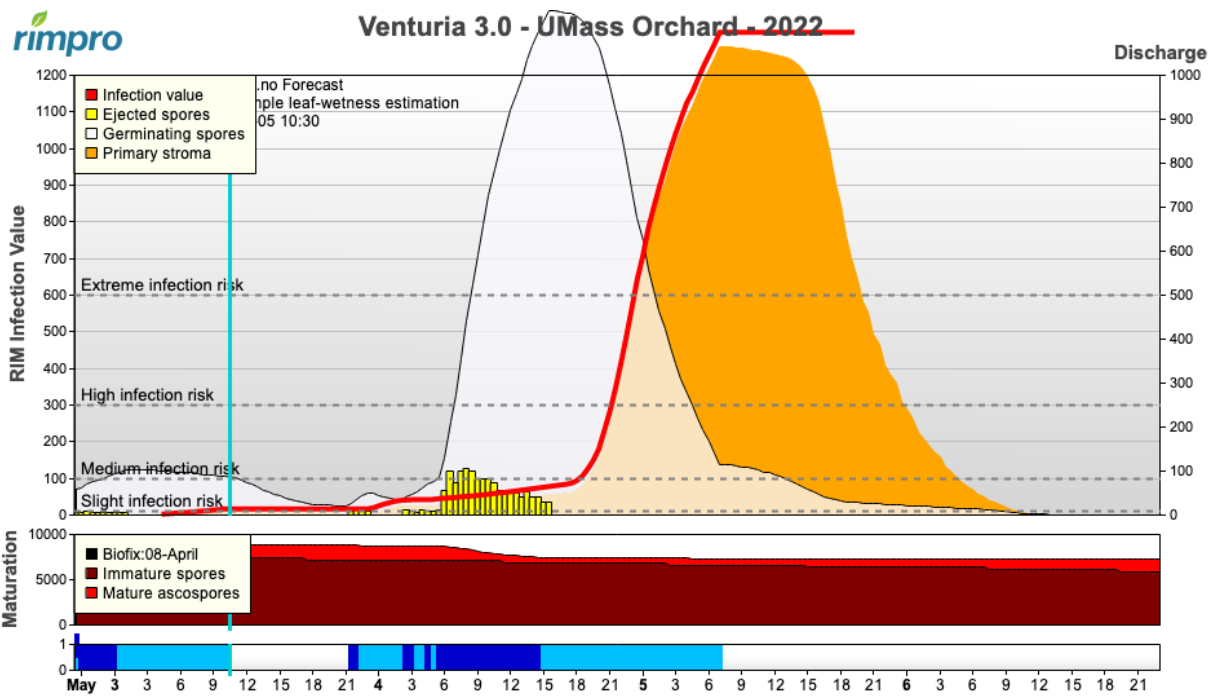
APPLE – PETAL FALL		*Bee hazard, S= Suppression only					HIGH AND MODERATE EFFECTIVENESS						
	a.i.	IRAC	TPB	EAS	PC	CM	OFM	OBLR	RBLR	SJS	Rosy apple aphid	STLM	
Intrepid 2F (IGR)	Methoxyfenozide	18				M	M	H	H				
Dipel DF (OMRI)	B.t.	11A				M	M	H	H				
Assail 30SG	Acetamiprid	4A		M		H	H				H	H	
Delegate 25WG	Spinetoram	7				H	H	H	H			H	
ALTACOR 35WDG	Chlorantraniliprole	28		H		H	H	H	H			H	
Avaunt 30WDG	Indoxacarb	22	M	M	H	M	M					M	
Exirel	Cyantraniliprole	28		?	H	H	H	H	H		H		
Imidan 70W	Phosmet	1B		H	H		H						
Movovento 240SC	Spirotetramat	23								H	M		
Voliam Flexi WDG	Thiamethoxam + chlorantraniliprole	28 + 4A			H	H	H	H	H		H	H	
Belt 4SC	Flubendiamide	28				H	H	H	H			H	
Danitol 2.4 EC	Fenpropathrin	3				H							
Actara 25WDG	Thiamethoxam	4A		H*	H							H	
Entrust SC (OMRI)	Spinosad	5				M	M	H	H			H	
Admire PRO 4.6SC	Imidacloprid	4A									H	H	
Verdepryn 100SL	Cyclaniliprole	28		?	H	H	H	?	?			?	
Transform WG	Sulfoxaflor	4C	?							? S	?		

Pathology

Elizabeth Garofalo

Apple scab-

NEWA currently estimates ascospore maturity to be at 48% as of May 3, 2022 and estimates potential for yesterday, today and tomorrow, to be a “combined” infection event. [RIMpro](#) agrees and shows an infection event that is literally off the charts.



RIMpro apple scab model output 5-3-22. In the "RIM Infection Value " panel of the above graph, you see ejection of spores yesterday and today with conditions leading to greater than extreme infection risk.

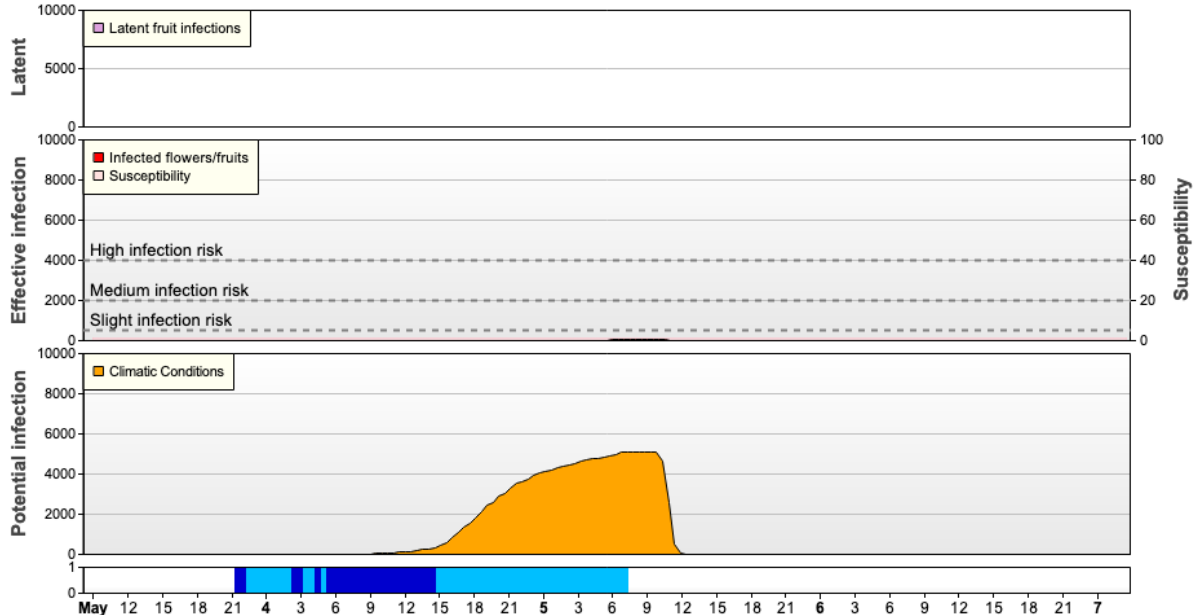
Bottom line: Get out the kickback for your high risk blocks. This infection event is forecast to be extreme.

-Brown rot

Infection potential in Belchertown remains low. Temperatures for Thursday and Friday will lead to an increased concern of infection but risk remains low. Check out the handy infection graph from RIMpro here:



Monilinia - UMass Orchard - 2022



Similar to other RIMpro graphs, the above image shows: rainfall and leaf wetness indicated by dark blue and light blue bands, respectively, in the lower portion of the graph; infection potential, represented by climatic conditions in orange in the next panel up; Effective infection- this one is not so clear in this particular graph representation as there is very low risk, just a touch of pink below the “slight infection risk” line showing minimal host susceptibility had there been estimated infection occurring, a red bar would be present on the graph; the very top panel indicates latent fruit infections, if any (none shown here).

Powdery mildew (PM)-

PM continues to be of relatively low concern for the foreseeable forecast. End of next week looks like there is potential for infection but at this point, the forecast is likely to change a hundred times between now and then. Keep your eyes peeled for 70s and dry but humid weather coming down the pike..

And, as I said last week: keep your eyes open for emerging infected shoots- especially in high value, high risk blocks/locations where you noticed PM last year. Remove infected shoots where practicable.

Keep in mind that typically fungicides that are effective against apple scab are not effective against PM. With the exception of Cevya (FRAC 3) and Excalia (FRAC 7) which have been reported to have efficacy against both. **Remember when planning your rotational schedule, that FRAC 7 is also in Luna Sensation, Merivon and Pristine and FRAC 3 is a component in Inspire Super. Rotate with care.**

Fireblight-

No. At least, “no” is the short answer.

The longer answer is, currently, temperatures have not been conducive to bloom in most locations across the state, let alone for bacterial population growth. As the week wears on (Thursdayish) temps will be in the upper 60s. Model output still shows low, to the point of insignificance, infection potential. If this remains the case as more bloom opens, there is room in your fireblight management schedule for a bacillus biological material like serenade. IF and only if infection potential remains in the low category. When looking at NEWA, this is the column on the far right with the heading of “Infection Potential EIP Value.”

As Dr. Cooley has pointed out in the past:

“Keep an eye on NEWA and the weather forecast. And use the **New Rules for Fire Blight in NEWA.**

- **Don’t pay much attention to the words or the colors.**
- **Look closely at the numbers – they’re by far most important.**
- **If 4-Day DH goes over 300, be ready to spray strep with wetting.**
- **If EIP goes over 100, be ready to spray strep with wetting.”**

Date (2022)	Cougar Blight 4-Day DH	Infection Potential EIP value
	Risk Levels: Low Caution High Extreme	Risk Levels: Low Moderate High Infection
May 1	-	-
May 2	33*	0
May 3 Forecast	33*	0
May 4 Forecast	33*	0
May 5 Forecast	37	5
May 6 Forecast	46	3
May 7 Forecast	46	2
May 8 Forecast	46	0

* Indicates incomplete accumulation of the 4-day DH total. The DH value may reach "Caution", "High" or "Extreme" levels before spanning the 4-day accumulation cut-off time of Cougarblight.

NEWA’s fireblight model output for Belchertown, 5/3/22, Cougar Blight information is contained in the first column the numbers are currently below and forecast to remain below critical thresholds.

MSU’s Dr. George Sundin gave an excellent fireblight talk at the Ontario Fruit and vegetable conference online last year. Check it out here (It is well worth the watch!):

<https://www.youtube.com/watch?v=MOSdGtd0R0w>

Bottom line: For shoot blight, initiate an Apogee(2oz) + ActiGard(1-2oz) program at King Bloom Petal Fall, continue on a ~10 day schedule through late July or when the terminal shoots stop growing. This helps reduce canker size and can help reduce the damage caused by trauma induced infection provided you start at that King Bloom Petal Fall time.

Horticulture

Jon Clements

Amid Thin label update



For Thinning Apples and Pears

This, from Jim Wargo, Valent USA.

FYI – the new Amid Thin label has been approved and is now labeled in all New England states. There are only a few, but important changes. These include:

- Label now clearly states applications are permitted in full bloom (old label only stated petal fall and post bloom uses)
- New varieties added and grouped according to thinning response – easy, moderate and difficult to thin categories
- The rate range for apples is now tied to thinning response category rather than variety specific recommendations
- The 400 gallon/A column in the thinning tables has been removed.

Additionally the label now provides guidance on the ideal temperature range for application. It states “apply when daytime temperatures are between 65°F to 85°F. Do not spray when daytime temperatures are below 50 F. The key thing to remember is the exact stage of bloom e.g. early, mid, late, is less important than the weather conditions at the time of application. For best results, it’s advised that growers apply Amid Thin when ideal temperatures are predicted within the bloom period through petal fall.

Understandably, in some years ideal conditions over 65 F are hard to come by.

Ed. note: Amid Thin would be a very safe bloom thinner application to get the ball rolling and would be recommended following the label instruction for most apple (and pear) varieties that have copious bloom. Amid Thin is essentially “NAA” the same as Fruitone-L, Pomaxa, and refine. Amid Thin and these NAA products can be substituted, one for another, however, the rates will vary, be sure to consult the label closely to determine the proper application rate for your situation. Amid Thin is overall the best choice for a PGR bloom thinner.

Cornell “Pink” Webinar

Last week’s Cornell Statewide “Pink” Webinar was posted on the Lake Ontario Fruit Program YouTube Channel and I’d suggest you watch it if you missed it:

<https://www.youtube.com/watch?v=pOBVnoSEIa8> Kerik Cox is always entertaining on disease

management, and Dan Donahue gave an uncharacteristically short (for him) overview of prohex-cal (Apogee, Kudos) benefits at pink application while newcomer Monique Rivera spoke concisely on insect management considerations pre-bloom. (Which may be a moot point before too much longer, but not for everyone yet.) But the main attraction IMHO was Terence Robinson talking about precision crop load management, particularly Honeycrisp to prevent biennial bearing. Below is a screenshot of his suggested program for Honeycrisp (and Gala) to adequately thin the apples to a desired crop load and set up flower bud development for next year. I suppose you can just follow this “recipe” but I’d still suggest you watch the webinar for more explanation and a discussion about bloom thinning with the caustic bloom thinners ATS and lime sulfur.

Suggested Chemical Thinning for Honeycrisp

- Bloom
 - Ammonium Thiosulfate (ATS) (2.5-3.0%)
- Petal Fall (fruits at 5-6mm)
 - NAA 4oz/acre + Sevin (1pt/acre)
- Fruits at 11-13 mm
 - NAA 3oz/acre + Sevin(1pt/acre)
- Fruits at 15-20 mm (if needed)
 - Maxcel (64 oz/acre) + Sevin(1pt/acre) + Oil (1pt/acre)
 - Accede+Maxcel

Suggested Chemical Thinning for Gala

- Bloom
 - NAA 4oz/acre or Amide Thin 35ppm
- Petal Fall (fruits at 5-6mm)
 - NAA 4oz/acre + Sevin (1pt/acre)
- Fruits at 11-13 mm
 - Maxcel 128oz/acre + Sevin(1pt/acre)
- Fruits at 15-20 mm (if needed)
 - Maxcel (128 oz/acre) + Sevin(1pt/acre) + Oil (1pt/acre)
 - Accede+Maxcel

Prohexadione-calcium “pink” application

Work by Dan Donahue at Cornell has shown that a prohexadione-calcium (Apogee, kudos) application at the pink bud stage in Honeycrisp apples can at least partially reduce bitter pit incidence at harvest and during storage. Again, watch above noted video for details, but here are the directives:

- 1.) Apogee at 6 oz. per acre at Honeycrisp pink can significantly REDUCE bitter pit
- 2.) Apogee when used at Honeycrisp petal fall can significantly INCREASE bitter pit

- 3.) Don't bother applying Apogee to Honeycrisp on B.9 rootstock
- 4.) Don't apply Apogee to young blocks still filling out trellis
- 5.) Pink application of Apogee can help fend off fire blight infection, as well as a petal fall application, it's a management decision (for more information on using prohexadione-calcium for fire blight management, see updated Fact Sheet [HRT-2022-Suggestions for the use of prohexadione-calcium on apples](#))

A reminder that bitter pit management is an integrated program, other factors such as tree vigor, nitrogen management, excess potassium, calcium supply, and crop load play an important role in bitter pit mitigation too.

Guest article

Apple Fruit Thinning: An Overview & Recommendations^[OBJ]

Posted on April 30, 2022 by S. Sherif

After all the frost events and subfreezing temperatures in the past four weeks, we (the state of Virginia) still have a medium-heavy apple crop, and we should start planning for the fruit thinning treatments. However, given the geographical distribution of apple orchards throughout the state, which results in different developmental stages, growing degree days, elevation, etc., thinning recommendations would vary from one location to another. So, this post aims to give a general overview of thinning materials, rates, and application timing as well as a few suggestions to consider when thinning certain cultivars or using specific materials. But I will follow this with other blog posts focusing on particular locations as required.

Read more [here...](#)

Useful links

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

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

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[The Jentsch Lab](#) (Peter Jentsch, Poma Tech)

[Acimovic Lab](#) (Srdjan Acimovic at Virginia Tech)

[Tree Fruit Horticulture Updates](#) (Sherif Sherif at Virginia Tech)

The next Healthy Fruit will be published on or about May 10, 2022. In the meantime, feel free to contact any of the [UMass Fruit Team](#) if you have any fruit-related production questions.

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