



Healthy Fruit, Volume 20, Number 4. April 24, 2012

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Current (through April 23) degree day (DD) accumulations

Location: UMass Cold Spring Orchard, Belchertown, MA
 Base 43: 420
 Base 50: 181

Current bud stages

Location	Honeycrisp apple bloom	McIntosh apple early petal fall	Rainier cherry bloom to petal fall	BlazingStar peach petal fall
UMass Cold Spring Orchard, 23-April 2012				

Upcoming meetings

May 15, 16, 17: Fruit Twilight Meetings, location TBA

July 16: Massachusetts Fruit Growers' Association Summer Meeting, UMass Cold Spring Orchard, Belchertown, MA

The way I see it (J. Clements)

If it wasn't for a certain hockey game last night, you would have had this HF about 12 hours sooner. Sorry. (In more ways than one.)

Really not much happening with the cool temps, and what appears now to be an extended bloom period. This is good and bad I suppose -- good in that I think there is greater opportunity for fruit set, bad in that it just extends the threat for frost. Getting through this upcoming weekend would be good I think.

Be prepped for warmer temps next week, more rain, and your petal fall spray. I promise a HF on Tuesday.

2012 New England Tree Fruit Management Guide available

It's not too late to order your 2012 New England Tree Fruit Management Guide. Attached is an order form. If you feel you can live without the hard copy, feel free to go for it: <http://fruit.umext.umass.edu/2012netfmg/>

Comments on bloom and the apple fruit thinning challenge (D. Greene)

The weather conditions that we have experienced over the past 6 weeks continue to cloud the crystal ball as we enter into the chemical thinning season. Potential damage to spurs and flowers is quite variable. In some blocks there is visible damage while in others it may be less clear. This is a year when it is necessary that you get out in the orchard and carefully look at individual blocks. Look for black, brown, small or deformed flowers or flower parts. In some cases flowers may appear normal until they are cut. Look for spur leaf damage such as abnormal yellowing, reduced size or crinkled leaves. Fully functional spur leaves are necessary for good fruit set. We are now entering the time when you must decide if you are going to apply a petal fall thinning spray and, if you do, how aggressive are you going to be? Since there is still some uncertainty about the extent of damage I suggest that you act somewhat conservatively for this petal fall application. You will have a much better idea what influence this weather had on fruit set and how effective pollination was when fruit reach 6 mm.

If you see visible damage on flowers and ovaries in the flower I suggest that delaying any thinner application to the 6 mm stage may be prudent. This is especially true on easy to thin varieties. If you see little damage on flowers or spur leaves, especially on moderate to difficult to thin varieties, then a petal fall thinner spray is probably appropriate. Whether you include NAA with carbaryl in your petal fall spray may depend on the history of fruit set in particular blocks, whether you had good pollinating weather and just how severe the cold temperature was. If you apply AmidThin on Macoun you may want to apply a reduced rate. At this stage in the thinning season you will always have another opportunity to apply a thinner.

Temperatures are forecast to be cool for the next 7 days. If this forecast is correct then thinning from a petal fall spray, given somewhat healthy flowers/fruit, will not be large. If you decide to apply a petal fall spray I suggest that this application should be

made as soon as the bees are removed from the orchard and wind conditions allow you to apply the thinner and get good coverage. If you delay your application to wait for more favorable weather you may face an even greater dilemma of not knowing if the first application had any influence on crop load while having to decide what you will do when fruit reach the 6 to 7 mm stage.

Dealing with powdery mildew of apples (D. Cooley)

Apple powdery mildew has been working its way into New England over the last few years, particularly on highly susceptible cultivars like Cortland, Ginger Gold and Paulared. The dry weather this spring favored mildew growth, and has led to surprising levels on emerging shoots in some blocks. Another contributing factor may be the choice of captan and mancozeb as the primary fungicides, as neither is effective against mildew.

Mildew inoculum overwinters in vegetative and flower buds, and infect new tissue as it emerges in the spring. These primary infections are silvery to white, a result of the fungus producing hyphae and spores. The spores will spread secondary infections to young leaves and fruit later in the season. The question is, what to do at this point in the season to avoid problems later?

The only thing that can be done to completely get rid of the newly emerging primary infections is to cut them out. This is a time-consuming and expensive process where mildew is widespread. Fungicide applications can stop mildew growth and suppress spore production, and in situations where pruning out infections is not realistic, this is the next best thing. While the established infections will stay, regular fungicide applications through to terminal bud set or at least second cover will prevent them from infecting new growth, even on the same shoot.

The best mildew fungicides are the DMIs (SIs): Rally, Topguard, Vintage, Tebuzol, Indar and Inspire. Unfortunately, the best DMI fungicides for scab, Inspire and Indar, are rated "good" against mildew, while the DMIs which are least effective against scab, Rally and Topguard, are rated "excellent" against mildew. In our climate, where mildew pressure is generally not too heavy but scab pressure is, it makes the most sense to opt for the best DMI fungicides against scab, as they are still good against mildew.

The strobilurine (QoI) fungicides, Flint and Sovran, are also effective mildew fungicides, though resistance problems have arisen in Michigan and New York. Topsin-M is rated only "fair" against mildew.

For organic growers, the choice is largely limited to sulfur, such as Kumulus, which is also rated "fair." Frequent applications, coupled with diligent removal of primary flag infections, will limit or stop secondary mildew.

Note that apple cultivars differ in their resistance/susceptibility to powdery mildew -- see Table that follows.

Susceptibility of Apple Cultivars to Powdery Mildew

Cultivar	Mildew Susceptibility
Braeburn	Resistant
Cortland	Highly Susceptible
Delicious	Resistant
Empire	Susceptible
Enterprise	Resistant
Fuji	Resistant
Gala	Susceptible
Ginger Gold	Highly Susceptible
Golden Delicious	Susceptible
Granny Smith	Highly Susceptible
Honeycrisp	Susceptible
Idared	Highly Susceptible
Jerseymac	Susceptible
Jonagold	Susceptible
Liberty	Resistant
Macoun	Susceptible
McIntosh	Susceptible
Mutsu	Highly Susceptible
Paulared	Highly Susceptible
Rome Beauty	Highly Susceptible

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/jmccextman>) and Facebook (<http://www.facebook.com/jmccextman>)
- UMass Vegetable & Fruit IPM Network (on Facebook, <https://www.facebook.com/umassipmteam>)

The next Healthy Fruit will be published Tuesday, May 1 or thereabout, 2012. As always feel free to get in touch with any member of the UMass Fruit Team (<http://extension.umass.edu/fruitadvisor/about/members>) if you have questions or comments.



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