Volume 21, Number 7. May 14, 2013.

Contents

Current degree day accumulations

Location: UMass Cold Spring Orchard, Belchertown, MA

	13-May, 2013
Base 43	399
Base 50	236

Current bud stages

Location: UMass Cold Spring Orchard, 14-May, 2013

Honeycrisp apple	full bloom +
McIntosh apple	90% petal fall
Rainier cherry	50-90% petal fall
PF-14 Jersey peach	petal fall
Gold Bosc pear	95% petal fall +

See pictures of bud stages here: http://extension.umass.edu/fruitadvisor/bud-stages. Note that this will be the last bud stage report for 2013.

Upcoming pest events

Coming events	Degree days (Base 43)
Green fruitworm flight subsides	251-451
Spotted tentiform leafminer 1st flight peak	268-404
Spotted tentiform leafminer sap feeders present	343-601
Oriental fruit moth 1st flight peak	347-547
Lesser apple worm 1st catch	363-561
San Jose scale 1st catch	430-614
Codling moth 1st catch	401-575
McIntosh petal fall	446-524

Upcoming meetings

http://extension.umass.edu/fruitadvisor/upcoming-events

May 14 (Tuesday): UMass Fruit Team Twilight Meeting, UMass Cold Spring Orchard, 391 Sabin St., Belchertown, MA. 5:30 PM. 1 pesticide re-certification credit will be available. $20/25 meeting charge.

May 16 (Thursday): University of Rhode Island/UMass Fruit Twilight Meeting,Old Stone Orchard, 33 Cold Brook Rd., Little Compton, RI. 5:30 PM. 1 pesticide re-certification credit will be available. $20/25 meeting charge.

The way I see it

We largely escaped a bullet last night as I have had no reports of frost/freeze damage with temperatures in the low-mid 30's. Hopefully this is the last frost/freeze event we will have to deal with.

Regarding disease and insect issues it is really pretty quiet right now. Plum curculio should not be an issue until fruit reaches 6-7 mm in size, and by then most will have applied a petal fall insecticide to the whole orchard. (Wait until full petal fall to avoid poisoning bees!) The petal fall spray (in peaches and apples) should take care of Oriental fruit moth. I have observed some black cherry aphids starting to show up in sweet cherries -- Movento is a reduced risk insecticide and that would be my first choice to treat black cherry aphid at petal fall. Codling moth and oblique-banded leafroller pheromone traps should be placed in the orchard now. Fire blight risk has waned (for now) but we are still in a high-risk period for apple scab -- stay covered up with preventive fungicides such as Captan, EBDC's, or Flint. Next time the weather warms, insect and disease pressure will pick up dramatically!

We hope to see you at one of our twilight meetings this week -- on May 14 (Tuesday) we will meet at the UMass Orchard in Belchertown and on May 16 we are headed to the Rhode Island shore (Old Stone Orchard, Little Compton). So mark your calendar for next week's meetings. JC

Insects

- Oriental fruit moth (OFM) first adult moth catch was app. May 1 at the UMass Orchard in Belchertown. Traps have caught upwards of 100 moths (cumulative catch). The petal fall spray starts to control OFM in both peaches and apples as it is applied. See below for information to time subsequent spray(s). Mating disruption can also be used for OFM.

Oriental Fruit Moth Results for Belchertown

First Trap Catch: 5/1/2013

First Trap Catch date above is estimated based on degree day accumulations or user input. Enter the actual date for blocks of interest and the model will calculate the protection period after first trap catch more accurately.

Accumulated degree days (base 45°F) first trap catch through 5/13/2013: 171 (0 days missing)

Pest stage: Moths flying & 50% of eggs have hatched

The pest stage above is estimated. Select the actual stage and the model will recalculate recommendations.

Pest Status	Pest Management
Moths are still flying and usually about 50-60% of OFM eggs from the first generation have hatched.	Check the time elapsed after petal fall to determine the exact timing of this second spray. This second spray should be applied at about 10-14 days after petal fall. This second spray against the first generation of OFM is particularly important in high-pressure orchards (past history of OFM fruit damage or high pheromone traps catches, (>10/ trap/ week) to control the remainder of hatching larvae. If this spray is applied at the normal time of a first cover spray (10-14 days after petal fall) it will also control early hatching CM larvae from the first flight of adults. Also, Plum curculio may still be active at this interval after PF in cool, rainy seasons. Pesticide information

Spotted Tentiform Leafminer Results for Belchertown

Accumulated degree days (base 43°F) 1/1/2013 through 5/13/2013: 453 (0 days missing)

Phenological stage: Petal Fall

The phenological stage above is estimated. Select the actual stage and the model will recalculate recommendations.

Pest stage: Both sap and tissue feeding mines are present

Pest Status	Pest Management
The first flight of STLM and egg hatch is over. Both younger sap feeding and older tissue mines are present.	If control sprays were not applied at the pink bud stage, sample fruit clusters for first generation sap feeding mines after petal fall, and apply insecticides if necessary. Many other pests may also be active at this time, internal Lepidoptera, plum curculio, sawfly, and the first generation of white apple leafhoppers. Compounds that are effective against STLM larvae may not provide adequate control of these other pests. Pesticide information

- It's time to deploy pheromone traps for **codling moth (CM)** and **oblique-banded leafroller** (OBLR) to set Biofix for later treatment. Not treatment suggested for CM at this time but see below for OBLR

tidbit.

Accumulated degree days (base 43°F) 1/1/2013 through 5/13/2013: 453 (0 days missing)

Phenological stage: Petal Fall

The phenological stage above is estimated. Select the actual stage and the model will recalculate recommendations.

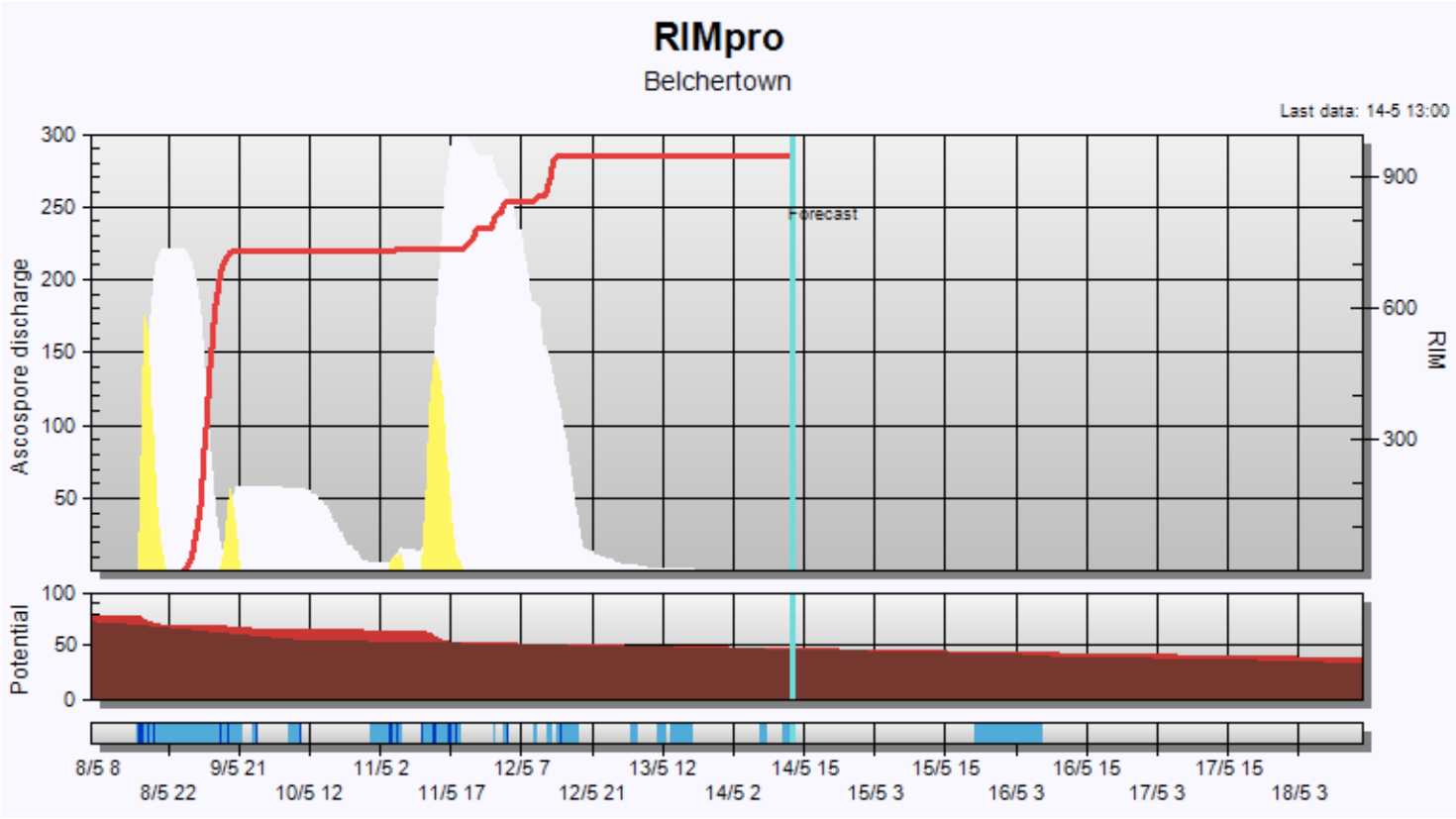
Pest stage: Overwintering larvae feeding

Pest Status	Pest Management
Overwintering larvae begin to feed on developing fruit and may cause some damage, although many fruit damaged at this time will drop off of the tree prematurely and not result in fruit damage at harvest. Fruit damage from overwintering larvae is usually relatively low (less than 5 percent).	Apply a control spray as soon as possible after petal fall to control overwintering larvae. Research studies in NY have shown that applying a single insecticide spray at either pink or petal fall is just as effective in controlling overwintering larvae and early fruit damage as applying two sprays (at pink and petal fall). Most currently available insecticides usually only reduce fruit damage from overwintering larvae by 40-60%. Usually, fruit injury from overwintering larvae is less than 5% at harvest, even if no control sprays are applied. Some studies have shown that controlling the overwintering larvae will reduce numbers of subsequent summer generation larvae and the average damage from the summer generation is usually lower than when control of overwintering larvae is omitted, particularly when large areas are treated. Plum curculio may also be a problem in some orchards at this time and many materials that are effective against OBLR do not control this pest effectively. Pheromone traps to monitor the first flight of OBLR should be deployed by June 1st. Pesticide information

- There has been much press recently about bee (honeybee) decline and the role pesticides (among many other factors) may play. EPA issued a significant report on this topic a couple weeks ago -- Report on the National Stakeholders Conference on Honey Bee Health. It can be summarized as follows: "The report shows that the decline in pollinator health we have observed is due to multiple factors, including parasites and disease, genetics, poor nutrition and pesticide exposure. The Federal Government is working collaboratively to tackle these issues. This effort is taking place across the country, from farms to bee yards to our nation's top research labs. Solving this challenge will require continued collaborative work between the federal government, researchers, beekeepers, growers, industry and the public. The report is the product of unprecedented collaboration and shows that while there is much work yet to do, solutions to this serious challenge are being developed." Please be cautious and aware of bee issues when applying insecticides at any time. Here is a nice document from Purdue -- Protecting Honeybees from Pesticides. Everyone who applies pesticides to tree fruit should read it.

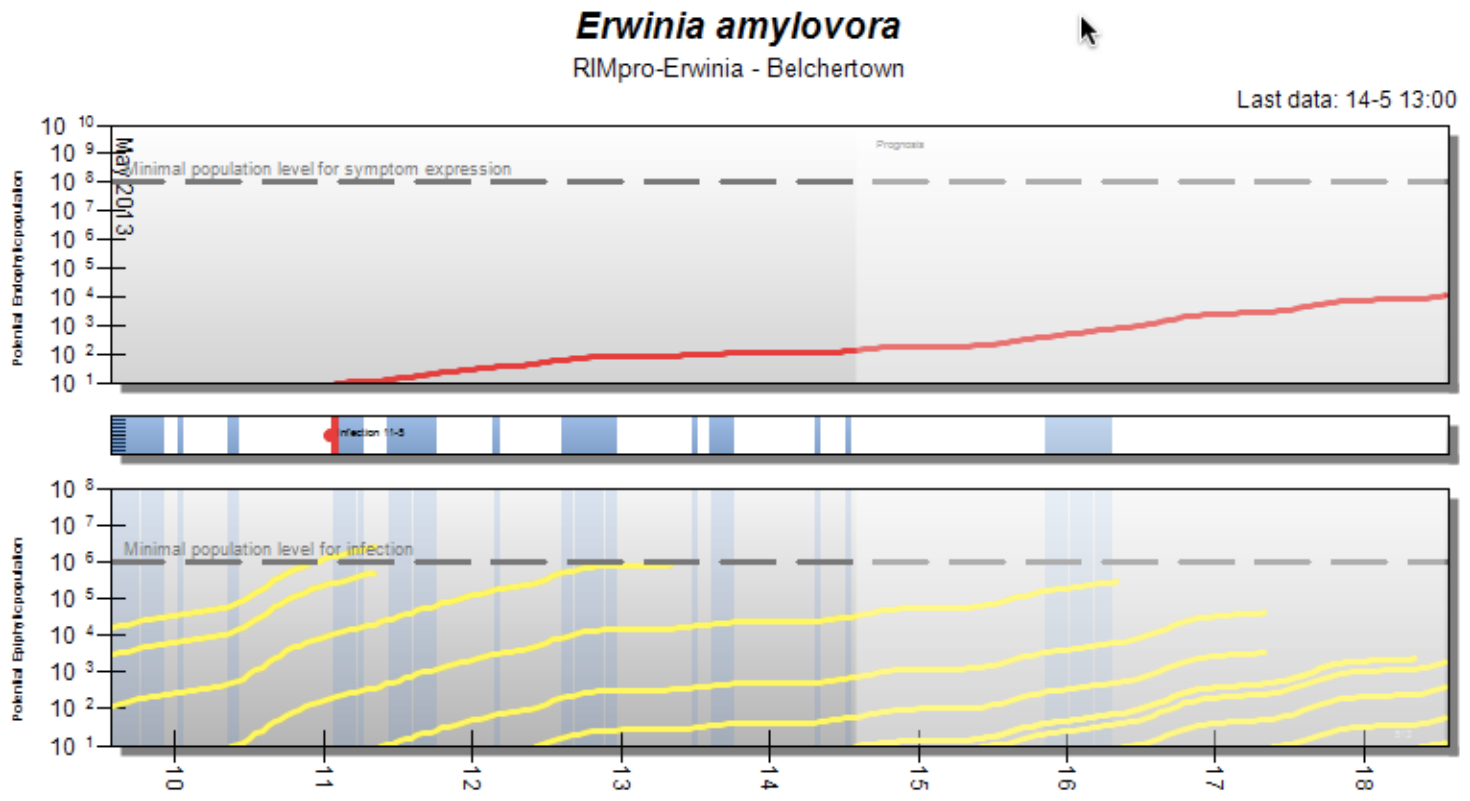
Diseases

- As you can see below from the current RIMpro output, there was a significant **apple scab** infection period beginning app. May 8 last weekand continuing through May 12. Very important to have maintained good fungicide coverage through that period. If not, you should start looking for scab lesions in about a week! At this point in time there are no forecast apple scab infection events.



1. the yellow peak shows the discharge of ascospores during and following a rain event
2. the white field shows the amount of spores surviving on the leaf surface
3. the red line indicates the amount of spores that has finished the germination process and is infecting the leaf regardless of leaf wetness
4. RIM values over 300 are considered high infection risk

- Regarding **fire blight**, here is the current RIMpro output:

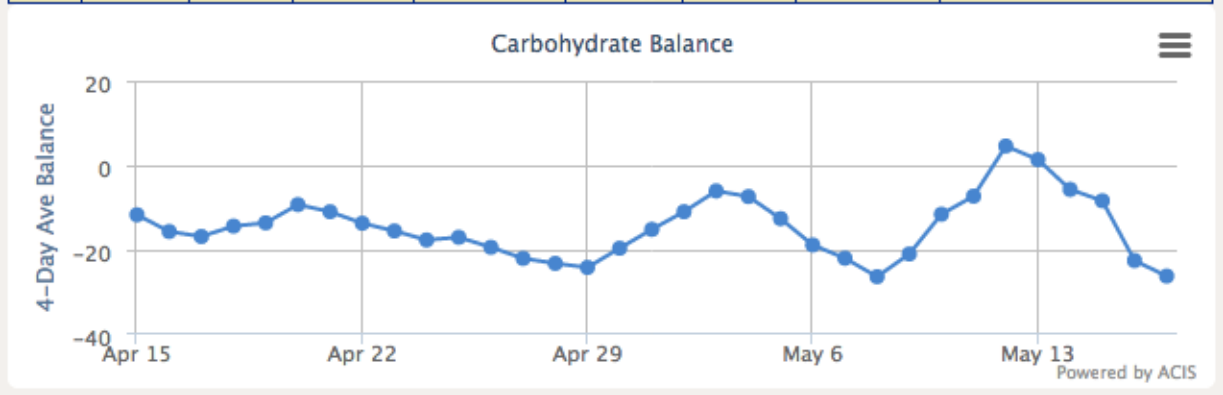


Although the graph needs some explanation, the bottom line is there was a potential fire blight infection on Saturday, May 11. You should have applied streptomycin to open apple or pear blossoms just prior toor just after that potential infection event. Otherwise, from today (May 14 on) there is not enough heat to develop the bacteria enough to present an infection risk for the foreseeable future.

Horticulture

- I want to point out that the Apple Carbohydrate Thinning Model is now available on NEWA: http://newa.cornell.edu/index.php?page=apple-thin. Below is the current output for Belchertown:

5/14	62	39	16.8	26.01	25.85	0.16	-5.68	Apply standard chemical thinner rate
5/15	70	31	20.3	45.11	28.46	16.65	-8.37	Apply standard chemical thinner rate
5/16	77	49	22.7	35.93	56.98	-21.05	-22.5	Decrease chemical thinner rate by 15%
5/17	81	48	24.7	43.85	62.34	-18.48	-26.16	Decrease chemical thinner rate by 15%
5/18	76	48	24.3	50.99	61.61	-10.62		
5/19	79	48	11.8	28.77	68.62	-39.85		
5/20	71	53	11.1	30.43	66.1	-35.68		



Although Duane Greene would suggest that the model is not as useful right at petal fall, it will become more useful as we approach the traditional thinning window of app. 10 mm fruit size. For now, take the last column to heart -- if it says "Increase" or "Decrease" the "standard chemical thinner rate" then you are advised to do so. I hope to see a better explanation of how to interpret the model soon and will reference it as soon as I have it. For now, looking a day or two out, it suggests that trees will be in a carbohydrate deficit and will hence be "easier" to thin. Thus, it suggests reducing the chemical thinner rate by 15%. If one were using Fruitone at this time at a "standard" rate of 4 oz. per acre, then you might want to consider reducing that to 3 oz.per acre. Make sense?

Useful links

UMass Fruit Advisor: http://umassfruit.com

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

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

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UMass Vegetable & Fruit IPM Network (on Facebook, http://www.facebook.com/umassipmteam)

The next Healthy Fruit will be published on Tuesday, May 21 or thereabouts, 2013. 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.