

scaffolds

Update on Pest Management
and Crop Development

F R U I T J O U R N A L

July 5, 2016

VOLUME 25, No. 16

Geneva, NY

IN THE BUG JAR

ORCHARD
RADAR
DIGEST



Insect model predictions for Highland[H] / Geneva[G]

[Source:

[NEWA Apple Insect Models,
http://newa.cornell.edu/index.
php?page=apple-insects\]](http://newa.cornell.edu/index.php?page=apple-insects)

Obliquebanded Leafroller

Obliquebanded Leafroller 90% hatch
@810 DD43; 100% hatch @950 DD43
(currently @ 982[H] / 820[G]).

❖❖ Geneva Predictions:

Roundheaded Appletree Borer

RAB Peak egg laying period rough-
ly: June 23 to July 7. Peak RAB egg
hatch roughly: July 8-27.

Dogwood Borer

Peak DWB egg hatch roughly: July 27.

Codling Moth

Codling moth development as of July 5: 1st
generation adult emergence at 100% and 1st
generation egg hatch at 94%.

Lesser Appleworm

2nd LAW flight begins around: July 10.

Obliquebanded Leafroller

If first OBLR late instar larvae sample is below
threshold, date for confirmation follow-up:
July 6.

Oriental Fruit Moth

2nd generation first treatment date, if needed:
July 5.

Redbanded Leafroller

2nd RBLR flight begins around June 27.
Peak catch and approximate start of egg hatch:
July 10.

Spotted Tentiform Leafminer

Rough guess of when 2nd generation sap-feed-
ing mines begin showing: July 4.

PEST FOCUS

Highland: STLM 2nd generation flight declining.
Peak flight of 2nd generation RBLR.
End of 1st generation flight of CM.
Decline of OBLR flight; >90% hatch/
emergence of OBLR larva.
No apple maggot in baited spheres.
Pear psylla nymphs at threshold.

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GENERAL INFO

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SMOLDER- ING ISSUES

POST-FIREWORKS
(Art Agnello,
Entomology, Geneva;
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❖❖ The summer seems to have settled into a prolonged hot and dry spell, a pattern that will tend to benefit some insect pests more than others. The following is a brief rundown of some items to keep near the top of your "scramble" list, just to help prevent anything from getting out of hand.

Internal Leps

We are generally in between the first and second flights for both codling moth and oriental fruit moth. The first brood CM flight has tapered off and we're nearly through the hatch period, although we have been seeing some remnants of a moderate spike in the Wayne Co. trap capture numbers for this flight (the vaunted "B peak" that can vex early season management efforts), so most sites with traditionally heavy pressure from these pests should still be subject to first generation larval control needs. If you aren't actually inspecting the young fruitlets for signs of fresh infestation, it would be prudent at least to consider the need for a(nother) protective spray if weekly adult numbers surpass 5 per trap; Delegate, Altacor, Belt, and Exirel are the top-ranked options. Additionally, we'll be looking for increasing captures of the 2nd flight of oriental fruit moth (time management sprays for when catches exceed 10/trap/week), and should note a definite uptick in trap numbers within the next 7–10 days, especially if the temperatures maintain typical July values.

Obliquebanded Leafroller

According to our developmental models, the first summer brood hatch should be anywhere from 50–100% complete around the state this week. Orchards with historically

high OBLR pressure should normally receive an application of a suitable material during the first part of July, so this week would be the latest possible time for such an application against the larvae of this brood if they haven't been attended to. Delegate, Altacor, Belt, Exirel, Rimon and Proclaim are appropriate choices, particularly in cases where the larvae are a bit larger, and a B.t. product such as Dipel, or else the IGR Intrepid are also options, but these tend to be more effective when applied against the earlier stages. If you are applying any of the diamides (Belt, Altacor, Exirel) or Delegate to control codling moth and oriental fruit moth, they will also be very effective against OBLR at this time. Regardless, we have found that this specific spray is the most critical for preventing fruit-feeding damage at harvest, so put this at the top of your list of priorities if OBLR has distressed you in the past.

Apple Maggot

Adults have not made their first appearance in Geneva or Highland yet, but should begin showing up in traditional high-pressure sites around the state soon. Stings and larval tunneling would first be detected in early and favored

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varieties such as Ginger Gold and Honeycrisp, particularly in the Hudson Valley. If you aren't monitoring in specific orchards and haven't yet made preparations for a protective spray against AM (and aren't using Delegate or Altacor for OBLR, both of which have some activity on AM), prudence would suggest attention to this pest. Hanging a few volatile-baited sphere traps on the edge of susceptible plantings can provide valuable insight on when (and whether) immigrating flies are posing a threat. Growers on a Delegate or Altacor program for leafrollers/internal leps should get some protection against moderate AM pressure. For those not using Imidan in their cover sprays, Assail will provide excellent control of apple maggot as well as internal leps.

Woolly Apple Aphid

Individual nymphs should have started to become noticeable as they make their way up into the canopies of infested trees, and we have started seeing some aerial colonies in the Geneva research plantings. This would be a prudent time to begin a preventive spray program for this pest in blocks with historically high pressure. Quoting from the May 31 issue's overview of treatment options:

'WAA is resistant to the commonly used organophosphates, but other insecticides are effective against WAA, including Diazinon and Movento, and some additional products such as Admire, Assail, or Beleaf may offer suppression. For Movento and Assail, addition of a non-ionic surfactant (e.g., LI-700 or Regulaid) or horticultural mineral oil will improve activity. Good coverage to soak through the insects' woolly coverings is integral to ensuring maximum efficacy. Additionally, a Lorsban trunk application for borers made at this time will effectively control any crawlers that might be contacted by these sprays.'

European Red Mite

These conditions are favorable for mid-sea-

son buildup of mite populations, and ERM does better when it's hot and dry than do predator mites that could help lessen their impact, so it would be advisable to inspect the foliage in traditional hot spots plus sensitive varieties like Delicious, Braeburn and Gala, to be sure they don't blow up with the warm temperatures. During July, we recommend a 5 per leaf threshold of motile stages, and you can use the appropriate presence-absence sampling chart on p. 74 of the Recommends.



Spotted Wing Drosophila

First captures of female SWD have been recorded in various parts of the state already this season: in Suffolk Co (June 15), Ontario Co. (June 16), Niagara Co. (June 17), Albany and Wayne Cos. (June 21), and Ulster Co. (June 23), with sustained captures being reported in Suffolk and Ontario Counties. Although berry fruit crops are considered to be most at risk for SWD infestation, cherries are also potential targets, so growers with either sweet or tart cherries that are not in the process of being harvested soon may want to consider using a protective spray to get them through the final days of maturation in sound shape. Labeled products such as Imidan (tarts only), Asana, Lambda-Cy, Danitol, and Exirel, (plus Delegate – suppression only) are potential options. Asana and Lambda-Cy are 2(ee) labels; users must have a copy in their possession at time of application. ❖❖

FIELD
EXPEDIENT

The Cornell Fruit Field Day will be held in Geneva on Wednesday, July 20. This event, being organized by Cornell University, the NYS Agric. Experiment Station, CALS Fruit Program Work Team, and Cornell Cooperative Extension, will feature ongoing research in berries, hops, grapes, and tree fruit. All interested persons are invited to learn about the fruit research under way at Cornell University. Attendees will be able to select from tours of different fruit commodities. It will be based at the NYSAES Fruit and Vegetable Research Farm South, 1097 County Road No. 4, 1 mile west of Pre-emption Rd. in Geneva, NY. Admission is \$50/person (\$40 for additional attendees from the same farm or business). Lunch is provided, including **beer tastings by War Horse Brewing AND Nedloh Brewing**. Pre-registration is required; walk-in registration may be available for a \$10 surcharge on

the day of the event. Please use the registration link below to register via credit card:
<http://events.cals.cornell.edu/ffd2016>

CORNELL AND CCE EMPLOYEES get free admission, but please pre-register using the same link; there's a **Cornell Staff** tab at the top of the home page, which will take you to a page to pre-register and select a lunch option.

To participate as a sponsor, see the website page or contact Shelly Cowles (315-787-2274; mw69@cornell.edu).

NOTE: This year's IFTA (International Fruit Tree Association) Summer Study Tour is taking place in western NY and will focus on the Cornell Fruit Field Day, with complementary tours on the day before and after (July 19, Orleans Co. and July 21, Wayne Co.) For more information on this tour, see their website: <http://www.ifruittree.org>

2016 Cornell Fruit Field Day Program Presentation List

Tree Fruits (AM)

- 1 - Jaume Lordan, Poliana Francescato - Strategies to control bitter pit
- 2 - Lailiang Cheng, Mario Miranda Sazo - Bitter pit of Honeycrisp: Physiological causes & mitigation strategies
- 3 - Poliana Francescato, Terence Robinson - Precision chemical thinning – A useful and practical guide for apple growers
- 4 - Jaume Lordan, Poliana Francescato, Terence Robinson - 2010 NC-140 Honeycrisp apple rootstock trial
- 5 - Andrew Landers, Tomas Palleja - Precision spraying the orchard
- 6 - Jaume Lordan, Poliana Francescato, Terence Robinson - 2013 NC-140 Pear systems and rootstock trial
- 7 - Amelia Zhao, Kerik Cox - Fire blight management using biological control, SARs, and antibiotics
- 8 - Matthew Boucher, Kerik Cox, Greg Loeb - The role of insects in spreading fire blight in apples

continued...

Tree Fruits (PM)

- 1 - Susan Brown, Kevin Maloney - Cornell apple breeding and genetic studies
- 2 - Betsy Bihn - FSMA Produce Safety Rule
- 3 - Katrin Ayer, Kerik Cox - Chemical management of apple scab and powdery mildew
- 4 - Kenong Xu - Apple genomics studies
- 5 - Amy Tabb - A robotic system for 3D tree architecture phenotyping
- 6 - Jaume Lordan, Poliana Francescato, Terence Robinson - 2010 NC-140 Cherry systems and rootstock trial
- 7 - Juliet Carroll, Terence Robinson, Thomas Burr, Steve Hoying, Kerik Cox - Bacterial canker of sweet cherries
- 8 - Thomas Chao, Gregory Peck - *Malus* selections for potential use in cider production
- 9 - Art Agnello - Ambrosia beetle management trials

Berries (AM)

- 1 - Courtney Weber - High Density Training for High Tunnel Black Raspberry Production
- 2 - Amara Dunn, Kerik Cox - Management of multi-fungicide resistance in *Botrytis cinerea* of strawberry
- 3 - Greg Loeb, Dale Ila Riggs, Laura McDermott, Stephen Hesler - A potential push/pull strategy for managing spotted wing drosophila in red raspberry
- 4 - Stephen Hesler, Greg Loeb, Dong Cha, Peter Jentsch, Faruque Zaman, Juliet Carroll, Jan Nyrop - Monitoring spotted wing drosophila for management decisions in summer raspberry and blueberry crops
- 5 - Anna Wallingford, Greg Loeb - A potential push/pull strategy for managing spotted wing drosophila in red raspberry
- 6 - Julie Carroll - Spotted wing drosophila update; hummingbird use, monitoring network
- 7 - Heather Grab, Katja Poveda, Bryan Danforth, Greg Loeb - Managing farms and landscapes for both biological control and pollination services
- 8 - Marvin Pritts, Kaspar Kuehn - Day-neutral strawberries/low tunnel production

Grapes & Hops (PM)

- 1 - David Gadoury - Management of powdery and downy mildew in hops
- 2 - Tim Weigle - Hops weed management; mite biocontrol
- 3 - Gary Bergstrom - Update on malting barley research
- 4 - Tim Martinson, Chrislyn Particka - Early leaf removal on Rieslings for manipulating cluster size at bloom
- 5 - Bruce Reisch - The *Vitis*Gen project: Impact on the development of new grape varieties
- 6 - Greg Loeb, Marc Fuchs, Miguel Gomez - Managing the spread of leafroll virus in *Vinifera* grape using insecticides and vine removal
- 7 - Andrew Landers, Tomas Palleja - Precision spraying in the vineyard

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1-7/5/16):	1500.3	946.8
(Geneva 1/1-7/5/2015):	1458.1	953.1
(Geneva "Normal"):	1552.7	996.6
(Geneva 1/1-7/11, predicted):	1693.8	1098.3
(Highland 1/1-7/5/16):	1901.8	1219.2

<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Apple maggot 1st catch	1249-1663	796-1072
Apple maggot 1st oviposition punctures	1605-2157	1144-1544
American plum borer 2nd flight start	1560-2140	1028-1434
Codling moth 2nd flight start	1571-2245	1027-1507
Comstock mealybug 1st flight peak	1505-1731	931-1143
Dogwood borer flight peak catch	1462-1878	920-1244
Lesser appleworm 2nd flight start	1412-2090	912-1392
Obliquebanded leafroller 1st flight subsides	1619-2045	1051-1379
Oriental fruit moth 2nd flight peak	1444-1960	920-1316
Pandemis leafroller flight subsides	1435-1693	897-1105
Redbanded leafroller 2nd flight peak	1528-1986	981-1331
San Jose scale 2nd flight start	1629-1979	1058-1336
STLM 2nd gen tissue feeding mines present	1378-2035	913-1182

all DDs Baskerville-Emin, B.E.

INSECT TRAP CATCHES (Number/Trap)

	Geneva, NY			Highland, NY		
	<u>6/27</u>	<u>6/30</u>	<u>7/5</u>	<u>6/27</u>	<u>7/5</u>	
Redbanded leafroller	9.0	8.0	8.0	Redbanded leafroller	39.0	45.0
Spotted Tentiform Leafminer	78.0	123.0	158.0	Spotted Tentiform Leafminer	255.5	214.5
Oriental Fruit Moth	4.0	0.0	1.0	Oriental Fruit Moth	3.5	4.5
Codling Moth	11.5	2.0	3.5	Lesser Appleworm	21.5	25.0
American Plum Borer	0.0	0.0	0.0	San Jose Scale	10.0	1.5
Lesser Peachtree Borer	0.5	1.5	0.5	Codling Moth	31.5	7.5
Obliquebanded Leafroller	7.0	2.0	0.0	Obliquebanded Leafroller	63.0	22.0
Pandemis Leafroller	3.0	2.0	1.0	Dogwood Borer	1.5	9.5
Dogwood Borer	15.5	30.0	23.5	Brown Marmorated Stink Bug	0.0	0.0
Peachtree Borer	1.0	2.5	3.0			
Apple Maggot	-	-	0.0			

* = 1st catch

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

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