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Update on Pest Management and Crop Development

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

May 11, 2015 VOLUME 24, No. 7 Geneva, NY

INSECTS

FLUTTER CLUTTER

ORCHARD RADAR DIGEST

[H = Highland; G = Geneva]:

Oriental Fruit Moth

1st generation 55% egg hatch and first treatment date, if needed: May 21 (H)/ May 25 (G).

San Jose Scale

First adult SJS caught on trap: May 13 (H)/May 17 (G).

1st generation SJS crawlers appear: June 13 (H)/June 17 (G).

Roundheaded Appletree Borer

RAB egglaying begins: May 29 (H)/June 2 (G). Peak egglaying period roughly: June 20 to July 5 (H)/June 24 to July 9 (G).

Dogwood Borer

First DWB egg hatch roughly: June 20 (H)/June 23 (G).

Codling Moth

1st generation, first sustained trap catch biofix date: May 11 (H)/ May 13 (G)

1st generation adult emergence at 1% (H)/0% (G) and 1st generation egg hatch at 0% (H)/0% (G)

1st generation 3% egg hatch expected: June 3 (H)/ June 6 (G).

Lesser Appleworm

Peak LAW trap catch: May 15 (H)/May 18 (G).

Mullein Plant Bug

Expected 50% egg hatch date: May 10 (H)/May 11 (G), which is 6 days before rough estimate of Red Delicious petal fall date.

Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 3 (H)/June 6 (G).

Spotted Tentiform Leafminer

1st generation sapfeeding mines start showing: May 16 (H)/May 16 (G).

White Apple Leafhopper

1st generation WALH found on apple foliage: May 9 (H)/May 10 (G).

IN THIS ISSUE…

INSIDE JOB

SENDING THE RIGHT SIGNALS

(Greg Krawczyk [gxk13@psu.edu] and Larry Hull, Penn State Univ., Biglerville; Art Agnello, Entomology, Geneva; ama4@cornell.edu)

[Ed. Note: We are once again reprinting some excerpted advice on mating disruption of internal-feeding Lepidoptera contributed a couple of years ago by our Pennsylvania colleagues, with a few updates, to help in your preparations for managing these pests, which are already beginning to show up.]

❖❖ For growers planning to use mating disruption as part of their annual codling moth (CM) management program, you should have already purchased (if not already placed) your products for this year. There are a number of products on the market that affect both codling moth and the oriental fruit moth (OFM) simultaneously, in addition to a number of products that affect just a single species. Briefly, if your target is both CM and OFM, there are a number of products that affect both pests – CheckMate CM/OFM Duel, CheckMate CM/OFM Puffer, Isomate CM/OFM TT, and Isomate CM/OFM Mist. Please follow the label for each product for dispenser density and placement within the tree (i.e., for CM, place the dispensers in the top 20 percent of the tree canopy). Even though OFM has already started to fly, the above products should be in place before CM biofix.

For those growers who have used a mating disruption product for CM in previous years, it is likely that you will need some supplemental insecticides, especially for the first generation (see below for a listing of product choices). In addition, it is very important that you place pheromone traps in trees to monitor the success of your mating disruption program. We have conducted a number of studies with a newer lure from Trécé Inc. to monitor CM in mating disruption blocks, called a CM-DA Combo. It contains both the sex pheromone – which is released by the females to attract the males – and a kairomone (i.e., a plant-derived chemical volatile [i.e., pear ester]) that attracts both male and female moths. We recommend at least one trap per 5 acres with no less than one trap per 10 acres to determine the success of your mating disruption program. There are also powerful 10X lures available for monitoring CM male adults in mating disruption blocks. These products are available from either Suterra LLC, Trécé Inc, or other distributors.

If your plan is to use just conventional insecticides for CM control this year, your choice of products is quite varied, depending on the stage of CM you wish to target. Products that possess ovicidal activity (i.e., affecting the eggs) should be applied as follows: Intrepid or Rimon – apply within 150–175 DD after biofix and follow up 14 days later (note, Rimon may only be used once per season in NYS). Insecticides that target the hatching larvae (i.e., 230–250 DD after biofix) are as follows: diamides (e.g., Altacor, Belt, Exirel, Voliam Flexi), organophosphate (Imidan), neonicotinoids (e.g.,

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is published weekly from March to September by Cornell University—NYS Agricultural Experiment Station (Geneva) and Ithaca—with the assistance of Cornell Cooperative Extension. New York field reports welcomed. Send submissions by 2 pm Monday to:

scaffolds FRUIT JOURNAL
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This newsletter available online at:
http://www.scaffolds.entomology.cornell.edu

Assail, or Calypso if you still have any), Avaunt, and Delegate. Please refer to the Tree Fruit Guidelines for rates on these products. It is important to implement good resistance management practices for all of the above products; that is, use only one of the above active ingredients within the same generation of CM; do not use the same active ingredients across two consecutive generations).

Another option that growers can consider for internal lep control is a codling moth granulosis virus (CpGV) (e.g., Carpovirusine, Cyd-X, or Madex HP, the new Certis product containing a CpGV that is active on both CM and OFM). We have used these products very successfully over the past few years in combination with mating disruption to reduce the severity of this pest. CpGV products must be ingested by the hatching larvae. The larvae will continue to feed for a couple of days before the virus kills them. CpGV products are fairly short residual (i.e., 5–7 days); thus, they need to be reapplied more often than conventional insecticides. Growers will likely need 4–5 applications per generation depending the length of the egg hatch period, the severity of the populations, and weather conditions.

Even if you are just using insecticides or CpGV for CM control this year, don't forget to use pheromone traps to monitor adult populations in your orchards. Monitoring traps in insecticide-only treated orchards require the use of a 1X lure. The traps are very important for setting biofix, determining the seasonality of adult flight, and they can estimate the relative adult population density in the immediate area. We don't yet have any hard and fast moth capture thresholds for determining whether to spray or not spray in insecticide-only treated orchards. However, we have recognized the utility in relying on the provisional "ballpark" values of 5 CM/trap and 10 OFM/trap.

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GENERAL INFO

ORGANIC APPLE WORKSHOP

EVENT ANNOUNCEMENT

❖❖ On Wednesday, June 10, NOFA-NY will be joining with Cornell to sponsor a Field Day Workshop entitled "Organic Production: Managing Productivity, Insects, Diseases and Weeds" at the NYSAES Loomis Farm, 3135 County Rd. 6, Geneva, from 1:00–4:30 PM. Presentations by entomologist Arthur Agnello, horticulturists Terence Robinson and Susan Brown, and plant pathologist Kerik Cox will focus on organic orchard practices informed by their ongoing research in the Station's 3-acre organic apple planting. Growth and productivity will be discussed, including new and upcoming disease-resistant varieties, rootstocks, training systems, pruning, weed control options, and nitrogen fertilization. Basic and advanced seasonal management approaches to insect control will be shared such as the use of entomopathogenic nematodes for biological control of plum curculio, and predatory mite seeding for the control of European red mite. The group will also go over organic fire blight management techniques and results from last year's summer disease trials.
Registration fees are $15/person or $25 for two or more people/farm.
Please pre-register online at: http://www.cvent.com/events/organic-apple-production-managing-productivity-insects-disease-and-weeds/event-summary-dd51400a20b0417e89d-847bae3565cf2.aspx
Pre-registration closes at 4pm on June 8th. [NOTE: This field day is free to Cornell faculty and CCE staff; please sign in at the event, as pre-registration is not necessary.]
This event is produced by NOFA-NY in partnership with the NYS Agricultural Experiment Station and support from the NYS Dept. of Ag & Mkts Specialty Crop Block Grant Program.

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PHENOLOGIES

Geneva:	5/18, predicted
Apple (McIntosh, Empire, Red Delicious): bloom	petal fall
Sweet cherry (early): fruit set, shucks on	
Sweet cherry (late): 50% petal fall	fruit set
Peach: bloom	petal fall–fruit set

Highland:
Apple (McIntosh): 50% petal fall
Apple (Empire, Spur Red Delicious): 25% petal fall
Apple (Ginger Gold): 80–100% petal fall
Apple (Golden Delicious): full bloom
Pear (Bartlett, Bosc): fruit set
Peach (Early): full bloom
Apricot: fruit set

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	5/4	5/8	5/11
Green fruitworm	0.3	0.1	0.5
Redbanded leafroller	12.8	11.3	17.2
Spotted tentiform leafminer	2.8	14.4	24.3
Oriental fruit moth	0.3*	17.8	29.8
Lesser appleworm	0.0	0.0	0.5*
San Jose scale	0.0	0.0	0.0

Highland, NY

	5/4	5/11
Green fruitworm	0.6	0.1
Redbanded leafroller	18.5	18.9
Lesser appleworm	0.4*	0.0
Oriental fruit moth	0.1*	2.6
Codling moth	0.0	0.4*
Spotted tentiform leafminer	–	32.4
San Jose scale	–	4.7
Dogwood borer	0.0	0.0

* first catch

PEST FOCUS

Geneva: 1st **lesser appleworm** trap catch today, 5/11.

Highland: 1st **codling moth** trap catch today, 5/11. 1st **plum curculio** damage in sweet cherry and pear.

UPCOMING PEST EVENTS

	43°F	50°F
Current DD* accumulations (Geneva 1/1–5/11/15):	378	225
(Geneva 1/1–5/11/2014):	301	152
(Geneva "Normal"):	414	211
(Geneva 1/1–5/18, predicted):	500	303
(Highland 1/1–5/11/15):	500	292

Coming Events:	Ranges (Normal ±StDev):	
Spotted tentiform leafminer 1st flight peak	267–409	123–213
Spotted tentiform leafminer sap-feeders present	343–601	165–317
Comstock mealybug 1st gen. crawlers in pear buds	215–441	80–254
Lesser appleworm 1st trap catch	269–569	125–309
Lesser appleworm 1st flight peak	359–781	176–448
Mullein bug 1st hatch	331–443	163–229
Mullein bug 50% hatch	429–473	208–262
Mullein bug 90% hatch	472–610	247–323
Oriental fruit moth 1st flight peak	332–540	168–288
1st rose leafhopper nymph on multiflora rose	239–397	96–198
American plum borer 1st catch	388–514	192–280
Codling moth 1st catch	399–571	202–310
Lesser peachtree borer 1st catch	482–678	253–377
Plum curculio oviposition scars present	485–589	256–310
Pear psylla hardshell present	493–643	271–361
San Jose scale 1st catch	435–615	218–340
McIntosh bloom	345–417	171–217
McIntosh petal fall	448–524	231–281

*[all DDs are Baskerville-Emin (B.E.)]

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.

This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.