

# scaffolds

Update on Pest Management  
and Crop Development

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

July 9, 2012

VOLUME 21, No. 18

Geneva, NY

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JULY  
KIT?

ORCHARD  
RADAR  
DIGEST



SOME SOME  
SUMMERTIME  
(Art Agnello,  
Entomology,  
Geneva)

SOME  
LIKE  
IT HOT

## Roundheaded Appletree Borer

Peak hatch roughly: June 30 to July 19.

## Codling Moth

2nd generation egg hatch at 7%: July 17.

## Oriental Fruit Moth

2nd generation - second treatment date, if needed: July 6.

## Spotted Tentiform Leafminer

Third optimized sample date for 2nd generation sapfeeding mines, if needed: July 16.

❖❖ True to form, the early season showers that had the grass and weeds shooting up noticeably every night have come to an end, and the summer has reverted to its normal hot and dry phase for the foreseeable future. This type of weather pattern tends to benefit some insect pests and hinder 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 boiling over.

continued...

## PEST FOCUS

Geneva: **San Jose scale** 2nd flight began Thursday, 7/5. **American plum borer** and **codling moth** 2nd flights began today, 7/9.

Highland: **San Jose scale** 2nd flight began Thursday, 7/5, 6/18. **Spotted tentiform leafminer** 2nd flight began Friday, 7/6. **Oriental fruit moth** peak larval emergence predicted to occur today, 7/9.

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### PEST FOCUS

### INSECT TRAP CATCHES

### UPCOMING PEST EVENTS

### Internal Leps

We are still generally in between the first and second flights for codling moth, while the 2nd oriental fruit moth flight got under way earlier this month. The first brood CM hatch essentially ended last week, so most sites with traditionally heavy pressure from these pests should have already addressed first generation larval control needs. Look for the first captures of the 2nd flight for purposes of timing management sprays; we should note a definite uptick in trap numbers within the next 7–10 days, especially if the current hot spell continues. (Note: First trap catch of codling moth 2nd flight occurred today, 7/9, in Geneva)

### Obliquebanded Leafroller

According to our developmental models, the first summer brood should have completed its hatch throughout the state last week. Orchards with historically high OBLR pressure should have received 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, 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 Belt, Altacor 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 began showing up in Geneva last week, so trap catches should be starting up in traditional high-pressure sites around the state, although dry soil conditions could hamper the normal progress of adult emergence. Stings and larval tunneling could soon be detected in early and favored varieties such as Ginger Gold and Honeycrisp, particularly in the Hudson Valley. If you aren't monitoring in specific orchards and haven't yet applied 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 OPs in their cover sprays, Assail and Calypso will both provide excellent control of apple maggot as well as internal leps.

### Mites, and Other Foliar Foes

European red mite eggs and motile forms are present on the foliage right now, some of them at increasing levels. Under the current sultry temperatures, the period from egg deposit to hatch and multiplication will be a short one. Inspect your leaves using the 5 mite/leaf form on p. 73 of the Recommends, and be aware that two-spotted mite populations increase more quickly than ERM, so be conservative in your interpretations. Kanemite, Portal, and Zeal are options to keep in mind if treatment is needed; Acramite tends to be more effective against TSSM than ERM, and

continued...

### scaffolds

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<http://www.scaffolds.entomology.cornell.edu/index.html>

For more fruit resources, check out the Cornell Fruit Page: <http://www.fruit.cornell.edu/>

Nexter works better against red mites than it does on twospots, but the main advice is to get out there and look at your foliage. This also will give you an occasion to observe any incidental invasions of either Japanese beetles or potato leafhoppers, both of which have been noted as increasing around the region. For management guidelines, refer back to Scaffolds issues No. 16 (June 25) and No. 14 (June 11), respectively. ❖❖

## FRUIT FACTS

### EVENT REMINDERS

LAKE ONTARIO CORNELL COOPERATIVE EXTENSION SUMMER FRUIT TOUR  
Featuring New Technology in the Wayne Co. Fruit Industry

Tuesday, July 24, starting 8:00 am: G & S Orchards, 825 Atlantic Ave., Walworth

❖❖ Highlights of the tour will include berry and odd fruit production and pest management issues, innovative CSA marketing, weed control treatment plots in young trees, alternative pollinators for fruit crops, update on strep-resistant fire blight in NY, controlling tree growth in a light crop year, climate, frost and crop protection methods, managing growth in grafted trees, using induction cones for safer pesticide mixing, using platforms and hedgers for increased labor efficiency in tall spindle plantings. Growers, industry, and Cornell faculty and specialists will share new technology and better ways to produce fruit.

Stops: G & S Orchards, Walworth; Mason Farms, Williamson; Orbaker Fruit Farm, Pultneyville; Knapp Orchards, Sodus; and VandeWalle Fruit Farms, Alton. ❖❖

Thanks to Sponsors, there is no charge to attend!

Please register by July 20: Call 585-798-4265 or email [krh5@cornell.edu](mailto:krh5@cornell.edu)

For more information, visit: <http://www.fruit.cornell.edu/lof>

## IN SUSPENSION

### ENTRUST SC LABELED

❖❖ The NYS DEC has recently granted a label to Dow AgroSciences for Entrust SC (EPA Reg. No. 62719-621), a new suspension concentrate (liquid) formulation containing 2 lb of the spinosad a.i. per gallon. Like the 80WP formulation already available, this insecticide is intended for use against leafrollers, leafminers, codling moth, oriental fruit moth, and thrips in pome and stone fruits, and is approved for use in organic production. Also, the DEC has just approved its use under a 2(ee) registration for control of spotted wing drosophila in tree fruits plus small fruits plus grapes in NYS. Users must have a copy of this label in their possession at the time of use against this pest. ❖❖

BANK  
ON IT

BRANCH MANAGEMENT IS CRITICAL FOR MODERATE AND HIGHLY VIGOROUS APPLE TREES

(Terence Robinson; tlr1@cornell.edu and Mario Miranda

Sazo; mrm67@cornell.edu, Horticulture, Geneva, and Lake Ontario Fruit Team, Newark)

★★ We are finding that it is critical that you invest the necessary time and effort to manage feathers of a young Tall Spindle orchard if the trees are growing vigorously. For example, all feathers on Fuji (a vigorous apple cultivar) should be tied or weighted down below the horizontal at planting or before mid July to induce cropping and to prevent them from developing into large lower scaffolds. Feathers should not be shortened by pruning during their first year.

The steeper the angle of a feather, the stronger it will grow and the less fruit it will bear. The more horizontal a feather, the shorter it will grow and the more fruit and flower buds it will bear. Therefore, the pendant position of a feather “artificially bent below horizontal” results in a weak fruiting branch instead of a strong scaffold branch with a lot more fruiting potential (more buds are allowed to break and grow into fruitful shoots or spurs).

Fuji or Macoun feathers that are not tied down soon after planting will develop as strong upwardly arched limbs and will be problematic for the close 3-4 feet in-row spacing of the Tall Spindle system. These strong feathers will require severe (and unfortunately unneeded!) limb removal pruning at an early age, which invigorates the tree and makes long-term canopy containment problematic. Early branch management of the more vigorous apple cultivars allows for long-term cropping of many of the original feathers and little invasive pruning for the first 4-5 years of the Tall Spindle system. Even when feathers are tied down below horizontal, it is not uncommon for the new growth

of Fuji or Macoun to turn toward vertical after tying. However, the initial tying down “tames” the branch and induces cropping in the second and third year, which will limit branch growth.

Tying is best done within one month after planting but can also be done in June, July, and even until August, (the latter is more difficult due to the presence of new growth and foliage and because the time required to tie down feathers below horizontal may be considerably longer and more expensive). Branch bending can be accomplished by attaching weights to the feather (poured concrete into small cans or cups, a piece of wood, rocks etc.) but selecting the adequate weight for a feather to be bent below horizontal may be difficult. Also, feathers can’t always be placed in the desired position. We have found the following materials to be particularly suitable for tying down feathers below horizontal for the Tall Spindle system: (1) a strip of 5/8”-wide Avis-strap nailed or tied from the base of the trunk then split into strands and tied to each of the lower feathers, (2) a pre-cut 20-inch black annealed wire (sold as a 1000 pieces/bundle) each hooked around the feather directly down to the trellis wires, the conduit pipe or bamboo supporting pole, or the main trunk, and (3) a 4-inch long ghent rubber band (six-month-life with 880 rubber bands per bag) where the rubber band is tied on the trunk and the feather is placed through the band when it is stretched out. After about 4-6 months the rubber band stretches and is less effective for strong feathers while Avis-strap strings and the pre-cut black annealed wire are suitable for bending both weak and vigorous feathers.

Branch management research conducted by graduate student Leo Dominguez in Geneva has shown that bending 5 or 10 feathers below horizontal after planting significantly increased the number of spurs developed in Gala, Honeycrisp, Macoun, Jonagold and Fuji Tall Spindle trees. Bending feathers changed their crotch angle, retarded their longitudinal growth, and had a positive influence on cropping.

The tying down of feathers will be more critical if you plant a more vigorous apple cultivar with 8 or more long feathers. After the initial tying down of feathers at planting, new lateral branches that arise along the leader usually do not need to be tied down under NY orchard conditions. Most apple cultivars have moderate tree vigor and if the leader is not headed at planting the lateral shoots arising along the leader are often relatively flat and will bend below horizontal with crop load in the third year. This creates a natural balance between vigor and cropping without additional limb positioning.

We again remind growers that heading of the leader of a young apple tree is undesirable as it removes a significant portion of the tree structure already produced in the nursery. Even if a whip is planted, the leader is not pruned or headed at plant-

ing for the Tall Spindle system. Heading the leader disrupts and changes forever the natural growth and branching patterns of a young apple tree on a dwarfing rootstock intended to be grown as a Tall Spindle tree. We instead recommend applying Maxcel to stimulate branching of an “unheaded” whip so a more “calm tree” (without much new upright growth as result of the heading cut) can be produced in the orchard. However, we continue to recommend that growers plant the ideal tree which has a caliper of at least 5/8 inches with 8–10 feathers, each 10–16 inches long starting at a height of 24–26 inches above the ground, well distributed along the trunk, and with wide crotch angles. Feathers that are too low are not usable and must be removed after planting. We recommend that all feathers located below 24 inches be removed after planting for all apple cultivars. ❖❖

INSECT TRAP CATCHES (Number/Trap/Day)						
Geneva, NY				Highland, NY		
	<u>7/2</u>	<u>7/5</u>	<u>7/9</u>		<u>7/2</u>	<u>7/9</u>
Redbanded leafroller	0.3	0.2	0.0	Redbanded leafroller	1.6	0.8
Spotted tentiform leafminer	11.8	8.0	6.5	Spotted tentiform leafminer	49.4	55.1
Oriental fruit moth	0.6	0.0	0.0	Oriental fruit moth	0.0	3.4
American plum borer	0.0	0.0	0.5*	Codling moth	0.6	0.4
Lesser appleworm	0.0	0.2	0.0	Lesser appleworm	3.3	2.4
San Jose scale	0.1	1.7*	5.0	Tufted apple budmoth	5.4	0.7
Codling moth	0.0	0.0	0.1*	Fruittree leafroller	1.2	0.0
Lesser peachtree borer	0.0	0.0	0.0	Variegated leafroller	0.0	0.0
Peachtree borer	0.0	0.0	0.1	Obliquebanded leafroller	1.4	0.6
Pandemis leafroller	0.0	0.0	0.0	San Jose scale	0.4	497
Obliquebanded leafroller	0.1	0.7	0.3	Sparganothis fruitworm	0.0	0.1
Apple maggot	0.0	0.0	0.0	Apple maggot	0.5	0.3
* first catch						

## UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1–7/9/12):	2019	1359
(Geneva 1/1–7/9/2011):	1737	1156
(Geneva "Normal"):	1627	1037
(Geneva 1/1–7/16/12 predicted):	2222	1513
(Highland 1/1–7/9/12):	2179	1436
(Highland 1/1–7/9/11):	1861	1225

<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Lesser appleworm 2nd flight begins	1418–2002	918–1326
Oriental fruit moth 2nd flight subsides	2061–2529	1368–1766
Apple maggot 1st oviposition punctures	1605–2157	1144–1544
Apple maggot flight peak	2102–2602	1408–1794
Comstock mealybug 1st flight subsides	1818–2132	1216–1418
Redbanded leafroller 2nd flight peak	1554–2002	996–1344
Redbanded leafroller 2nd flight subsides	2182–2742	1471–1891
American plum borer 2nd flight peak	1991–2549	1339–1755
Obliquebanded leafroller 1st flight subsides	1612–1952	1048–1302
San Jose scale 2nd flight peak	2118–2496	1426–1746
Spotted tentiform leafminer 2nd flight subsides	1986–2378	1306–1644

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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