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Update on Pest Management and Crop Development

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

August 13, 2012 VOLUME 21, No. 23 Geneva, NY

INSECTS

AUGUST GUESTS

ORCHARD RADAR DIGEST

SOMETHING TO CHEW ON

DOGWOOD BORER BITE VS BARK (Dave Kain & Art Agnello, Entomology, Geneva)

Codling Moth

Codling moth development as of August 13: 2nd generation adult emergence at 100% and 2nd generation egg hatch at 89%.

[We are reprinting this update of our annual article on borer management because of its timeliness and applicability to dogwood borer infestations in many commercial orchards.]

❖❖ There is increasing concern throughout the Northeast about damage done to apple trees by borers. The species of primary concern is dogwood borer, but American plum borer can be prevalent in western New York apple orchards that are close to tart cherry and peach orchards. While we do not yet have a complete picture of the effects of these borers on dwarf

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PEST FOCUS

Highland: **Obliquebanded leafroller** 2nd flight began 8/6. Degree day model predicts egg hatch commencing at 340 DD(base43°F). Current accumulation since the biofix is 213 DD43. Hatch is predicted to commence on 18 August.

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INSECT TRAP CATCHES

PEST FOCUS

UPCOMING PEST EVENTS

trees, we do know that they reduce vigor and can, in time, completely girdle and kill trees.

We tested a number of insecticides against these borers over a number of growing seasons. Lorsban is very effective for this use and we have urged growers to take advantage of it where needed. In 2001–2003 we compared some other materials, including white latex paint, endosulfan, Avaunt, Surround, Intrepid, Danitol, Imidan, spinosad and Esteem against Lorsban, with varying results. To make a long story short, only Avaunt, Danitol and, possibly Esteem, applied two or three times in midsummer, provided control comparable to one application of Lorsban. Assail and Altacor were effective when applied only once in midsummer but, obviously, will control only the summer generation.

Our tests have shown that borers can be controlled season-long by applying Lorsban at various times in the spring and summer. While a postbloom trunk application of Lorsban is still allowed, enabling growers to spray at the peak of the dogwood borer flight, applying this material prebloom as early as half-inch green works well, too, and may be more convenient. Fall also may be a good time to control dogwood borer. Results from 2002 indicated that Lorsban applied postharvest the previous year (sprays went on in October 2001) controlled both the overwintering and the summer generations of dogwood borer. An October 2002 application of Lorsban similarly provided season-long control of dogwood borer in 2003. Lorsban works when applied in the spring or fall because it infiltrates burrknot tissue and kills larvae concealed within. It is also very persistent in wood so it continues to work for a considerable time after it is applied (apparently 9–12 months in our trials). Fall application may offer growers a more convenient alternative for applying borer control sprays. Recall that current Lorsban label restrictions allow only ONE application of any chlorpyrifos product in apples, whether as a foliar or trunk spray, so these recommendations pertain only if no earlier applications have been made. Bear in mind that we now also have a mating disruption option available, Isomate-DWB, which we have found to be very effective in interfering with these insects' pheromone communication process. Use of this product would be recommended as a tactic next June, before the first adult catch of the season.

In a survey we conducted recently, we observed some relationships between borer infestation and various orchard parameters such as the proportion of trees with burrknots, proximity to stone fruit orchards and presence of mouseguards. Conventional wisdom has held that borer problems are worse where mouseguards are in place. Mouseguards can contribute to increased expression of the burrknots that borers invade, and may shield borers from predators and insecticide sprays. This has led some growers to contemplate removing mouseguards under the premise that mice are easier to control than the borers. However, results of our survey indicate that dogwood borer larvae may be found as readily in trees without mouseguards as in those with them. (American plum borer may be a different story in orchards near tart cherry or peach

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trees.) A number of orchards in which we have conducted borer control trials have never had mouseguards and there is no shortage of dogwood borers in them. If mouseguards are deteriorated and no longer protect the tree, there may be some small advantage, in terms of borers, to removing them. But, in orchards where mouseguards still provide protection against rodents, removing them for the sake of borer control is probably not worth the risk. Instead, we would recommend the use of trunk sprays to control borers. Even with mouseguards on, insecticides will give adequate control if they are applied carefully (i.e., a coarse, low-pressure, soaking spray with a handgun).

Bottom line: as we go into fall, consider using Lorsban after harvest to control borers, and consider leaving mouseguards on trees where they still afford protection. ❖❖

FIELD NOTES

OOH, OOH THE SMELL

HUDSON VALLEY PEST MANAGEMENT UPDATE
(Peter Jentsch, Entomology, Highland; pjj5@cornell.edu)

Stink Bug Complex

❖❖ The activity of both the invasive brown marmorated stink bug (BMSB) and native green stink bug (*Acrosternum hilare*) in agricultural commodities has dramatically increased in the mid-Hudson Valley. Weather patterns causing drought conditions have allowed for higher levels of successful establishment of stink bug populations, while also reducing the viability of host plants. These factors most likely play a role in prompting stink bugs to move to irrigated farmland to obtain moisture-laden crops. Scouting for migrating BMSB adults should intensify, initially along the edges of peach, apple, grape, berry and vegetable plantings, and focusing on tomato, tomatillo, and pepper as well as sweet corn. The upper canopy of tree fruit will have the highest populations of BMSB and subsequent feeding injury, whereas lower limbs are likely to harbor native stink bugs, with greatest injury to the center and lower canopy fruit in the tree. Presently there are no established thresholds for BMSB presence in commodities, so conservative measures should be taken when the adults are observed.

We have observed BMSB populations building in agricultural commodities from late July through early August in Marlboro, Milton and Highland, NY. It now appears that the BMSB adult migration has been on the increase from woodlots and wooded edges to agricultural crops across the region. Adults have been seen feeding on peaches, peppers and tomatillos to produce economic damage on a number of farms in these townships.

It was believed up to this point that the Hudson Valley and upstate NY would have a single generation of BMSB. However, over the past five days we have noted increased mating activity of BMSB in these sites. My thinking on this is that we are seeing the onset of a 2nd generation of nymphs that have been emerging over the past few days. This 2nd generation has dramatically increased the population density into crops they now inhabit. It is quite likely that we will see a substantial rise in the population throughout the region if drought conditions are sustained. In this scenario, it is probable that agricultural losses will be substantial on farms where migration leading to a 2nd generation has occurred.

The brown marmorated stink bug is known to infest and feed on a diversity of landscape and agricultural crops. Highest numbers of overwintering adults have been seen this season feeding on and laying eggs in the Tree of Heaven, A*ilanthus altissima*, which is also native to Asia. Presently we have not seen BMSB move off of the Tree of Heaven onto neighboring apple or peach orchards in Orange County. This may be in part due to the continued viability of *A. altissima* seedpods, a fa-

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vored host of BMSB in all stages of development, which use the seeds as a food source. However, sustained drought conditions may lead to earlier maturation of the seed, leading to a decline in this food source. If this occurs, it will likely increase migration of this important host plant to neighboring crops.

The native green stink bug (Acrosternum hilare) has also been on the increase along the edges of vegetable fields and orchards, with increasing black light trap captures observed over the past two weeks. Very high population levels have been observed in vegetable gardens and flowerbed ornamentals. Significantly higher populations have been seen this year compared with 2011. This may be due to drought conditions during the mid- to latter part of the season that favor stink bug development.

In blocks where stink bugs or their injury has been observed, insecticide applications should be made. As these insects are most active at night, evening applications may be more effective. The pyrethroids, pyrethroid/neonicotinoid pre-mixes, Lannate SP, and Actara (labeled in stone fruit only) are very effective near harvest. Note that products containing thiamethoxam have a 35 PHI in tree fruit.

Obliquebanded leafroller (OBLR)

The first adult of the 2nd generation has been observed in pheromone traps at the Hudson Valley Lab on Aug 6th. We are presently at 213 DD, with 350DD (base 43F) or first hatch of the 2nd summer generation predicted to occur on 18 August, based on weather forecasts for the region. If unmanaged OBLR populations present in orchard blocks have caused feeding damage to fruit this season, it may be prudent to monitor larval emergence of the 2nd generation, and include appropriate insecticide inputs as needed. The link to NYS-labeled materials that are effective against this insect can be found at: http://treefruitipm.info/PesticidesForPest.aspx?PestID=36&GrowthStageID=12

Lesser Apple Worm (LAW)

Moths from the second generation are actively flying, with egg hatch continuing. Applications for the second generation should be considered if this pest is present in the orchard. Materials such as Assail, Calypso, the pyrethroids or pyrethroid premixes, and Imidan, used against the apple maggot, may have controlled susceptible LAW and CM populations if used at the appropriate rates and under favorable weather conditions. Some materials, such as Actara, have no activity against these insects. The link to NYS materials effective against LAW / OFM and CM can be found at: http://treefruitipm.info/PesticidesForPest.aspx?PestID=24&GrowthStageID=12

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The adult (L) and nymph ® of the native green stink bug (*Acrosternum hilare*).

GENERAL INFO

FIELD DAYS

EVENT REMINDERS

CORNELL FRUIT PEST CONTROL FIELD DAYS

❖❖ The N.Y. Fruit Pest Control Field Days will take place during Labor Day week on Sept. 5 and 6 this year, with the Geneva portion taking place first (Wednesday Sept. 5), and the Hudson Valley installment on the second day (Thursday Sept. 6). Activities will commence in Geneva on the 5th, with registration, coffee, etc., in the lobby of Barton Lab at 8:30 am. The tour will proceed to the orchards to view plots and preliminary data from field trials involving new fungicides, bactericides, miticides, and insecticides on tree fruits and grapes. It is anticipated that the tour of field plots will be completed by noon. On the 6th, participants will register at the Hudson Valley Laboratory starting at 8:30, after which they will view and discuss results from field trials on apples and other fruit crops. No pre-registration is required for either event. ❖❖

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	8/6	8/9	8/13
Redbanded leafroller	0.0	0.0	0.3
Spotted tentiform leafminer	40.3	55.5	21.5
Oriental fruit moth	0.0	0.0	0.1
American plum borer	0.8	0.2	0.8
Lesser appleworm	0.0	0.0	0.0
San Jose scale	12.0	15.7	4.3
Codling moth	0.4	0.5	0.1
Lesser peachtree borer	0.0	0.0	0.1
Peachtree borer	0.0	0.0	0.0
Obliquebanded leafroller	0.0	0.0	0.0
Apple maggot	1.1	1.3	0.3

Highland, NY

	8/6	8/13
Redbanded leafroller	1.8	4.3
Spotted tentiform leafminer	39.2	28.4
Oriental fruit moth	0.4	0.6
Codling moth	1.3	1.3
Lesser appleworm	3.1	8.6
Tufted apple budmoth	0.0	0.2
Fruittree leafroller	0.0	0.0
Variegated leafroller	1.4	1.0
Obliquebanded leafroller	0.1	0.2
San Jose scale	3.8	1.1
Sparganothis fruitworm	0.1	0.0
Apple maggot	1.9	1.4

* first catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–8/13/12):	3079	2174
(Geneva 1/1–8/13/2011):	2785	1966
(Geneva "Normal"):	2597	1763
(Geneva 1/1–8/20/12 predicted):	3268	2313
(Highland 1/1–8/13/12):	3278	2290
(Highland 1/1–8/13/11):	2968	2087

Coming Events:	Ranges (Normal ±StDev):	
Oriental fruit moth 3rd flight peak	2662–3236	1831–2243
Oriental fruit moth 3rd flight subsides	2928–3412	1978–2310
Apple maggot flight subsides	2772–3258	1907–2283
Redbanded leafroller 3rd flight peak	2717–3207	1881–2225
Spotted tentiform leafminer 3rd flight subsides	3230–3444	2246–2432
Codling moth 2nd flight subsides	2845–3493	1922–2472
Obliquebanded leafroller 2nd flight peak	2593–3011	1758–2098
Obliquebanded leafroller 2nd flight subsides	3095–3473	2121–2457
Lesser appleworm 2nd flight peak	2131–3105	1422–2156
Lesser appleworm 2nd flight subsides	2794–3488	1918–2422
San Jose scale 2nd flight subsides	2639–3349	1785–2371
American plum borer 2nd flight subsides	2927–3353	2018–2372
Lesser peachtree borer flight subsides	2996–3446	2017–2433
Peachtree borer flight subsides	2478–3126	1672–2180

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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