Vermont Apple IPM News

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Disease Management

Apple Scab - At least a benefit of the hot weather is that it helps to shut down apple scab ! As mentioned last week, two full–rate captan applications 5-7 days apart can reduce conidial inoculum, especially if temperatures exceed 80F in the days following application.

Quick Update of Degree Day Accumulation for Arthropods:

Codling Moth - As of June 18th, we had reached the following DD accumulation (base 50F):

- UVM Hort. Res. Center = 388 DD from May 17 (biofix)
- Shoreham = 348 DD from May 25 (biofix)
- Dummerston = 310 DD from May 28 (biofix)

In orchards where one insecticide application is sufficient for management, optimal timing is at 360 DD after the biofix.

Plum Curculio - As stated in previous newsletters, the Cornell PC model assumes that insecticide residues only need to be maintained on fruit and foliage until PC adults stop immigrating into orchards. This is predicted by the model to occur at 308 DD (base 50F) after petal fall. All four sites which we have been monitoring this season (UVM Hort. Res. Center, Shoreham, South Hero, Dummerston) had reached at least 370 DD by June 18th.

Obliquebanded Leafroller - As mentioned last week, the optimal time to begin to scout for second generation OBLR is about 600 DD (base 43F) after the beginning of the first gen. moth flight. To be conservative, we are using June 6 as the biofix for OBLR flight at the UVM Hort. Res. Center. As of noon today, we have accumulated 296 DD which is about halfway to the DD when it is advised to scout for the second generation.

Apple Maggot - Yes, it is that time of year again. Time to put traps in your orchard to monitor apple maggot flies. The following review was written by Dr. Art Agnello and appeared in *SCAFFOLDS Fruit Journal* on June 19, 2006:

"...Sticky yellow panels have been in use for over 30 years, and can be very helpful in determining when AM flies are present. These insects emerge from their hibernation sites in the soil from mid-June to early July in New York, and spend the first 7-10 days of their adult life feeding on substances such as aphid honeydew until they are sexually mature. Because honeydew is most likely to be found on foliage, and because the flies see the yellow panel as a "super leaf", they are naturally attracted to it during this early adult stage. A few of these panels hung in an orchard can serve as an early warning device for growers if there is a likely AM emergence site nearby.

Many flies pass this period outside of the orchard, however, and then begin searching for fruit only when they are ready to mate and lay eggs. That means that this advance warning doesn't always have a chance to take place -- the catch of a single (sexually mature) fly then indicates a spray is necessary immediately to adequately protect the fruit. This can translate into an undesirable risk if the traps are not being checked daily, something that is not always possible during a busy summer.

To regain this time advantage, researchers developed newer traps that have the form of a "super apple" -- large, round, deep red, and often accompanied by the smell of a ripe apple -- in an attempt to catch that first AM fly in the orchard. Because this kind of trap is so much more efficient at detecting AM flies when they are still at relatively low levels in the orchard, the traps can usually be checked twice a week to allow a one- or two-day response period (before spraying) after a catch is recorded, without incurring any risk to the fruit. In fact, research done in Geneva over a number of years indicates that some of these traps work so well, it is possible to use a higher threshold than the old "one fly and spray" guidelines recommended for the panel traps. Specifically, it has been found that sphere-type traps baited with a lure that emits apple volatiles attract AM flies so efficiently that an insecticide cover spray is not required until a threshold of 5 flies per trap is reached.

The recommended practice is to hang three volatile-baited sphere traps in a 10- to 15-acre orchard, on the outside row facing the most probable direction of AM migration (towards woods or abandoned apple trees, or else towards the south). Then, periodically check the traps to get a total number of flies caught; divide this by 3 to get the average catch per trap, and spray when the result is 5 or more. Be sure you know how to distinguish AM flies from others that will be collected by the inviting-looking sphere. There are good photos for identifying the adults on the Apple Maggot IPM Fact Sheet (No. 102GFSTF-I8); check the web version at: http://www.nysipm.cornell.edu/factsheets/treefruit/pests/am/am.asp. In home apple plantings, these traps can be used to "trap out" local populations of AM flies by attracting any adult female in the tree's vicinity to the sticky surface of the red sphere before it can lay eggs in the fruit. Research done in Massachusetts suggests that this strategy will protect the fruit if one trap is used for every 100-150 apples normally produced by the tree (i.e., a maximum of three to four traps per tree in most cases), a density that makes this strategy fairly impractical on the commercial level.

A variety of traps and lures are currently available from commercial suppliers; among them: permanent sphere traps made of wood or stiff plastic, disposable sphere traps made of flexible plastic, and sphere-plus-panel ("Ladd") traps. The disposable traps are cheaper than the

others, of course, but only last one season. Ladd traps are very effective at catching flies, but are harder to keep clean, and performed no better than any other sphere trap in our field tests. Brush-on stickum is available to facilitate trap setup in the orchard. Apple volatile lures are available for use in combination with any of these traps. These tools are available from a number of orchard pest monitoring suppliers, among them:

- Gempler's Inc., 100 Countryside Dr., PO Box 328, Belleville, WI 53508; 608-424-1544, Fax, 608-424-1555
- Great Lakes IPM, 10220 Church Rd. NE, Vestaburg, MI 48891; 800-235-0285, Fax 989-268-5311
- Harmony Farm Supply, 3244 Gravenstein Hwy, No. B, Sebastopol, CA 95472; 707-823-9125, Fax 707-823-1734
- Ladd Research Industries Inc., 83 Holly Court, Williston, VT 05495; 800-451-3406, Fax 802-660-8859
- Olson Products Inc., PO Box 1043, Medina, OH 44258; 330-723-3210, Fax 330-723-9977
- Scenturion Inc., P.O. Box 585, Clinton, WA 98236; 360-341-3989, Fax 360-341-3242"

Heads-Up on Insects Now Appearing …

The following have been observed this week:

- Woolly apple aphid
- Green apple aphid - winged adults
- Potato Leafhoppers
- Spotted Tentiform Leafminer Moths - big jump in flight activity this week

Contact Information: If you have any questions, please call or write:

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