



NH Integrated Pest Management Newsletter

June 22, 2010

Volume VI

No. 6

Hours of Apple Leaf Wetness: Summer Diseases

The “summer diseases” (flyspeck and sooty blotch) continue to develop, even when we can’t see them. A critical factor on their development is the number of hours of leaf wetness we have experienced since petal fall. It takes 270 hours of leaf wetness after petal fall (HLWAPF) for each generation of the fungus to be completed. Obviously, when we have wet growing seasons, the risk of these diseases appearing on your fruit goes up, unless you’ve protected things with fungicide. Our weather equipment in Durham shows that 196 hours of leaf wetness had accumulated between petal fall and June 15th, and 226 hrs from petal fall to June 22.

Endosulfan: On Its Way Out

The US Environmental Protection Agency has announced that it plans to cancel all remaining crop registrations for Endosulfan. You know this as Thiodan or Thionex. Here is part of EPA’s announcement: “New data generated in response to the agency’s 2002 decision have shown that risks faced by workers are greater than previously known. EPA also finds that there are risks above the agency’s level of concern to aquatic and terrestrial wildlife, as well as to birds and mammals that consume aquatic prey which have ingested endosulfan. Farmworkers can be exposed to endosulfan through inhalation and contact with the skin. Endosulfan is used on a very small percentage of the U.S. food supply and does not present a risk to human health from dietary exposure.”

The EPA is working with Makhteshim Agan of North America (the current endosulfan manufacturer) to eliminate the current uses, while incorporating consideration of the needs for growers to timely move to lower-risk pest control practices. I guess that means more details will be coming.

I don’t know how many of you still use this chlorinated hydrocarbon. Occasionally we applied it on apples for leafminers, aphids, or leafhoppers. On stone fruit, we tended to apply it on the trunks to control borers. It is currently registered for use on several vegetable crops and Christmas trees as well. As I learn more information, I’ll pass it on.

Plum Curculio Should be Done for Everyone

We reached the 340DD (base 50F) since petal fall on June 8 in Durham. I wasn’t finding any more fresh injury where I looked, but said in the fruit pest update that activity might be continuing farther north (assuming there were fruit to attack).

Potato Leafhoppers Are Here

Carl Majewski, Extension Agriculture Educator in Cheshire County gets the coveted first potato leafhopper sighting again this year. He found a few (not many) in alfalfa in Cheshire County on June 7th. I didn't find my first ones in Durham until June 17, when I saw several in our thornless blackberries, and then on the 18th, when I saw two on our apples. If they occur in moderate to high numbers, they can cause significant problems in potato, alfalfa and basil. Moderate problems sometimes occur on other crops, including apple. On apple, they feed on suckers and shoots, and can cause stunting of this year's growth. That usually isn't a problem on older trees, but on young trees, that can be a problem. It might be worth checking your really young trees. For now, numbers don't seem too high, but they're here a bit early, so they have time to build up. Once they have attacked the shoots enough to cause visible cupping of the leaves, it is too late to stop the growth stunting you're trying to prevent.

Japanese Beetles Soon?

With so many things early this year, I fully expect Japanese beetle adults to appear in June this year. You remember that they like foliage and fruit, don't you? High on the list of food choices are leaves of grape, stone fruit and apples. They also attack foliage of blueberry and brambles. High on the list of fruit choices are raspberries, peaches and plums, and sometimes apples and blueberries. Please remember that the commercially-available Japanese beetle traps attract more beetles than they catch, thereby INCREASING the population on your property. I do NOT recommend their use or purchase.

Blueberry Stem Borer

Blueberry stem borer is a beetle. Adults look very similar to raspberry cane borer (a close relative). They should be active now. They chew a messy girdle in the bark of a blueberry shoot, and then lay an egg under the bark there. The foliage on the shoot turns brown (that's an easy way to find them) and the egg hatches. They seem to prefer large diameter shoots of this year. This photo I took on Friday. The young borer bores into the woody stem, and bores downward. Occasionally I find a blueberry planting that has a lot of these. They weaken the plant and reduce productivity.



Controls? Prune out infested branches as you find them (cut two inches below the girdle), and keep up with your regular, annual pruning in spring. Most growers cut out infested stuff when spring pruning, without realizing it is infested. It is just weaker, less productive stuff, a key target at pruning time.

Traps for Blueberry Maggot and Apple Maggot

Normally we set up traps for these insects the first week of July, but with the season so advanced this year, I've been setting out blueberry maggot traps already. In my case, I want to try to catch the earliest flies. You may not need to do that, but these insects can be a problem in blueberries as soon as the first varieties start to ripen. In apples, we have early problems predominantly in early fruit (Lodi, early bird, Vista Bella for example), but monitoring is a very good idea.

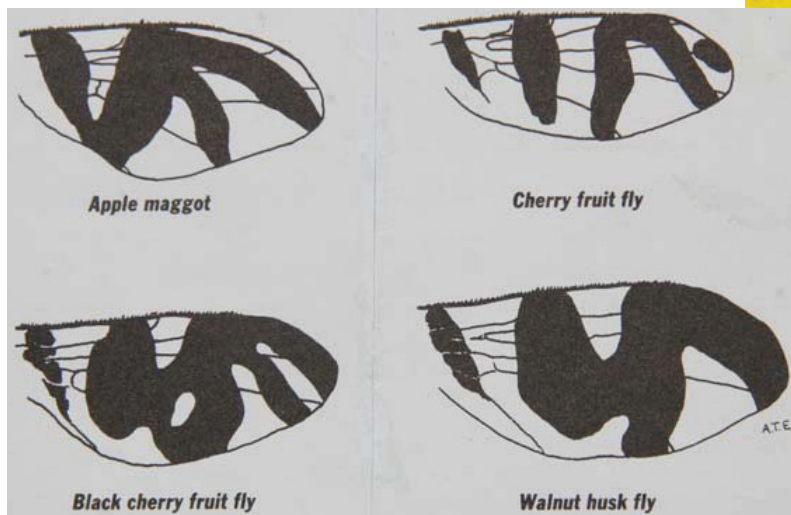
In blueberries, this year George Hamilton, Extension Agriculture Educator in Hillsborough County, and I are comparing 4 trap setups, thanks to an IPM grant from the NH Department of Agriculture, Markets and Food. We've got 1) red sticky spheres, 2) green sticky spheres with odor enhancers, 3) vertically hung yellow rectangle AM traps, and 4) V-position yellow rectangle AM traps. The last two deserve a bit of explanation. The standard way most of us deploy yellow AM traps is vertically. But years ago, Ron Prokopy and his student discovered that this trap placed in a V position caught significantly more blueberry maggots than the same trap hung vertically. Hanging it in the V position is a bit trickier, so we elected to see what kind of numbers we got. Traps are already up in Rockingham, Strafford and Hillsborough counties. Yes, all of these are available commercially at [Great Lakes IPM](#), and most are also available at [Gemplers](#).

For blueberry maggots, hang traps out of the wind (not above the bush!), in a fairly visible location, with fruit within about 16-18 inches (including below, if possible). I typically look for a "hole" in a bush. I use the twist ties provided to suspend it from above (sometimes using a long string and the overhead wire supporting netting), and I often add an anchor string to something below, to keep the trap from blowing too much in the wind.

For apple maggot, I usually place traps about head height, in a "hole" in the tree canopy. It must be highly visible, because these insects locate the traps primarily by sight. I try to have fruit in that tree below and above the trap, within 16 to 18 inches. Higher traps can catch more flies, but are difficult to monitor. The idea behind using these is to see when the flies are active, so that you can decide IF and WHEN you'll spray for them. I check mine weekly

Identifying Blueberry Maggot and Apple Maggot Flies

The adults are easy to identify, based on a couple of characteristics. First is size. Blueberry maggot flies are fairly small, usually between 3 and 4 millimeters long (1/8 inch). Apple maggot flies are usually larger, 4 – 6mm (3/16 inch). Both species have characteristic black wing bands to distinguish them from other species. Blueberry maggot and apple maggot have identical wing band patterns. In the drawing here, I didn't have enough space to easily write both names under the correct wing (which is the top left drawing). The traps also can catch other closely related species,

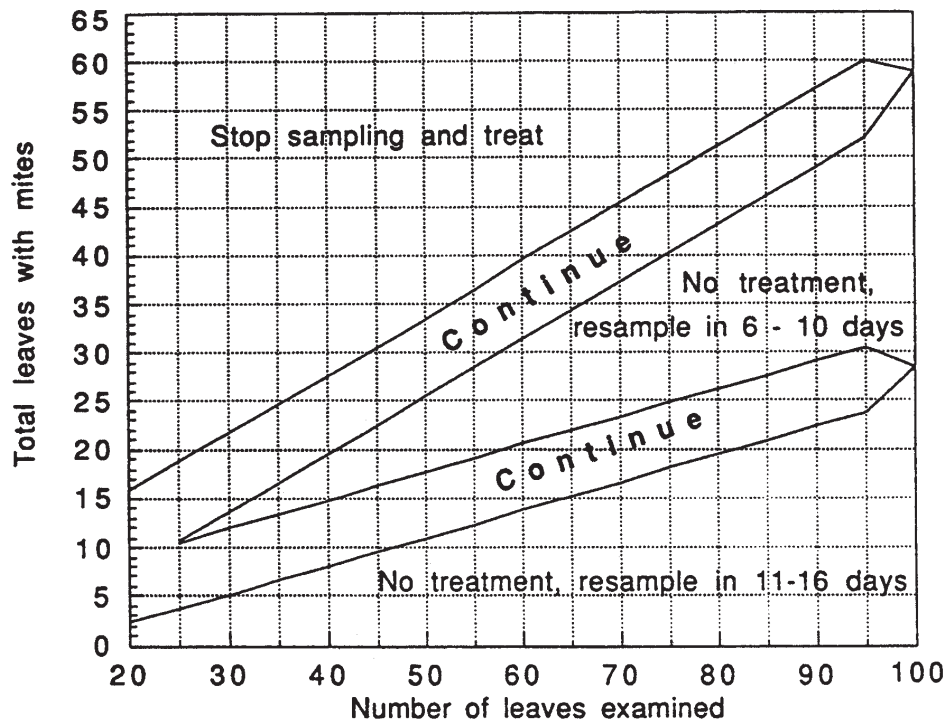


which won't attack your apples or blueberries, but can get trapped. Luckily, they have wing bands that are different. The diagram shows these bands. In the photo, you can see specimens of both blueberry maggot and cherry fruit fly. I'll let you figure out which ones are which.

Mites on Apples

At the end of this week's newsletter are the same instructions I've given you for several years, to monitor leaf-feeding mites (two spotted spider mite and European red mite). The procedure is simple to see if mites are reaching threshold levels. At this time of year, the threshold is an average of 2.5 mites per leaf, but if you use the simplified method explained in the chart, you only have to count whether or not a leaf has any active mites on it. Yes, it requires good light, and some form of magnifier. For me, 4-6X is about perfect magnification. The conditions that are most conducive to mite buildup are hot, dry weather. Usually, if you see leaf bronzing, the threshold has been surpassed already.

**Mite Sampling Chart - Threshold = 2.5 mites/leaf
(June 15 - July 15)**



* This procedure involves examining middle aged leaves for motile mites (any stage except eggs). Use this chart, which corresponds to a mite density of 2.5 mites per leaf, from June 15 until July 15. You will not be counting mites, but will only determine whether they are present or absent on each leaf sampled.

* Starting with a random tree and sampling every other tree, collect 4 leaves in a plastic bag from each of 5 trees, choosing from each quadrant of the canopy. To make sure the leaves are of intermediate age, pick them from the middle of the fruit cluster.

* Using a magnifier, examine the top and bottom surface of each leaf for motile mites and keep track of the number of leaves containing motile mites. When all 20 leaves have been examined, compare this number with the decision lines on the above chart. If you are in either of the "Continue" zones, take more leaf samples in batches of 10 (5 per tree, for simplicity), adding the number with mites present to your original value while checking the chart again. Continue until you have passed out of the "continue" zone to arrive at a decision. If you reach "Stop sampling and treat", the population is above the threshold and a miticide application is recommended. If you reach one of the "Resample" zones, the population is below threshold, and should remain so for at least the number of days stated. Return at the designated time and conduct another sample. If "6-10 day" resample date falls during 5.0 mites/leaf Threshold period, you can wait for a total of 11-16 days before resampling.

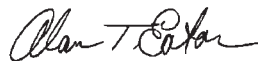
Modified from: Apple IPM; A Guide for Sampling and Managing Major Apple Pests in New York State. Agnello, A., J. Kovach, J. Nyrop, H. Reissig, W. Wilcox.

Meetings

*Wednesday June 23, 2010. **Management of Vegetables, Fruit, and Ornamental Pests.*** Hemingway Farm, Route 12, Charlestown. 5:45-8:15 pm.

*Thursday June 24, 2010. **Fruit and Vegetable Meeting.*** McKenzie Farm, 71 Northeast Pond Rd, Milton. 5:00-8:00 pm.

*Friday July 9, 2010. **Bird Netting for Blueberries: Twilight Meeting.*** Butternut Farm, Quincy Rd, Rumney. 6:30-8:00 pm. More information contact Heather Bryant at 787-6944 or heather.bryant@unh.edu.



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