



NH Integrated Pest Management Newsletter

August 4, 2005

Volume XI

No. 8

Last Planned Issue This Season

Yup. I've learned from experience that most of my audience gets so busy in September and October that they don't have time to read a newsletter. Unless something significant turns up, this will be the last issue this year.

Apple Maggots

As of August 2nd, I haven't caught any in my traps at the Woodman farm, but this is typical for that site. I do expect them at any time. All apple varieties are now susceptible to apple maggots when they appear in your block. Apple maggots have been active for a while in orchards that have nearby wild apples or hawthorns, or where control was poor last year.

Summer Diseases of Apple

Flyspeck and sooty blotch are two fungal diseases of apple that get second billing, after scab. Because we don't pay so much attention to them, sometimes they can create objectionable surface blemishes. This is most visible light-skinned varieties, like Mutsu, Golden delicious, or Gingergold. I won't put photos here, because they are already on the page with apple injury photos, on UNH Cooperative Extension's website. If you have had problems with this in the past, review the information on pgs 24-5 of the New England Apple Pest Management Guide. Late-ripening varieties may require an additional fungicide treatment over earlier ones. High humidity is what the fungus needs to grow on the surface of your fruit. Let's see... Have we had any high humidity this summer?

Fall Webworm Time

They're baaaaaaaaack. The first webworms have appeared. Fall webworm moths emerge over a fairly long time, so the new webs appear from the last week of July through August. Many of our forest trees are heavily hit, with black cherry being one of the favorites. Apple, peach, plum, pear and blueberry are all susceptible, but I see them most frequently on apple. The caterpillars are most susceptible to pesticides when they are small. *Bacillus thuringiensis*-based pesticides work well, as do many chemicals. To improve effectiveness, consider adding a wetting agent to your spray tank. That will help penetrate the webs. Using coarser sprays and higher gallonage will help as well.

Fall webworm caterpillars are hairy and yellowish. The webs they produce enclose the foliage they eat. They sometimes chew the surface of fruit as well.

This Month's Mite Chart for Apples

You should know the drill by now. Late summer is when apple trees can tolerate higher numbers of mites, so the threshold built into this chart is higher than those used for the earlier charts. Now is the time to switch to this late season chart for decision-making. Once again I'll acknowledge that most of this work was done by colleagues in New York. What a great job! The chart is at the end of this newsletter.

X-Disease of Peach

For years we've preached that eliminating nearby chokecherries is the most important step in keeping X-disease out of your peaches. In late July and early August, chokecherries that have X-disease are very easy to detect. They have yellowish-bronze foliage, so they really stand out at this time of year. Most chokecherries are very small, less than 4 feet tall. This is a surprise to novices, who are looking for **trees**.



How do you eliminate them? You'd want to make sure that they don't re-sprout, so just cutting down would not be good. You could pull them out, root and all, or you could treat with a herbicide.

How close is "nearby"? I suggest that's within 500 feet of your peaches. By the way, I'd eliminate all chokecherries within 500 feet. The infected ones are just a visual reminder, to motivate you and make the species easy to recognize.

Identifying Chokecherries

There are many good guides to trees and shrubs, and that can provide some help. I'll give you one tip on how to identify a cherry from any other wild woody species here. But first you have to make me a promise. Ready? To use this tip, be **absolutely sure** that you know what poison oak, poison ivy and poison sumac look like. You don't want to try this on a poisonous plant. Break off a green twig and bite the cut end a bit to make it ragged. Check it for a bitter-almond taste or smell. If it does have this flavor/smell, you've found a cherry (or, at least something in the genus *Prunus*).

Telling chokecherry from other common *Prunus* species can be done by looking at the leaves and fruit. The leaves of cherries have fine teeth at the edge. Chokecherry has pointed teeth, and the leaves are broad. Black cherry is very common, and has similar shaped leaves (maybe a bit more pointed) but with **rounded** teeth at the edge. The fruit differ as well. Chokecherry fruit have stems which join the fruit like, well, cherries. Black cherry fruit stems have an expanded cup-like structure at the point where the stem and fruit come together. It reminds me of an eggplant in the way they join. Here's my photo of black cherry fruit. Remember, black cherry is **not** a source of X-disease for us.



More on European Fruit Lecanium Scale on Blueberry

Tipped off by an alert grower, I learned how to improve control of EFLS. Applying insecticides to control the crawlers can work, but crawlers are active for several weeks in the summer, so it can take multiple sprays. The California grape growers apply one spray in the fall, one week before leaf drop. It works well. Why?



EFLS crawlers settle on the leaves, not the stems and branches. The picture below shows these young scales on blueberry leaves on July 21st. Shortly before the leaves fall, the young European fruit lecanium scales move from the leaves and settle on stems. Most species of scales don't do this. The spot where they settle is where they stay.

So when is the best time to try this in NH? I'm going to try to find out this fall. Imidan is one pesticide that is registered for blueberries, and it could be applied for EFLS if you have a private pesticide applicator's license in NH. I'm not sure when leaf drop is, but I'd guess we would be considering October some time. I'll be looking into this.

Our state entomologist, Tom Durkis, told me that EFLS has been heavily attacking maple trees here and in Vermont. I don't work on forest insects, so I was unaware of this situation.

Blueberry Maggots

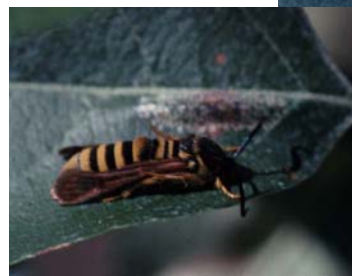
Blueberry maggot has about the same flight period as its close relative, apple maggot. Blueberry maggot lays eggs in the ripening fruit, and the maggots feed inside, eventually turning the berry mushy. When the maggots are fully grown, they drop to the soil and burrow in. They pupate there and emerge next summer. Each maggot feeds on only one berry. The egg laying wound is so small that you wouldn't notice it.

Sticky traps are very effective (if hung properly) tools to monitor adult activity. The New England Small Fruit Pest Management Guide lists several pesticides for controlling this species. Several growers have asked me about effectiveness of sprays for this. A few materials (Surround and Spintor for example) use the word **suppress** on their labels. That is a clue that they are not as effective as materials that use words like **control**.

Malathion is a material that some growers may still have in their sheds. Old timers like me remember when it was first registered for blueberry maggot — it was used in combination with a feeding stimulant called Staley's sauce base (now called Nulure). I don't know why later labels allowed the use of the product without the feeding stimulant, because it definitely is less effective that way. Anyway, blueberries aren't on any new malathion labels of which I'm aware, so this isn't a problem for many people.

Raspberry Crown Borer

August and early September is when adults of this pest fly. The moths are active during the day, and look like yellow jackets. Females lay their eggs on the undersides of raspberry leaves, and usually avoid laying on uppermost leaves. The eggs hatch and the tiny caterpillars move down the stems and bore in at or below ground level. They require two years to complete their life cycle. The moth is so unusual, I thought you'd appreciate a photo.



Twilight Meeting at the Woodman Horticulture Farm

Becky Grube is setting up a meeting on August 16th, at the Woodman Farm in Durham. You'll get a chance to see a number of projects in progress on vegetables, small fruit, apples, and ornamentals. To qualify for the 1.0 pesticide applicator recertification credit, you must sign in by 5:30 PM. The Woodman Farm is on the Northwest edge of campus.

From the West: take Route 4 East, past the Lee traffic circle. After 2 ½ miles, take 155A exit towards Durham, turning right at the end of the ramp. Continue east approx 0.4 miles to Mast Rd Extension on your left. Turn left, proceed 100 yds to the fork and turn left again. After another 200 yards, bear right and go past the reservoir to the farm.

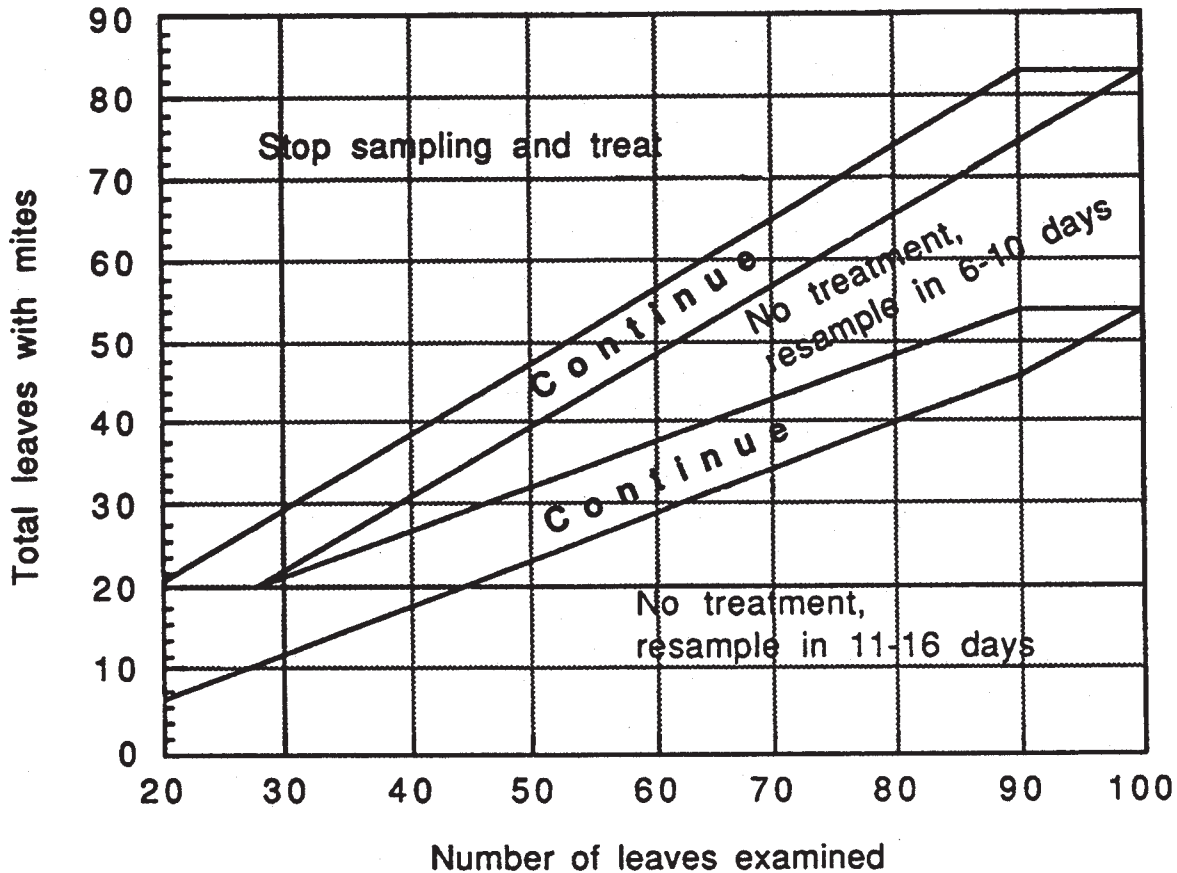
From the North: Take route 93 South to 293 in Concord, then east on 293. 293 joins Rt 4; continue east on Rt 4 as above **or** take Spaulding Turnpike South towards Rochester. Pass exits for Ten Rod Rd and Rt 202. Turn south onto Rt125. Proceed south on 125 nine miles to Lee traffic circle; turn east on Rt 4 at the Lee traffic circle. After 2 ½ miles, take 155A exit towards Durham, turning right at the end of the ramp. Continue as above.

From the East: Take Rt 4 West towards Durham. Pass the first Durham exit (Rt 108); take the second Durham exit (Madbury Rd.) , a left turn at stop light. Proceed 0.6 miles to 4 way stop; turn right onto Edgewood Rd. Proceed 0.5 miles to a T intersection (Main Street); turn right. Pass the Whittemore Center, railroad tracks, field house, greenhouses, and horse barns. Turn right at Mast Road Extension, and proceed as above.



Alan T. Eaton
Extension Specialist
Integrated Pest Management

Mite Sampling Chart - Threshold = 7.5 mites/leaf (August 16 - September 1)



* This procedure involves examining middle aged leaves for motile mites (any stage except eggs). Use this chart, which corresponds to a mite density of 7.5 mites per leaf, from August 16 until September 1. 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 or foliar terminal.

* 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 the resample date falls after September 1, there should be no further need for additional samples or miticide sprays this season.

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.