



## NH Integrated Pest Management Newsletter

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### Topics this week:

Bud stages and Apple scab degree days  
Green pug on apple  
Rusts on apple  
Raspberry fruitworm  
Tarnished plant bug on strawberry

Spraying Calypso at night  
Apple pesticide registration  
Brown rot on stone fruit  
Scales on blueberry  
Primary mummyberry

### Bud Stages This Week

Fruit Bud stages at the Woodman Horticulture Farm in Durham were as follows on May 2nd:  
Pioneer McIntosh Apple: pre-pink (= late tight cluster). Red Haven Peach: no live fruit buds! Pears: green cluster. Blueberry: flower buds in tight clusters.

### Apple Scab Degree Day Figures:

Here are accumulated ASDD figures as of May 2nd: Durham 288. Milford: 326. Litchfield: 342. Westmoreland: 242. Nottingham: 211

### Calypso: Don't Spray at Night

If you read the label for Calypso, one of our new insecticides, there is a section on endangered species on page 3. It clearly states that we (people in NH, VT, CT, RI and 20 other states) cannot spray Calypso between one half hour before sunset, and one half hour after sunrise. This is to protect two endangered species; Indiana bat and gray bat. Massachusetts and Maine were not listed, so growers there don't have this restriction. It must be that those species aren't known to occur there.

### Check Apples For Green Pug Moth at Pink

If you don't plan on using any pre-bloom insecticide on apples, you ought to check your blocks at pink for green pug. Apparently the organo-phosphate insecticides effectively control this pest in Atlantic Canada. Last year, those who were hurt were growers who didn't treat pre-bloom, and didn't look for this critter. Tap several flower clusters firmly over a white pad of paper or piece of white cardboard. That makes the yellow-green loopers easier to spot than searching the clusters by eye. I'd check a number of spots. No, we don't have thresholds worked out for this one.

## **Which Of The New Apple Pesticides are Registered in NH?**

Remember last week's supplement? It listed a number of new pesticides. Some were registered with EPA late last year, and some were registered this year. Wendy Chapley confirmed for me that four of the pesticides in the corrections/additions list are not registered (at least, not yet) in New Hampshire. We can't use them until they are. Those four formulations are: Serenade (EPA Reg. # 69592-7), Fujimite 5EC: 71711-19, Decis 1.5EC: 34147-12-264, Cyd-X : 70051-44. I'll check again later in the year, to see if they become NH-registered later.

## **Pink: Prime Time Starts for Rust Spores**

Cedar-apple rust switches hosts from apple to red cedar and back. The spores from the orange lesions on your apple leaves have the ability to infect red cedar, but not apple. The light brown round galls on red cedar swell up in rainy weather, and produce long orange fleshy projections. These orange "telial arms" are the source of the spores that can infect apple leaves. If you have apple varieties that are susceptible to rusts, you could completely eliminate the problem without spraying. Eliminate the red cedar trees, and you'll have no more problem.

Quince rust is similar. The alternate host for quince rust is common juniper. The galls are hard to notice; a very slight swelling of branches. But in rainy weather in May, the orange telial arms shoot out, and you can spot galls from many yards away. Just as with cedar-apple rust, if you eliminate the alternate host, you eliminate the problem. I don't know how far away the spores carry on the breeze.

## **Brown Rot of Stone Fruit**

The most critical times to use fungicides for brown rot control are at pink, petal fall, and when the fruit start to ripen. "Brown rot" actually includes two phases, sometimes considered separate diseases. The shoot phase affects young shoots and foliage. The fruit phase results in rotting of the fruit. Brown rot has multiple cycles over the growing season, with the early lesions producing spores that spread the disease to other parts of the plant. I hope you removed and destroyed the mummified fruit from last year. That's a major source of the fungal spores that start infections.

## **Raspberry Fruitworms Are Out**

Raspberry fruitworm is a small tan beetle, about 1/16 inch long. The adults do a little chewing on foliage now, but the real problem comes during and after bloom: they lay eggs in the developing fruit. Customers do not appreciate paying for raspberries that have tiny segmented tan "worms" inside. The fruitworms aren't obvious when fruit are picked, but they often crawl out hours later. You can avoid this problem by checking for the adults before bloom. That doesn't mean you have to rush out and do it today. In fact, it would be better to wait until shortly before bloom started. If you find a lot, it may be worthwhile to treat with an insecticide. Registered pesticides include Pyrellin EC, Sevin XLR, Sevin 80S, and Aza-Direct.

## **More Scales on Blueberry?**

Becky Grube showed me a blueberry branch that was plastered with the young scales of European fruit lecanium. It is too late to legally apply oil for a control, so I suggested hitting it around July 1<sup>st</sup> with one of the insecticides we use then, like Imidan, Sevin, or Asana. Aza-direct (OMRI-approved) might work. The reason for the July 1 timing is: that is when the crawlers emerge from the eggs. If I used Aza-direct, I might try two treatments, with the second 1 week after the first.

## TPB on Strawberry

Tarnished plant bugs can be very serious pests on strawberries. Several times I have seen beds that were so severely attacked, the growers decided not to harvest them. The nymphs do most of the damage, but adults contribute by feeding and laying eggs. Strawberries are vulnerable from the time the fruit buds appear. Most injury occurs as the tiny nymphs feed on the developing green fruit. Once fruit get about 1/3 grown, the seeds begin to lignify, and nymphs prefer to feed on younger stuff.

How do you find the tiny, yellow-green nymphs on green fruit? You firmly tap clusters of flower buds onto a large white pad of paper. The nymphs show up very well (see my photo), and try to scurry away. They can't fly yet, because their wings aren't fully formed. If 4 or more out of 30 clusters (actually called trusses) have TPB nymphs, it is worthwhile to treat with an insecticide. For some fields, it is helpful to do another examination when the fruit are small and green.

The New England Small Fruit Pest Management Guide lists the various insecticide options. It is too complex to repeat the details here.

Want to make sure that you have a really serious TPB problem? Plant your beds next to alfalfa fields, cut the alfalfa when the strawberries are blooming, and don't do any TPB checking. That ought to do the trick.



### Primary Mummyberry Lesions Look Like This

The tiny tan mummyberry fungal cups release infective spores during spring rains. The spores that land and germinate on unprotected green blueberry tissue cause lesions that look like this photo. The fungus then grows on those lesions, producing spores that infect the fruit. Insects and rain help spread the spores and infect the green fruit.



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