



Apple Pest Report: Friday, June 5, 2009

Vol. 17 No. 7

Scab

Current scab situation

There were three major primary scab infection periods in central and southern Maine this spring. The first big infection period began May 5, when apple fruit cluster buds in the Sanford and Monmouth areas were between Tight Cluster and Pink. Infection conditions lasted May 6-10. First generation lesions from that infection period began showing May 22 and are limited to the older fruit cluster leaves.

The second big infection period began May 14 when apple trees in Sanford and Monmouth were in late and early Bloom, respectively. Lesions from this infection period could have begun appearing by May 31 and were found in an unsprayed orchard check June 4 on later fruit cluster leaves.

It seemed like an easy scab year so far, but a couple of Scouting Co-op orchards checked this week had more than a little bit of scab. And 20-40% of the year's primary scab lesion potential will not have had time to appear until late next week. Any lesions visible now must have gotten started during the May 5-14 infection periods.

There was a short infection period on May 24 in Monmouth and points north, for sites south of Lewiston there was either no rain or the wetting period was too short for infection. The year's final primary scab infection period in the Sanford and Monmouth areas began on Wednesday, May 27. This was 5-8 days after Petal Fall in Sanford and Monmouth, respectively, when fruits are at maximum susceptibility to infection. Lesions from the final infection period are expected to begin showing around June 9-11.

The weather outlook statewide is for increased chance of rain on June 9-14. If that actually happens, it could result in a prolonged wetting period ideal for spreading secondary scab spores to young fruit. If you scout the orchard for scab in the next few days, i.e. June 5-8, checking at least 50 fruit clusters per block, and find no lesions then you can take some comfort that scab was

controlled in the earlier infection periods. But lesions from the final primary scab infection period will not have had time to appear yet. If fungicide protection was faulty during the May 27 infection period, lesions arising from uncontrolled infections could begin spreading secondary spores during a long wetting period starting June 9.

It would be prudent to watch the weather forecast over the next few days and be prepared to reapply fungicide before the next rain if the most recent fungicide coverage was applied before Sunday, May 31.

The Secondary Scab Suppression tables at <http://pronewengland.org/AllModels/MEmodel/me-Sanford-SecondaryScabSpray.htm> (Sanford), and <http://pronewengland.org/AllModels/MEmodel/me-Monmouth-SecondaryScabSpray.htm> (Monmouth), show fungicide spray intervals adjusted for temperature, rain, and development since Petal Fall.

Secondary scab management

The next two weeks in Sanford, and next three weeks in Monmouth, are the time window to find primary and early secondary scab lesions before they can spread spores and infect fruit. If you find scab lesions on more than 5-10 leaves in checking 100 fruit clusters and surrounding growth (about 15 leaves in each glance) then eradication treatment is recommended. You can check a block of up to 15 acres in less than 30 minutes. If that is still too much time, the just walking through the block and looking at 50 fruit clusters can suffice. A quick check is much better than not looking at all.

Management options for secondary scab were described in the previous newsletter. In that article, I should have noted that the Syllit label states that it is incompatible with captan.

Scab resistance testing

If you have scab lesions on unsprayed trees within 1000 feet of your orchard, I encourage you to contact me about taking a sample for scab resistance testing. Fresh young scab lesions are ideal. Leaves with separate distinct leaf spots are required. Leaves covered with diffuse "sheet" scab are not suitable for testing.

If you have scab lesions appear in sprayed orchards and would like to arrange for a resistance test sample, notify me as soon as possible so we can get sample before lesions are treated. Collecting scab lesions before they are oversprayed with fungicide is definitely preferred. It may be possible to test leaves even after overspray.

Fire Blight

Keep an eye out for blossom blight infections that could start becoming obvious around June 16. If you find Fire blight, please let me know. Cut out affected branches as soon as possible and remove them from the orchard. Clean the tools used for cutting out diseased tissue before reusing them on uninfected trees.

Insects and Mites

Every year the weather does something odd. This year's twist is that we've gone from running 8 days ahead of normal degree day accumulation on May 8 back to running a day behind by June 8. The cool weather is making for reduced **plum curculio** activity. I've tried shaking limbs over a sheet twice to collect PC and have so far collected exactly one lonely PC.

The current estimate is that protection is needed until roughly June 18 in the Sanford area, and June 27 in Monmouth. PC activity could increase with warmer weather on June 12. Fruit size is not optimum for PC egg-laying.

In the previous newsletter I included Avaunt with the neonicotinoid insecticides. Avaunt is not in that class, and has a unique mode of action not shared with any other apple insecticide product. It is highly rated for plum curculio control, but is a step below alternative insecticides for Lepidopteran larvae (caterpillars of codling moth, lesser appleworm, redbanded and obliquebanded leafrollers, oriental fruit moth), and against apple maggot.

If a full block insecticide was used earlier against PC, perimeter row protection should be adequate for follow-up applications except where damage history and presumed egg-laying pressure this year is high.

First generation **European red mite** have matured and begun laying eggs for second generation in the Sanford area, and will soon be doing so in the Monmouth area as well. An Agri-Mek at Highmoor Farm apparently worked as the ERM that were there before are no longer there.

Until June 15, the recommended ERM treatment threshold is an average of one active mite per mid-cluster leaf from branches close to the trunk, or if ERM are present on more than 30% of leaves.

Because of the cool weather, growers have an extra week to look for 1st generation **leafminer** mines and treat if necessary. There is a large difference in 1st generation leafminer thresholds based on research done in Massachusetts (7-14 mines per 100 leaves) and New York (100 mines per 100 leaves). I've talked to both sources and there is no simple answer to be had. My gut sense is that the truth is somewhere in the middle. I don't have written records to prove it, but I don't think finding 7, 10, or 15 leafminer mines in the first few

weeks after Petal Fall is predictive of a worse problem later on. On the other hand, while I have no reason to doubt research that finds that 1 mine per leaf had no consequences for crop yield or drop, my concern in finding more than 30-50 mines per 100 leaves at this time is that apple tree canopies could look like they had been hit with a shotgun by early August if the 1st generation mines are not controlled and conditions are suitable for 2nd generation magnification. Fortunately, biological control is effective against leafminers, which, along with overwintering conditions, is one reason why they usually aren't a problem.

Calcium Sprays on Apple Prevent Cork Spot and Bitter Pit

by Win Cowgill, County Agricultural Agent, Rutgers Cooperative Extension, reprinted from Rutgers Cooperative Extension Plant & Pest Advisory, Fruit Edition, June 2, 2009 (by way of the UMass Healthy Fruit Newsletter.) Note from Jon Clements at UMass: "You may also want to see the fact sheet [F-119R Foliar Calcium Sprays for Apples](#) on the [UMass Fruit Advisor](#)"

“First cover is the time to begin calcium sprays.

Calcium (Ca) is the key – the quickest and most effective short-term corrective treatments for control of bitter pit and cork spot in apple are to add a readily available source of calcium to your cover sprays.

To control **cork spot** in apple flesh spray trees with 1.5 pounds of calcium chloride (CaCl₂) or 3.2 pounds of calcium nitrate (CaNO₃) per 100 gallons of water with first cover spray and include in each subsequent cover spray until a total of 18 to 24 pounds per acre has been applied. The calcium nitrate sprays will apply 2 to 3 pounds of actual nitrogen (N) per acre and should be used only on trees that do not contain high to excessive nitrogen levels as measured by leaf analysis or reflected in excessive shoot growth.

To control **bitter pit**, spray trees with a solution of either calcium chloride or calcium nitrate. Use 2 pounds of calcium chloride or 4.25 pounds of calcium nitrate per 100 gallons of water plus a wetting agent. Calcium nitrate should not be used on trees that contain high to excessive amounts of nitrogen in the leaf tissue as measured by leaf analysis or that are making excessive shoot growth. Make applications at 2-week intervals with the last spray 2 weeks before harvest. These calcium sprays can reduce bitter pit in apples by 50 to 90 percent.

For Calcium sensitive varieties such as Enterprise, Braeburn, Fuji, York, Cortland and Honeycrisp, apply calcium chloride (CaCl₂) at a rate of 2-3 lb/100 prior to August 1, then 3-5 lb/100 after August 1.

Late season calcium sprays are usually more effective against cork than early season sprays. Reduced rates of calcium chloride should be applied if there was no rain between applications, or if it is very hot and humid.

Form of Calcium for Foliar Spays

There are many calcium products promoted by industry as substitutes for calcium chloride. Extensive research and comparison of these products, however, has yet to show an advantage over calcium chloride because it is one of the richest forms of calcium at the cheapest price. Calcium nitrate (CaNO₃) can be substituted for CaCl₂ but only on trees that do not contain low nitrogen levels as measured by leaf analysis. Vigorous trees should not receive Calcium nitrate. Growers opting to use CaNO₃ as their calcium source should be aware that CaNO₃ does not contain as much available calcium as CaCl₂, so they should adjust their rates accordingly.”

Upcoming events

An **orchard twilight meeting** will be held on **Wednesday, July 22** at Highmoor Farm. This meeting will include the annual summer meeting of the Maine State Pomological Society.

The **100th anniversary of Highmoor Farm** will be celebrated with farm tours and glorious proclamations on **Wednesday, August 19, 2009**.

There will be a **free boom sprayer and dry applicator clinic** on **Wednesday, June 17**, 8:30 registration, clinics from 9am-3:30pm, in **Presque Isle**. Five pesticide applicator recertification credits are being offered. Topics include: Nozzle Selection and Calibration; Chemical Application Safety; Dry Chemical Application & Seeding; Precision GPS Sprayer Applications; Ride-n-drive GPS system demonstration.

Location is Family Christian Center, 1 Mile North of Presque Isle on Rt 1. The clinic is brought to you by THERIAULT EQUIPMENT & JOHN DEERE. RSVP at (800) 439-7761 or 764-4405 and to let them know how many will be attending for lunch purposes (no cost). Ask for Jennifer.

Closing words

“In June as many as a dozen species may burst their buds on a single day. No man can heed all of these anniversaries; no man can ignore all of them.”

-- Aldo Leopold