

Orchard Outlook



Vol. 16 No. 12

June 8, 2016

Bud Development	Diseases	Insects
Horticulture		Upcoming Events & Notices

Bud Development

Checking on tree development Tuesday, apples were at late bloom to 12 mm fruit size across the Valley (Figure 1). Pears are 10-14 mm fruit size, plums are ½"-¾" length, cherries are marble sized, and peaches are at shuck split.



Apple: Late Bloom to 12 mm



Pear: 10-14 mm



Peach: Shuck Split



Plum: ½" to ¾" Length



Sweet Cherry: Marble Sized

Figure 1: Tree fruit development observed on June 7th, 2016 in Greenwich and Middle Dyke Road.

Diseases

Apple Scab

There was a single secondary infection period recorded at Kentville AAFC this past week. Wetting began at midnight on Monday, June 6th and lasted until 9 am. Ascospore release would have occurred at daybreak but would not have had enough wetting duration for a primary infection. However, lesions from initial primary infections are now visible (see Orchard Outlook from June 1st) and thus secondary spores called conidia are now assumed to be present. Conidia are not sensitive to light and therefore had enough wetting duration for a secondary infection.

The ascospore maturity model has now reached 99% maturity. It is still too early to switch to cover rates and full rate fungicide applications should still be used for now as late maturing ascospores may still be present, especially in the cooler areas.

Secondary spores or conidia will continue to cause scab infections during sufficient wetting periods throughout the rest of the season. Poor control of primary infections will require a continued fungicide program until harvest dependant on the amount of rainfall removing fungicide residues.

Fireblight – Blossom Blight

Updates have been provided through the Orchard Outlook mailing list. Updates provided in this morning's email to Orchard Outlook are:

Temperatures yesterday notably in Greenwood exceeded the forecast by a couple of degrees which elevated EIP values from yesterday morning's forecast. The report has been modified to include yesterday's final EIP value as well as a forecast for today and the next couple of days.

Greenwood Apples – Apples in the Greenwood area passed an EIP of 100 yesterday and will again remain at high risk today based on forecast temperatures. Apples in the Greenwood area which have previously received an antibiotic application on or after June 5th appear to have sufficient residual control to protect from today's and yesterday's potential infections. Applications prior to June 5th are no longer effective to provide control for today's potential infections. In the latter case, apples still in bloom should receive a preventative application of Streptomycin or Blossom Protect at the earliest opportunity today to help prevent blossom blight infections established yesterday evening or today.

Canard, Kentville, Rockland Apples – Did not reach an EIP of 100 yesterday and is not forecast to increase in the coming days. Canard was borderline at 97 so any preventative applications made yesterday or today will help prevent any possible infections.

Greenwood Pears – Pears in the Greenwood area passed an EIP of 100 yesterday and will again remain at high risk today based on forecast temperatures. Pears in the Greenwood area which have previously received an antibiotic application on or after June 5th appear to have sufficient control to protect from today's and yesterday's potential infections. Applications prior to June 5th are no longer effective to provide control for today's potential infections. In the latter case, pears still in bloom should receive a preventative

application of Streptomycin or Blossom Protect at the earliest opportunity today to help prevent blossom blight infections established yesterday evening or today.

Canard Pears – Pears in the Canard area passed an EIP of 100 yesterday and will again remain at high risk today based on forecast temperatures. Pears in the Canard area which have previously received an antibiotic application on or after June 3rd appear to have sufficient control to protect from today's and yesterday's potential infections. Applications prior to June 3rd are no longer effective to provide control for today's potential infections. In the latter case, pears still in bloom should receive a preventative application of Streptomycin or Blossom Protect at the earliest opportunity today to help prevent blossom blight infections established yesterday evening or today.

Kentville, Rockland Pears – Well below EIP of 100 yesterday and today. No preventative applications recommended.

Finally, remember, blossom blight is named so for a reason:

Bloom has not started or has finished prior to a possible infection = no risk.

OR

Blossoms removed prior to or immediately after a possible infection = no risk.

Fire Blight – Shoot Blight & Growth Control

Apogee applications started in many blocks over the past 1-2 weeks. If you haven't yet applied Apogee and are intending to, the first treatment should be done ASAP to maximize the benefit for shoot growth control and fire blight suppression. A second application should be made about 14 days later.

Where you feel young trees are at high risk of shoot blight and shoot growth is desired, reduced rates of Apogee such as 1 to 2 applications of 300 g per 1000 L of water have been used in Michigan. The critical application on young trees is the initial one at 1-2" of new growth. **Consider the potential fire blight risk for your young trees this year before putting on a first or second application of Apogee.** To date, blossom blight pressure has been relatively low in 2016 following a year of good fire blight control in 2015. Apogee for shoot blight suppression may not be worth the cost of growth reduction on young blocks with low fire blight pressure!

Powdery Mildew

The peak period for new powdery mildew infections is coming to an end. Watch for new mildew infections showing up on terminal growth on non-bearing orchards and newly planted trees. In some cases, trees may have arrived from the nursery with established powdery mildew infections. On young trees still filling space, powdery mildew protection should be maintained while terminal shoots continue to grow. Low rates of sulphur (3-5 kg/ha) will be effective in suppressing powdery mildew on young trees.

Brown Rot

After shuck fall, fungicide applications for brown rot should be maintained until June drop in cherries and pit hardening in peaches which occurs early to mid-July in Nova Scotia. Fruit again become susceptible to brown rot infections in the final 3 weeks before harvest. This means that

early peaches can be susceptible to brown rot infections nearly all season. Remember to check pre-harvest intervals on these products.

Insects

The petal fall/calyx period is a critical period for insect control in tree fruit with a number of pests that need to be addressed. Insect management programs should be based on grower monitoring and/or scouting reports. Please refer to the table in the June 1st Orchard Outlook and the Pome Fruit Management Guide for pesticide information.

Mullein Bug & Apple Brown Bug

Check your scouting reports or monitor for mullein bug, apple brown bug, and tarnished plant bug at calyx. Both Suzie Blatt (AAFC) and Erika Bent (APM) note that hatch is still ongoing for stinging bugs and treatments can be delayed until more hatch is complete.

Spring Caterpillars and Leafrollers

Winter moth and green pug moth will be in their later stages while other overwintering leafrollers will be active in the canopy (e.g. obliquebanded leafroller).

European Apple Sawfly

An insecticide for European apple sawfly should be applied at petal fall if it is required. Erika Bent has observed EAS damage in young fruitlets in certain areas. Damage will be visible over the coming week (Figure 2)



Figure 2: Damage from European apple sawfly on Gingergold fruits in 2015. Secondary damage leaves a tunneling scar present at harvest (left and right) where primary damage causes the fruitlet to abort (centre).

Rosy and Green Aphid

Suzie Blatt notes that few aphid colonies have been observed to date this season. Cooler temperatures or the widespread use of prebloom insecticides targeting aphids appears to have had an impact on the population currently. Watch young trees for green apple aphids in the terminals which can interfere with tree structure establishment.

Mites

There are a number of miticides that can be used at calyx for mite control including Acramite, Agri-Mek, Apollo, Kanemite, Nexter, Envidor, and Nealta. Check your scouting reports to see if there is a treatable population. Envidor and Nexter also control apple rust mite in addition to European red mite and twospotted spider mite.

Codling Moth

Those growers that do their own monitoring for codling moth should have the traps hung in orchard blocks over the next 10-14 days. Suzie Blatt (AAFC) observed some initial catches of codling moth this past week. Biofix typically occurs in the next 7-10 days in Nova Scotia. The predictive model for timing codling moth treatments will be run and applications will be required later this month where a treatable population is noted.

Pear Psylla

Applications of Agri-Mek (170-340 mL/ha) plus oil (10 L/ha) can now go on pear trees for pear psylla control. The closer the application is made to calyx the more effective it is in controlling psylla. Do not use Captan/Maestro as a fungicide for pear scab within 14 days of Agri-Mek + Oil application. Use another fungicide such as Aprovia, Fontelis, Sercadis, Flint, Sovran, or Pristine.

Pear Rust Mite

Pear rust mite, which now would be present on pear trees and newly growing pears, can go unnoticed until the producer sees heavy russetting extending from the base to the top of the fruit. Growers that apply Agri-mek for pear psylla control would also obtain pear rust mite control. Nexter or Envidor would be other options for pear rust mite control.

Plum Curculio

A second application for plum curculio should be made approximately 12 days after the initial application on stone fruits. A second application of a plum curculio product would also be recommended to control apple curculio in pear. Plum curculio damage is already showing up in stone fruits where adults were active (Figure 3).



Figure 3: Plum curculio oviposition scar on the side of sweet cherry fruitlet.

Black Cherry Aphid

Those growers that have plantings of sweet cherry should monitor for black cherry aphid which can interfere with terminal growth, especially on young trees. There are a number of insecticides noted in the Stone Fruit Management Guide.

Catfacing of Peach

Catfacing of peaches is caused by plant bug stinging. This stinging takes place around shuck split/fall and one to two insecticide applications may be required to reduce the incidence of catfacing. Apply one to two applications of one of the pyrethroids listed in the Stone Fruit Management Guide.

White Apple Leafhopper

Sevin applications on mature blocks will control leafhopper but monitoring non-bearing plants for leafhopper. If treatment is required, a neonicotinoid, Sivanto Prime, or Exirel would control leafhopper and also pick up aphids.

Horticulture

Apple Thinning

While it is still early on the latest blooming varieties to check for fruit set, in observations so far fruit set is variable as is normal. Idared, McIntosh, Honeycrisp, Gala, and Cortland in Greenwich and Middle Dyke Road area appear to have a very good set of 3-4 fruitlets per cluster (Figure 4). These will need chemical thinning to achieve a reasonable crop load and high quality fruit. In contrast, looking at Gravenstein in one particular block only 1 fruitlet per 2 flower clusters was swelling and appeared to be a very light set.



Figure 4: Idared cluster with 4-5 fruitlets set out of an unusual 7 flowers. Folding up of sepals and swelling of the fruitlet indicates a successful pollination of the flower and setting fruitlet.

Early cultivars (e.g. Gravenstein, Jersey Mac, Paulared, Idared) in early areas had fruitlet size of 8-12 mm at this point so thinning sprays could begin in the next few days. As an average, many blocks would be in the 5-7 mm stage at this point with thinning coming up over the next week. With cloudy but cool weather I wouldn't expect there to be any periods of major carbohydrate deficits. Normal thinning rates will likely be adequate. Note thinning with Maxcel is suggested to occur with daily high temperatures of greater than 18°C for the day of application and the following 2-3 days. At a minimum, a daily high of 15°C is recommended. If daily highs are forecast to be consistently below 15°C, use an alternate thinner or delay Maxcel application to a warmer weather window.

As always, assess fruit set in your own orchard before making any decisions on products and rates.

Charlie Embree (AAFC-retired) and Douglas Nichols (formerly of NSFGA) prepared a very useful table and tips for chemical thinning in Nova Scotia. This has not been updated since 2013 but is still very relevant and helpful as it is based on trial work done in NS. It can be downloaded here: <http://perennia.ca/Orchard%20Outlook/2013/7%20Tips%20and%202013%20Product%20Guide.pdf>

Chemical thinning is one area where one often encounters rate suggestions in PPM. For information on how to prepare PPM sprays, see the following Perennia factsheet: <http://perennia.ca/Fact%20Sheets/Horticulture/Fruit/Orchard%20Fruit/Spray%20PPM%20for%20Web.pdf>

For further information on chemical thinning and thinners, see the factsheet Thinners and Growth Regulators for Fruit Trees: [http://perennia.ca/Fact%20Sheets/Horticulture/Fruit/Orchard%20Fruit/THINNERS AND GROWTH REGULATORS FOR FRUIT TREES.pdf](http://perennia.ca/Fact%20Sheets/Horticulture/Fruit/Orchard%20Fruit/THINNERS_AND_GROWTH_REGULATORS_FOR_FRUIT_TREES.pdf)

Defruiting young trees can be accomplished with a combination of Sevin XLR at 2.5 L plus Maxcel at 5.0 L per 1000 L of water. A few litres of oil can also be added as a spreader sticker to this combination. Apply between petal fall and 8-10 mm. A second application can be done before 18 mm if additional thinning needed. NAA can also be used to defruit young trees but tree stress from NAA and reduced growth may result.

Pear Thinning

The majority of pear fruitlets are in the Maxcel thinning window of 8-14 mm. Fruit set varies from extremely heavy to very light depending on block. If your pears require chemical thinning, Maxcel treatments should be applied over the coming week to be effective. Harovin Sundown pear now called Cold Snap is considered to be more difficult to thin like Bartlett.

Foliar Nutrients

Magnesium/Epsom Salts – Magnesium deficiency is best corrected with soil applications of dolomitic limestone in Nova Scotia. Foliar application of magnesium should only occur where magnesium deficiency has been confirmed when tissue testing and/or deficiency symptoms indicate it is required. Application of Epsom salts (magnesium sulphate) after bloom at 20 kg/1000 L has been shown to help improve leaf magnesium where required.

Nitrogen/Urea – Foliar urea sprays can be used to supplement soil applications of nitrogen where leaf nitrogen levels are low. For Nova Scotia, this would be below 2.0% leaf N. Post bloom applications are typically 6 kg of urea per 1000 L of spray. If you are applying urea with concentrate sprays in less than 1500 L/ha, reduce the urea rate to 3 kg per 1000 L of spray to avoid foliar burn. Also avoid applying foliar urea during slow drying conditions.

- **Grafting**

- Bark slipping is at the ideal stage for topworking trees.

- **Weed Control**
 - Herbicide application should be maintained to minimize competition in the orchard. The critical period of weed control extends 30 days after bloom on mature orchards and through July in young blocks.
- **Mowing**
 - Regular mowing of the orchard floor will help minimize dandelion competition with tree fruit flowers during bloom, minimize insect flushes from the ground cover after mowing, and conserve soil moisture as conditions become dry.
- **Tree Planting/Trellis**
 - Prune and support newly planted trees as early as possible after planting to ensure maximum first year growth.

Apple Maggot Eradication Technician

The NSFGA has again obtained funding for a summer technician to aid in apple maggot control efforts.

Please contact Elizabeth Nichols to report wild trees to schedule their elimination. **This is at no cost to the producer for time or materials! Now is a very obvious time to note the locations of wild apple or hawthorn trees in bloom.** Please also contact Elizabeth Nichols if you have completely removed blocks so records can be updated for apple maggot inspections.

Elizabeth Nichols
 Apple Maggot Eradication Technician
 Blair House, Kentville Agricultural Centre
 32 Main Street, Kentville, NS B4N 1J5
 Email: enichols@nsapples.com
 Office: 902-678-1093
 Cell: 902-670-3599

Pesticide Certification Course

Due to several recent requests, a full pesticide certification course is being offered again in Berwick June 20-21.

The location will be at the Berwick Fire Hall, just south of Exit 15 on Highway 101.

Doors open at 8:30 for registration. Instruction starts at 9:00. We normally finish at 5:00.

The provincial applicator's exam will be offered Tuesday afternoon June 21. There will be an extra fee (\$66.35) to write the exam, payable by cheque only, to the Minister of Finance.

The course will be slanted to meet the needs of the participants - Agriculture, Landscaping, Greenhouse, Vendor, etc.

Persons requiring PRCP points may sit in the first day of the course and receive 6 points.

The course fees (including HST) are \$92 for one-day, and \$172.50 for the full course. Cash or cheque, at the door. The exam fee is not included, and must be paid separately by cheque.

A manual is provided. Just bring a calculator and pen.

Lunches and breaks are on your own.

Pre-register by contacting Jim Jotcham at marbicon@eastlink.ca or 902-538-7101.

You may not register for additional PRCP points if you already have attended a T1422 course this spring with Jim.

2016 IFTA Study Tour in New York – Registration Open

Scholarships are available to young professionals & growers to attend this tour – application deadline is June 10! See

<http://ifruittree.org/Portals/46/2016%20Study%20Tour/2016YoungProfessionalScholarshipApplication%20form.pdf?ver=2016-05-25-175833-450>

Make plans now to attend the IFTA New York State Study Tour, July 19-21. Plan to fly into Rochester on Monday, July 18, as the tour will start bright and early on Tuesday, July 19 (hotel Monday night is included in the registration cost).

The first day of tours will be throughout Orleans County and will cover a variety of topics from tall spindle systems, to pruning, to fireblight management, and even a discussion on hard cider.

The second day will be a full day at the Cornell Fruit Field Day hosted at the Cornell Agricultural Research Station.

The final day of tours will be in and around Geneva, and topics will include employee training, grafting, wild bees, and orchard equipment just to name a few.

This tour will be packed full of practical tools and ideas to take back to your business. This event is expected to sell out so register soon!

See <http://ifruittree.org/Events/2016-Study-Tour> for more information.

Reminder: Canada-Nova Scotia Fire Blight Initiative!

This is a reminder that all tree fruit growers with apple and/or pear acreage that required additional management as a result of fire blight occurring after tropical storm Arthur can apply for financial assistance under the Canada Nova Scotia Fire Blight Initiative – a Growing Forward 2 Agri-Recovery program.

DEADLINE TO APPLY FOR THIS PROGRAM IS JULY 29!

Funding includes provisions for recovery of additional chemical costs for all growers. Funding is also available for confirmed tree losses where an industry inspection report was completed prior to July 31, 2015.

For more information on the Canada-Nova Scotia Fire Blight Initiative and how to apply, see <http://novascotia.ca/programs/fire-blight-initiative/>.

Questions regarding the program or eligibility should be directed to the Programs and Business Risk Management Branch of the Nova Scotia Department of Agriculture at 1-866-844-4276.

This Orchard Outlook has been published with the input of the Orchard Outlook Committee and Erika Bent (APM).

Editor: *Chris Duyvelshoff, Perennia*

