

# Orchard Outlook



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## Bud Development

Checking on bud development Tuesday, Idared was at early bud separation on Middle Dyke Road – a historically early block (Figure 1). Blossom buds are beginning separate on pears, peaches and plums will be in full bloom later this week, apricots are in late bloom, and sweet cherries are finally moving.



**Apple:** Half-Inch Green to late Tight Cluster (early cv's)



**Pear:** Tight Cluster



**Peach:** Early Bloom



**Plum:** Bloom



**Sweet Cherry:** Tight Cluster

Figure 1: Tree fruit buds observed on May 10<sup>th</sup>, 2016 in Greenwich and Middle Dyke Road.

## 2016 Degree Day Accumulations

Degree day accumulations from March 1<sup>st</sup> to May 10<sup>th</sup> show that 2016 has now fallen behind the 5- and 10-year averages (Figure 2).

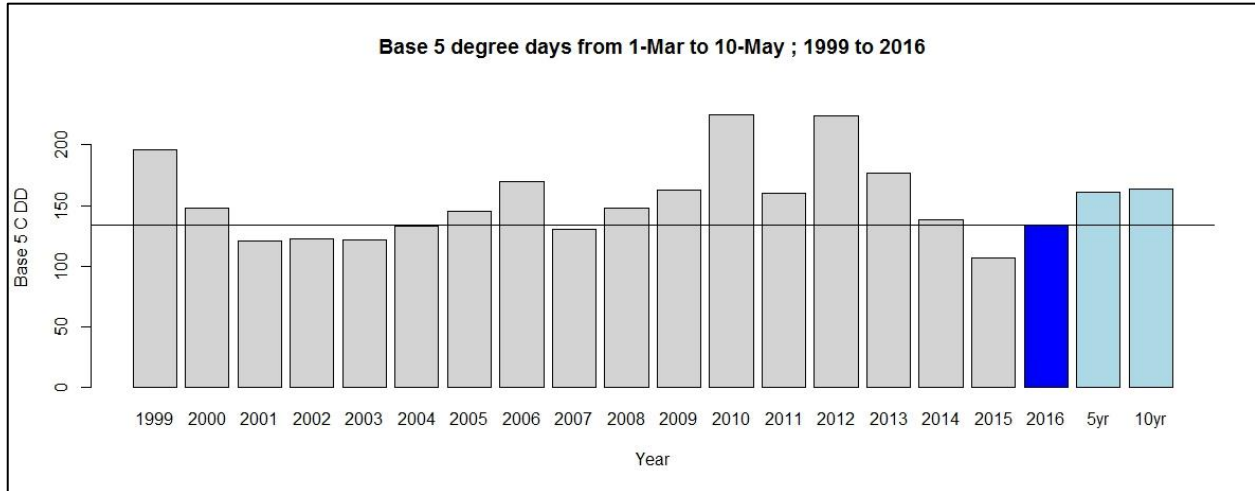


Figure 2: Degree day accumulations from March 1st for the past 18 seasons. Provided by Jeff Franklin (AAFC).

To date heat accumulation since March 1<sup>st</sup> is (Figure 2):

- About 17% fewer plant development heat units compared to the 5-year average.
- About 26% more plant development heat units compared to 2015.
- About 32% fewer insect development heat units compared to the 5-year average.

## Diseases

### Apple & Pear Scab

Two infection periods were recorded during the past week at Kentville AAFC.

Wetting began at midnight on Thursday, May 5th and the infection period began at daylight (approx. 6:00 am as ascospore release doesn't occur much during darkness) lasting until the early afternoon on Thursday, May 5th. By itself it would not qualify as an infection period, however, wetting began again in the early evening after only a brief dry period. This wetting period lasted from 7:30 pm on Thursday, May 5th until 9:30 am on Saturday, May 7th. As the dry interval was shorter than 8-12 hours, the two wetting periods are combined into a single infection event. Therefore, the wetness duration is from 6:00 am Thursday, May 5th until 9:30 am on Saturday, May 7th - 51.5 hours at an average temperature of 5.9C resulting in a heavy infection on the Modified Mills table.

Wetting began again on Saturday, May 7th at 8:30 pm after an 11-hour dry period, therefore starting a new infection period. Wetting lasted until 8:30 am on Sunday, May 8th, for a total of 12 hours at 10.8C, resulting in another light infection.

Seasonal ascospore maturity had advanced from about 8% to 15% during the two wetting periods and mature ascospores would have been released. As of this morning, based on a Silver Tip date of April 6<sup>th</sup>, about 19% of the seasonal spore load is estimated to have matured. Given the large differences in phenology across the Valley this season, it is difficult to accurately estimate ascospore maturity for all areas. The only certain thing is that spores are mature and ready for infection now in all areas.

Kentville AAFC has received about 50 mm of rain (2") since last Orchard Outlook on May 4<sup>th</sup>. All fungicide protection from prior to last week's infection periods has therefore deteriorated and should be renewed – even if there has been little tissue growth – before the expected wetting on Saturday.

See the 2016 Pome Fruit Management Guide for a complete list of registered products for apple and pear scab at

[http://perennia.ca/Pest%20Management%20Guides/Fruits/2016/Pome%20Fruit%20Management%20Guide\\_2016.pdf](http://perennia.ca/Pest%20Management%20Guides/Fruits/2016/Pome%20Fruit%20Management%20Guide_2016.pdf).

### **Powdery Mildew**

Many areas will be approaching tight cluster later this week and will be in the stage of development where protection from powdery mildew is recommended. In the earlier areas, including a powdery mildew fungicide as part of your next apple scab spray would be a useful strategy to control mildew. See last week's Orchard Outlook from May 4<sup>th</sup> for a discussion of powdery mildew biology, products, rates, fungicide groups and resistance issues in Nova Scotia.

### **Fire Blight**

Copper application for overwintering fire blight cankers is now past the recommended growth stage in most areas. Processing blocks could still receive copper application if there are overwintering fire blight cankers.

### **Brown Rot**

With peaches and plums now in bloom, fungicide protection from brown rot blossom infection is now required. Brown rot infection of the flowers during bloom provides secondary inoculum for fruit infections later on. Fungicide protection from brown rot should begin just prior to bloom and be maintained during periods favourable to infection. Warm, wet weather is particularly conducive for brown rot infection – like the weather coming up this weekend. Two to three fungicide applications may be required from pink/white bud to petal fall if weather remains warm and wet. There are 8 different fungicide groups and over a dozen products registered for brown rot control. See the 2016 Stone Fruit Management Guide for more information at

<http://perennia.ca/Pest%20Management%20Guides/Fruits/2016/Stone%20Fruit%20Management%20Guide%202016.pdf>

For plums, the use of Captan/Maestro (3.75-4.5 kg/ha) or Indar (140 g/ha) for brown rot during the white bud stage through fruit set will also give some control of new black knot infections.

### **Insects**

#### **European Red Mite**

Some blocks have received oil applications for ERM in the past week. There is still opportunity to apply oil for ERM if you have not yet had a chance. Erika Bent (APM) notes ERM egg hatch has not yet occurred. The next few days are forecasted for dry weather with no frost risk which should allow for some additional oil applications to be made. Sensitive cultivars to oil treatment such as Red Delicious and Ambrosia (i.e. bark measling symptoms) should be oiled first.

Never apply captan and oil together or captan within 7 days (preferably 14) prior to or following an oil treatment. Sulphur applications (e.g. Kumulus) are also not compatible with oil and should not be used within 30 days of oil. For European Red Mite control, use either Superior Oil 70 or Purespray Green Spray Oil at 60 L/ha or 20 L of oil per 1000 L of spray. Oil will not affect two-spotted spider mite or apple rust mite as they overwinter as adults.

### **Spring Caterpillar Complex**

With apples approaching tight cluster it is time to consider management of the spring caterpillar complex. There are several caterpillar larval insects present on apples from tight cluster through calyx on both fruit clusters and vegetative buds.

Winter moth (WM) is the most common spring caterpillar observed in Nova Scotia. It is difficult to distinguish from the green pug moth (GPM) larvae (the other inch-worm type) at early instars. GPM larvae develop a dark dot which may form into a stripe down the middle of their back which can be used to distinguish them from WM. Other caterpillars that could be found at this stage of development are speckled green fruitworm (SGFW), and obliquebanded leafroller (OBLR).

Overwintering egg hatch for both WM and GPM coincide closely with bud break. Larvae cause economic damage from chewing on young leaves and blossoms. Feeding can be observed at tight cluster as tiny holes in new leaves and flower buds and black specks (i.e. frass). Scouting procedures are described in Perennia's **Best Management Practices for Nova Scotia Apple Production**. See

[http://perennia.ca/Fact%20Sheets/Horticulture/Fruit/Orchard%20Fruit/REV\\_Best%20Management%20Practices%20for%20Nova%20Scotia%20Apple%20Production.pdf](http://perennia.ca/Fact%20Sheets/Horticulture/Fruit/Orchard%20Fruit/REV_Best%20Management%20Practices%20for%20Nova%20Scotia%20Apple%20Production.pdf) Check your scouting reports for notes on WM, GPM, and other caterpillars for those with scouting services.

Thresholds for WM are lower than those of GPM. WM is of greater concern than GPM as larvae of GPM mature before calyx and don't feed directly on developing fruitlets. Instances of orchards where treatable populations of only GPM occur are rare.

If a treatment for just WM is required, than a Bt product (e.g. Dipel [280 mL/ha] or Bioprotec) with a 1/10<sup>th</sup> rate of Mako (12.5 mL/ha) applied at bud separation has been very effective with a minimum impact on beneficial insects. If treatments for OBLR (e.g. Twinguard, Delegate, Success, Confirm, Altacor, or Exirel) are required at pink, they should also have some activity on WM and GPM. Similarly, if a pyrethroid is applied for tarnished plant bug at pink, it will also have activity on WM and GPM. When possible, full-rate pyrethroids should be avoided because of their negative impact on beneficial insects and predator mites. Anecdotally, it has been observed that orchards receiving full-rate pyrethroids at pink have less problems with European Apple Sawfly later on. Note however, EAS catch has not yet occurred in Kentville.

Treatments for spring caterpillars should not be applied until bud separation so product can enter the developing flower clusters where the larvae like to feed.

### **Horticulture**

- Tree/Rootstock Planting
  - The 50 mm of rainfall late last week helped to settle in trees planted previously. Relative to some seasons, tree/rootstock planting in 2016 is still considerably early which should help trees establish before more stressful summer conditions begin.

- Fertilizer
  - Fertilizer application is best between bud break to bloom. Continue fertilizer applications on both mature blocks and young trees.
- Herbicides
  - There are some blocks in the Valley that are now showing signs of herbicide burn to weeds in the tree row. Maintaining weed-free strips from bud break to 30-days after full bloom has the greatest impact on tree growth and yield. Timely herbicide application will ensure you make the most of the weed free window. Weeds are now rapidly growing and the window for pre-emergent herbicides such as Alion is closing without a prior application of a burndown herbicide. It is especially important to have weed control in young blocks to promote tree growth.

## 2016 Census of Agriculture

The 2016 Census of Agriculture is now ongoing with the official census date of May 10<sup>th</sup>. I can assure you – as a former employee of Statistics Canada – that the Census of Ag data is used by many federal and provincial government departments for budgeting and program purposes. The Census of Agriculture is considered the benchmark to which many other surveys and data are compared. **Having an accurate census picture is essential to many of the services and programs delivered in Nova Scotia agriculture.** Complete the Census!

## Compost Tea Presentation

Perennia will be hosting Dale Overton, founder of Eco-Tea in Manitoba, as he shares his thoughts on soil health and the uses/benefits of aerated compost tea. Dale will focus on using compost tea on grapes, haskaps, berries, vegetables, and orchards, however much of his work in western Canada is on grain crops and pastures.

The session is at the Wolfville Farmers' Market at 10AM on Tuesday May 17th.

For more information, please contact Av Singh at 902-670-2656 or [asingh@perennia.ca](mailto:asingh@perennia.ca)

## **Get A Free Night's Stay in Halifax! – Growers Needed For 1-Day Meeting to Develop Competency Profiles for Apple Farm Workers – June 23<sup>rd</sup>**

The Canadian Agricultural HR Council is currently developing a number of tools for apple producers. We have consulted with farm producers from across Canada and have developed National Occupation Standards for apple production.

We understand how busy you are at this time of the year but we are hoping that you can find the time to participate. We are presently setting up a final working session during which the critical competencies for success for key roles will be identified. It is the final meeting in the development process – competency profiling.

We would like to invite you to participate in the competency profiling session for Apple to be held on **Thursday, June 23rd, 2016 in Halifax, Nova Scotia**. The meeting is scheduled for 8:00 AM to 4:30PM (continental breakfast and lunch will be served).

To assist with your participation, the Canadian Agricultural HR Council will cover your travel expenses to attend the session (travel expenses and one night hotel). As per the Government of

Canada Treasury Board Guidelines, the Council will reimburse each participant their roundtrip mileage (see attached Travel expense claim). Once you confirm your participation, we will send you the name of the travel agency you will be using to book a flight. CAHRC will ensure your booking at the hotel.

This 1-day workshop will bring 10-15 people together who work in Apple production to develop a competency profile for each of the following roles: Entry Level Farm Worker, Experienced Farm Worker, Farm Supervisor, Farm Manager (outlined below). Competency profiles complement National Occupational Standards. While Occupational Standards describe what the worker needs to be able to do, the competency profile identifies the underlying knowledge, skills and abilities to do so. During the session, you will choose the competencies that are most critical for successful performance for incumbents in those roles.

A human resource management professional will lead the group and make the process very easy and stress-free for participants. Materials to review prior to the session will be sent a few days prior.

We take the opportunity to thank those of you who provided insights during the focus groups and hope you will join us for this final working session.

Please confirm your participation ASAP to Tracy below.

Thanks,

**TRACY BIERNACKI-DUSZA**

PROJECT MANAGER | GESTIONNAIRE DE PROJETS

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

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