

Orchard Outlook



Vol. 17, No. 1

April 11, 2017

Bud Development	Winter Weather Review	Diseases
Insects	Horticulture	Upcoming Events

What a difference a week makes! Last week there was still snow on the ground and things were pretty much idle. After a few warm days and couple more to come, tree fruits (and their various pests...) are beginning to wake up for another season. The first sprays of the year will be required soon beginning with dormant oil applications and treatments for peach leaf curl. This is the initial Orchard Outlook issue of the 2017 growing season with regular weekly newsletters beginning next week.

Bud Development

Checking on bud development on April 10th, Idared was at early Silver Tip in the Greenwich area (Figure 1). Very early signs of bud swell was evident on some pear, peach, and plums with sweet cherry still in the dormant stage. The majority of tree fruit buds are still dormant at this time.



Apple: Dormant – Silver Tip



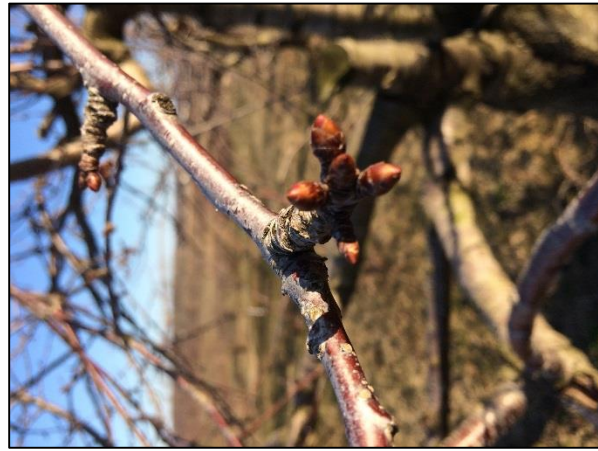
Pear: Dormant – Swollen Bud



Peach: Dormant – Swollen Bud



Plum: Dormant – Swollen Bud



Sweet Cherry: Dormant

Figure 1: Tree fruit buds observed on April 10th, 2017 in the Kentville/Greenwich area.

Winter Weather Review

The mean monthly temperatures for December 2016 through March 2017 have been fairly average compared to the previous 5 years (Figure 2). Aside from a low of -17.5°C in December, monthly extreme minimum temperatures were generally average or above those of the previous 5 years. The annual minimum temperature of -18.1°C was recorded on February 11th, just slightly below the extreme minimum of winter 2015/2016 of -17.7°C. Based on these temperatures, I am not expecting significant winter injury in tree fruit crops this spring.

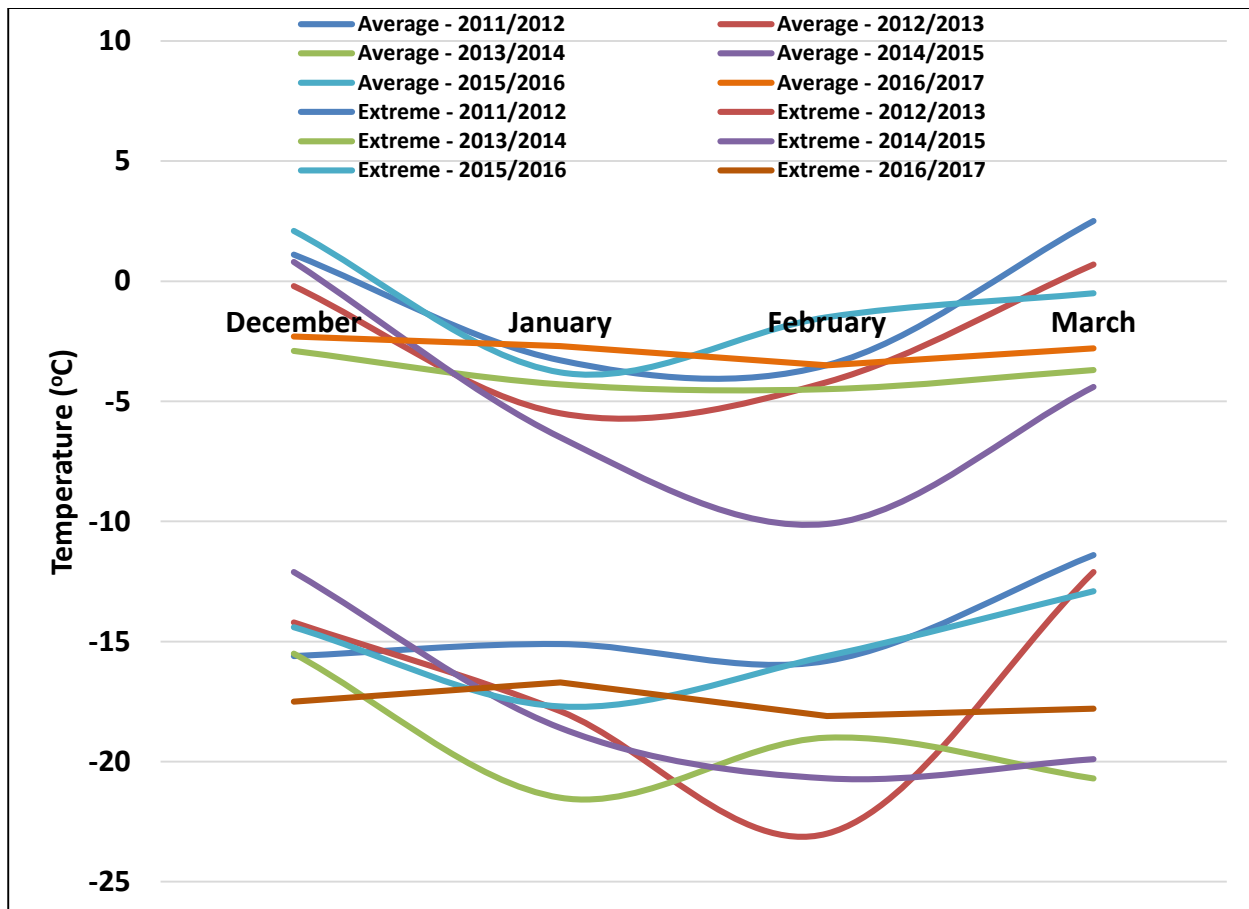


Figure 2: Mean monthly temperatures and extreme minimum temperature from December through March for the past six winters at Kentville AAFC.

Diseases

Peach – Peach Leaf Curl

Peach leaf curl causes deformation of peach/nectarine leaves and premature leaf drop which can reduce yield, fruit quality, and overall tree health (Figure 3). This can totally defoliate trees when infection is severe. It is very commonly seen on unsprayed peach trees by midsummer. It is a fungal disease caused by *Taphrina deformans* which overwinters as conidial spores in cracks and crevices in the bark. As buds begin to swell in the spring, conidia are washed into the bud and the developing leaves and begin to infect. Unlike apple scab, these infections can take place even before the bud scales are gone and green tissue is present. Only young tissues are susceptible to infection so a cool prolonged bud break can increase the severity of this disease.

Peach leaf curl is typically managed with a fall and/or spring fungicide application. A spring application is recommended just prior to bud swell. I did not observe any bud swelling late last week in Annapolis County which is typically advanced over more eastern areas of the Annapolis Valley. However, I did observe the first cracked bud scales in a peach orchard yesterday in the Greenwich area, meaning the tissue will start to be susceptible to leaf curl infections.

If you have not applied a fall application for peach leaf curl, or if you applied a fall spray and typically have high peach leaf curl pressure, a spring application **just prior** to bud swell is recommended. Chlorothalonil products (Bravo ZN or Echo 90 DF) have typically worked best in Nova Scotia conditions when applied at 5.0-7.0 L/ha (Bravo ZN) or 2.8-3.9 kg/ha (Echo 90 DF). Alternatives are Ferbam 76 WDG at 1.75-3.5 kg/ha or fixed copper products such as Copper Spray Fungicide. Organic producers should be able to use the fixed copper products. Note that only chlorothalonil is registered on nectarine crops in Canada.

Chlorothalonil products for peach leaf curl can only be applied once per season so if a fall spray was applied use another product if you're doing a follow-up spring application. Also note chlorothalonil should not be applied within 10 days of dormant oil to avoid any phytotoxicity issues. Peach leaf curl control should be maintained on young, non-fruiting trees as well to minimize leaf drop and maximize their growth. As peach buds will soon be swelling, leaf curl applications should be made in the next week in most areas.



Figure 3: Peach leaf curl infections beginning to curl and blister leaves after bloom.
Photo: <http://www.omafra.gov.on.ca/IPM/english/tender/diseases-and-disorders/peachleafcurl.html>.

Sweet Cherry – Bacterial Canker

An application of copper can be used prior to bud break to suppress bacterial canker (*Pseudomonas syringae*) in sweet cherry similar to fireblight in apple. Copper Spray Fungicide or Guardsman Copper Oxychloride 50 are registered at 6-9 kg/ha with 1,000 L/ha of water. This treatment should be made prior to bud swell to avoid any potential issues with phytotoxicity.

Insects

Pear Psylla

Pear psylla is a primary pest of pear trees in North America. Its feeding can cause 'psylla shock', reduced fruit size, russet and sooty blotch and the potential transmission of pear decline phytoplasma. Pear psylla has also been implicated in the transmission of fire blight in some studies. Trees may become defoliated and have early fruit drop. Pear psylla overwinters as an adult on tree trunks or in litter on the ground. Adults begin to emerge in the spring when temperatures reach 5-10°C.

After mating, overwintering females will begin egg laying (Figure 4) when conditions are favourable (temperatures near 10°C or warmer) with most of the eggs hatching by petal fall. The next several days offer favourable weather for egg laying activity. Once hatched, the nymphs begin feeding on pear leaves immediately with three generations per year in Nova Scotia.

The first line of defence against pear psylla is the use of dormant oil to delay egg laying and synchronize control of pear psylla with later insecticide applications. Dormant oil application should be made as soon as is feasible over the remainder of this week.

Apply Superior 70 Oil at 20 L per 1,000 L water or 60 L/ha to ensure good coverage. A minimum of 1,000 L of water per hectare should be used with dormant oil and best results have been achieved with 2,000-3,000 L per ha on larger trees. Purespray Green Oil 13E could also be used at 20 L per 1,000 L of water or 60 L/ha. Freezing temperatures within 24-48 hours before or after an oil application may cause tissue injury. However, this should be less of a concern as trees are currently only at the beginning of bud swell. Dormant oil for pear psylla will also help to reduce overwintering pear leaf blister mite.

Horticulture

- **Pruning**
 - With bud break just around the corner, ensure that your youngest blocks are pruned first to ensure growth is directed into desirable leader and terminal extension.
- **Grafting**
 - There is still an opportunity to collect dormant scionwood for grafting, however, this window will be closing over the next couple of weeks as bud break begins.



Figure 4: Pear psylla egg laid on a pear spur.

Events

Airblast Sprayer Calibration Workshop – for Orchard Application

Location: Apple Lane Farm

54 Prospect Road, Morristown

Date: Wednesday, April 12th, 2017

Time: 8:30 - 11:30 am

Join Chris Duyvelshoff of Perennia Food & Agriculture Inc. for a review of airblast sprayer calibration in orchard applications. This will be mostly an in-field workshop to optimize airblast sprayer performance in orchards, specifically reviewing sprayer calibration calculations, confirming airflow, measuring spray coverage, discussing nozzle selection, and reviewing an iPhone app OrchardMAX designed to help you with airblast sprayer optimization. We'll be using water-sensitive paper to actually measure spray coverage in trees and confirm nozzle output.

There is no cost to attend this event and no registration is required.

Attendance at this workshop will qualify for 3.0 PRCP credits.

Edited by Chris Duyvelshoff