

Orchard Outlook



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The cold weather this past week has resulted in very little bud development. The average daily high this week was just 7°C – about 6°C below the average high of 13°C for the end of April. To date, development is about 12-14 days behind the pace of 2014.

Bud Development

Orchard visits on Tuesday indicated that most tree fruits are still in the later stages of dormancy. Buds of Idared were about 50% silver tip on the Middle Dyke Road which is historically an early block. Apples range from dormant on the late cultivars to late silver tip on the early cultivars in advanced areas (Figure 1). Pears are still mostly dormant; peach – early swollen bud on early cultivars; plum – swollen bud on Japanese cultivars; sweet cherry – dormant.



Figure 1: Silver tip of apple (left) and swollen bud of plum (right). Photo: <http://utahpests.usu.edu/IPM/htm/fruits/home-orchard-guide/> and <http://fruit.umext.umass.edu/tfruit/clements/2004budstages/03312004/03312004-Pages/Image3.html>.

2015 Degree Day Accumulations

As a result of the cold weather this past week, just 6 additional base 5°C heat units were added. In a typical year, about 32 heat units accumulate during this time.

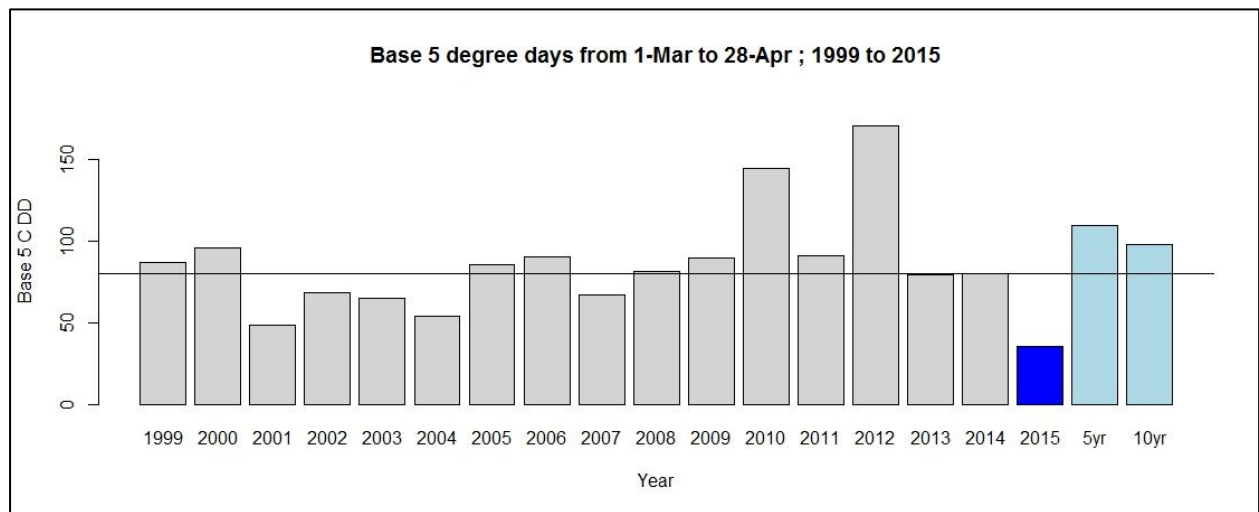


Figure 2: Degree day accumulations from March 1st for the past 17 seasons. Provided by Jeff Franklin (AAFC).

To date heat accumulation since March 1st is (Figure 3):

- About 67% fewer plant development heat units compared to the 5-year average.
- About 55% fewer plant development heat units compared to 2014.
- About 89% fewer insect development heat units compared to the 5-year average.

Diseases

Peach Leaf Curl

Peach leaf curl causes deformation of the leaves and premature leaf drop which can reduce yield, fruit quality, and overall tree health. The disease is caused by the fungus *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.

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. The recommended products include Bravo (5.0-7.0 L/ha), Ferbam (3.5 kg/1,000 L), or Copper (2 kg/1,000 L). Bravo should not be used within 10 days of dormant oil. Peach leaf curl control should be maintained on young, non-fruiting trees as well to minimize leaf drop and maximize their growth. Bud swell is already occurring on early cultivars in early areas so this spray will need to be done ASAP where it is still needed.

Plum Pockets

Plum pockets, caused by *Taphrina pruni*, has a very similar life cycle to peach leaf curl. This is a sporadic disease of Japanese plums and occasional infections cause the development of large, misshapen fruit. An application of Thiram 75 WP (6.72 kg/ha) just prior to bud swell would be recommended **only** where this disease has caused significant losses in past seasons. This should be done as soon as possible where it is required.

Bacterial Canker of Sweet Cherry

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. Guardsman Copper Oxychloride 50 is registered at 6-9 kg/ha with 1,000 L of water. This treatment should similarly be made soon if you're intending to use it.

Insects

Pear Pyslla

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. Erika Bent (APM) observed the first adults about two weeks ago.



Figure 3: Pear psylla egg laid last week on a pear spur.

After mating overwintering females will begin egg laying (Figure 3) when conditions are favourable (temperatures near 10°C or warmer) with most of the eggs hatching by petal fall. 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 psylla at calyx. Both Erika Bent and myself observed egg laying activity last week. Dormant oil should be applied at your next window of opportunity to delay pear psylla egg laying activity. Some pear blocks have been oiled in the past few days.

Apply Superior 70 Oil at 60 L/ha or 20 L per 1,000 L of water 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 60 L/ha or 20 L per 1,000 L of water. Freezing temperatures within 24-48 hours before or after an oil application may cause injury. However, this should be less of a concern as trees are fully dormant. Dormant oil for pear psylla will also help to reduce overwintering pear leaf blister mite. After dormant oil, the next timing for control of pear psylla will be at calyx.

Horticulture

- **Pruning**
 - With the delay in suitable pruning conditions this year it would be best to focus on the highest value cultivars and youngest high density orchards to maximize the benefits for this season. Continue to focus on removal of fire blight cankers in infected blocks.

- **Grafting**
 - There is still an opportunity to collect scionwood for grafting for nearly all cultivars. However, it would not be suitable to begin bark grafting methods yet.
- **Deer / Mouse Damage**
 - Greater deer damage is being reported in several different areas this winter. The Nova Scotia Wildlife Compensation Program – administered by the Nova Scotia Crop and Livestock Insurance Commission – may provide compensation depending on the level of damage. Contact NSCLIC at 1-800-565-6371 for more information.
 - Though there is no feasible treatments for most young trees with mouse damage, noting its occurrence may help target mouse control this fall. Mouse damage has been reported in both apple and peach. Mouse damage is not eligible under the Nova Scotia Wildlife Compensation Program.
- **Homegrown Success Programs – Deadline April 30th**
 - The provincial Homegrown Success Program for Environmental Management and Innovation (e.g. lime assistance) **closes tomorrow, April 30th**. Refer to <http://novascotia.ca/agri/programs-and-services/financial-funding/growing-forward2/innovation/> for more information and the application.

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

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