

Orchard Outlook



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Bud Development	Degree Day Accumulations	Diseases
Insects	Horticulture	Events

Apple bloom peaked in most areas during the weekend and is now at petal fall or late bloom. The exception to this is late cultivars and later areas such as Medford and higher elevations which still have substantial bloom. Earlier varieties such as Gravenstein and Idared were at full bloom by mid-week and had plenty of very good pollination weather. Varieties where full bloom occurred on Thursday, Friday, or Saturday should have also had at least a day of good pollination conditions. Late varieties and blocks where bloom opened late on Saturday through the weekend have not had much suitable pollination weather from Sunday through to today and could have a lighter set.

Bud Development

Apples range from early bloom to petal fall in the earlier areas (Figure 1). Pears are late bloom to petal fall; peach – petal fall; plum – petal fall (early shuck split); sweet cherry – shuck fall on early cherries.



Figure 1: King bloom petal fall of apple (left), petal fall/calyx of pear (centre), petal fall of peach (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

Heat unit accumulation at base 5°C is still lagging behind the 5 and 10-year averages but remarkably has advanced 4% beyond where heat units were at this point in 2014.

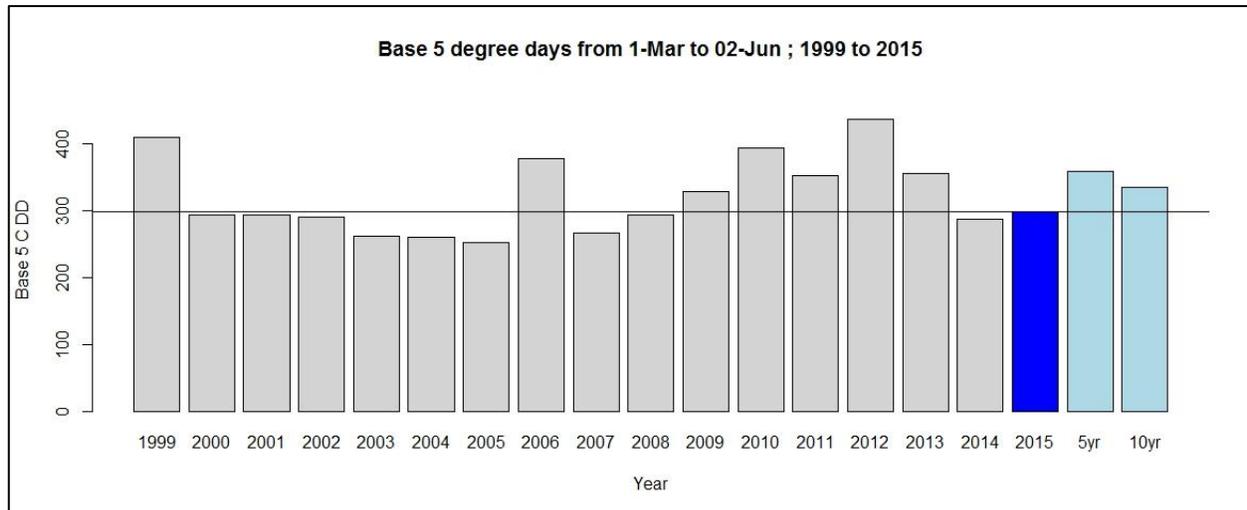


Figure 2: Degree day accumulations from March 1st for the past 17 seasons. Provided by Jeff Franklin (AAFC).

To date heat accumulation since March 1st is (Figure 2):

- About 17% fewer plant development heat units compared to the 5-year average.
- About 4% more plant development heat units compared to 2014.
- About 8% fewer insect development heat units compared to the 5-year average.

Diseases

Apple Scab

The present wetting period began on Sunday morning and is still ongoing at the time of this outlook. This will be a heavy infection period. Ascospore maturity is estimated at 95% as of today and a very large spore release occurred during the past few days of wetting. Rainfall of 2 inches or more has occurred in most areas which would have removed nearly all fungicide residues. This would be a good time to consider a fungicide with kickback activity. The strobilurins Flint or Sovran have up to 96 hours of kickback activity and would be an excellent choice. They also offer some protection for summer diseases. The rate for Flint would be 175 g/ha and Sovran would be 240 g/ha. They should be applied with a half rate of protectant for resistance management. Strobilurins would be compatible with Apogee and Agral 90.

Fire Blight – Blossom Blight

Blossom blight risk remains low for the next few days for those blocks still in bloom.

Fire Blight – Shoot Blight Management & Apogee

Begin Apogee application at 2-5 cm shoot growth. The second treatment should be applied approximately 14 days after the first treatment. Not much shoot growth activity is expected to occur today with the cooler temperatures.

Brown Rot

Maintain fungicide coverage through shuck split/shuck fall. With all the rain the past few days, another fungicide application would be good prevention for brown rot.

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 and often simultaneously. Insect management programs should be based on grower monitoring and/or scouting reports. There is still some bloom present in many blocks so calyx treatments may not begin until the weekend/early next week. The following table should assist with calyx insect control decisions (Table 1) in addition to the Orchard Management Schedule.

Table 1: Determining the most effective pesticides in order of preference for control of pests at the calyx stage of apples in Nova Scotia (rev. June 2014) with input from Erika Bent (APM).

Insect Complex	Products and Rate per hectare	Ratings*and comments
1. Stinging bugs: Mullein Bug, Apple Brown Bug	Actara 315 g, Assail 160 g, Calypso 290 ml, Admire 380 mL, ** <i>synthetic pyrethroids</i>	Actara- 3 ; Assail – 3 ; Calypso- 3 ; Admire- 3 ; Synthetic pyrethroids- 4 but pyrethroids are disruptive to IPM programs;
2. Rosy Apple Aphid, Green Apple Aphid	Admire 230 mL, Actara 160 g, Assail 120 g, Calypso 145 mL, Closer 100-200 mL, Clutch 140 g, Twinguard 250 g	Actara - 4 ; Admire - 4 ; Assail - 4 , Clutch – 4 ; Calypso - 4
3. Rosy Apple Aphid, stinging bugs	Admire 380 mL, Assail 160 g, Actara 315 g, Calypso 290 ml	Each of these products is rated 4 for aphids and for 3 stinging bugs
4. Obliquebanded Leafroller	Intrepid 0.75 L, Confirm 1.00 L, Delegate 420 g, Success 182 mL, Twinguard 500 g, Altacor 145 g	Intrepid- 3 ; Confirm- 3 ; Delegate – 4 ; Success- 4 ; Altacor - 4
5. Stinging bugs, Rosy Apple Aphid, and European Apple Sawfly	Assail 240 g, Calypso 290 mL	Stinging bugs – 3 ; Aphids – 4 ; European apple sawfly: Assail – 3 ; Calypso- 4
6. Winter Moth/Fruitworm and stinging bugs	** <i>synthetic pyrethroids</i>	**Synthetic pyrethroids are disruptive to IPM programs and their use should be avoided when possible.
7. Winter Moth, Leafroller and Fruitworm	Confirm 0.75 L or Intrepid 1.0 L, ** <i>synthetic pyrethroids</i> , Imidan 2.68 kg	Intrepid - 4 ; Confirm- 3 ; Imidan – 3 ; **Synthetic pyrethroids, see above note.

8. European Apple Sawfly	Assail 240 g, Calypso 290 mL	Assail – 3; Calypso – 4
9. European Red Mite	Acramite 851 g, Kanemite 2.1 L, Envidor 750 mL, Nealta 1 L	Acramite – 3; Kanemite – 4; Envidor – 4;

European Apple Sawfly (EAS)

EAS will be the first pest that will need to be addressed after bloom as eggs were laid during the bloom period. The closer you are able to time an application of Assail or Calypso to petal fall, the more effective these products will be in controlling sawfly damage. Jeff Franklin notes that EAS catches have really jumped the past weekend which means that it is possible that earlier bloom may have escaped some EAS damage.

Plum Curculio

With stone fruits in late bloom through petal fall or even shuck split in early sweet cherries, it is now time to consider management options for plum curculio (PC). Overwintering adult PC's will move into stone fruits around shuck split and stay for up to six weeks. Mated females will deposit their eggs in the developing fruit leaving the characteristic crescent-shaped scar. Activity of PC is increased in temperatures above 16°C. **Treatment for PC should be applied before shuck split to obtain optimal control.** As this has already happened in early sweet cherries, these blocks should be treated first. A second application is usually needed about 12 days later. Insecticide options include neonicotinoids: Actara, Assail, Calypso, Clutch; pyrethroids: Ambush, Matador/Warrior, Pounce.

Pear Insects

Calyx is the treatment timing for winter moth and fruit worm in pear. Treatment should be based on need determined by monitoring. Intrepid, Altacor, Success, Delegate, and Imidan would be effective as well as the synthetic pyrethroids.

Apple curculio damage on pears has been observed in recent years. This pest is difficult to monitor for and its presence often is not observed until damage on fruitlets shows up. Treatments for this pest should go on when pears have reached calyx. Use of one of the products registered for plum curculio should also control apple curculio. Erika Bent (APM) notes if you need to control winter moth and fruit worm in pear plus apple curculio, Imidan or a synthetic pyrethroid would be preferable to a neonicotinoid.

Pear Pyslla

Pears are at petal fall in most blocks. If you are planning to use Agri-Mek + Oil for pear psylla control, it is best to apply it as soon as petal fall is complete. Agri-Mek has better residual control when applied to younger tissues. Do not apply Agri-Mek with any bloom around as this product is

highly toxic to bees. Do not use Captan/Maestro as a fungicide for pear scab within 14 days of Agri-Mek + Oil application. Use another fungicide such as Fontelis, Flint, Sovran or Pristine.

Horticulture

Pear Thinning

Petal fall has occurred or is now occurring on pear this week. Pear bloom opened up a couple of days before most of the apple bloom and had a full week of warm temperatures during pollination. I would expect a good set where there was bloom.

In Nova Scotia, the old growth regulator Amid-thin (NAD) had been the most effective thinner for pears but is no longer available.

Maxcel is currently the only product registered for thinning pears. It is registered for fruitlet thinning between 8-14 mm at a concentration of 50-200 ppm. Maxcel at 50 ppm is a weak application on apple thinning so I would suggest using 100 ppm. Increase the concentration as fruitlet size approaches 14 mm. On Tuesday, earlier pears were in the 6-8 mm range. Daily maximum temperatures should be above 18°C for best activity of Maxcel. Weather later this week into the weekend looks to have several days where this should be the case.

There has not been much use of NAA for pear thinning in Nova Scotia and the product is not registered for thinning pears. However, some areas have been successful thinning pears with NAA applied within a week of petal fall. Sevin XLR is not effective on pear thinning and should not be applied.

- **Bees**
 - Honey bees should be moved out of the orchard as soon as possible at petal fall to allow calyx insecticide applications.
- **Pruning**
 - Young blocks and newly planted trees should be pruned and leaders singled to maximize tree growth.
- **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. It is important to get something on tough perennial weeds like brambles while they are still green and tender.

Apple Maggot Information

Eradication:

Elizabeth Nichols is the Apple Maggot Eradication Technician this year.

Elizabeth inspects areas and eradicates wild hosts which may pose a threat to nearby commercial orchards, such as those found in ditches or along fence lines. Please note that the Apple Maggot Eradication Program does not cover the eradication of trees for the purpose of removing old blocks of orchard

Please contact Elizabeth if you wish her to remove trees on or near your commercial orchards or come across trees in other areas (e.g. growing wild in ditches along the roadway) that should be eradicated. If there are new locations that should be eradicated, please contact Elizabeth so that she may add them to the list.

Inspection:

Apple Maggot Inspections will begin on 10 August. Elizabeth Nichols will be assisting in coordinating orchard visits. **If you have removed blocks, please contact Elizabeth so that she can update our information.**

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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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