

**79<sup>th</sup> Annual New England, New York and Canadian Fruit Pest Management Workshop  
Burlington, VT, October 24-25, 2017  
2017 EXTENSION/FIELD REPORT –APPLES**

**Location:** Ontario, Canada  
**Person(s) Reporting:** Kristy Grigg-McGuffin  
 Ontario Ministry of Agriculture, Food and Rural Affairs  
**Pest Types:** Disease, Insects, Mites

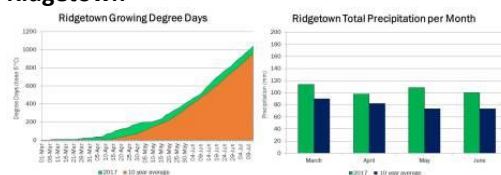
**Overall Situation:**

The 2017 growing season will be one for the books. The spring began unseasonably cold and wet in all areas. From March to July, nearly all regions of the province experienced above average rainfall (see below). However, some regions doubled the monthly average rainfall and often within just a few days. Bloom was extended due to the cooler weather and bee activity was rather low overall. By mid-summer, the southwestern part of the province was dry and irrigating regularly. However, the moisture stayed throughout the season in the eastern part of the province with rainfall occurring every 2-3 days until the end of August. Puddles and ruts were still present in some orchards at harvest time.

**Harrow**



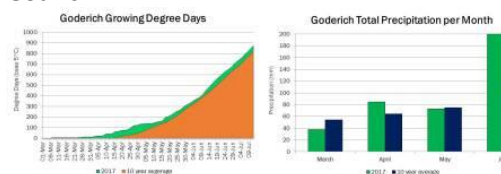
**Ridgetown**



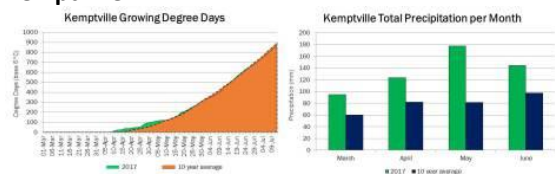
**Delhi**



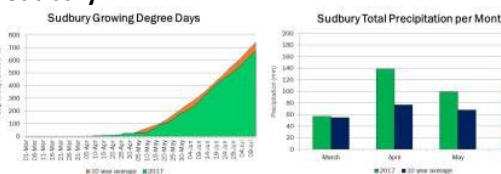
**Godrich**



**Kemptville**



**Sudbury**



The long stretches of dry weather across southern Ontario in 2016 followed by one of the wettest starts to a year likely put a strain on trees, which seemed to not be able to recover this season. The abnormal weather is a suspected cause to the inconsistent crop many orchards experienced this year. Honeycrisp, Gala, Golden Delicious and Mutsu were particularly affected. Some trees were laden with fruit, while others had only half-dozen.

Hail storms hit a number of apple growing regions in the province this year beginning over the July 1<sup>st</sup> weekend. Regions like Niagara experienced multiple hail events in the same orchards over the following weeks. Most orchards that sought insurance claims reported 85-100% crop loss by the end of the season.

Unseasonably warmer days in Ontario have continued through the fall. Maturity pushed quickly in many varieties and some growers found themselves struggling to keep up with harvest at times. Early colour on the fruit was great, but the fall heat prevented much later season colouring from progressing.

Overall, the provincial estimate places this year's crop approximately 20-30% less than a normal growing season. However, the fruit quality and size has been better than average.

### **Major Problems or Unusual Events -Disease:**

In 2016, a significant number of orchards (approx. 75%) across the province dealt with **fire blight**. Growers were prepared this year for aggressive management with Streptomycin and Kasumin so as not to have a repeat epidemic. OMAFRA provides animated forecast maps for all apple growing regions of the province using the Cougar Blight model. A summary of this season with actual infection periods is now posted: <http://www.omafra.gov.on.ca/english/crops/facts/fireblight-2apples.htm>. The periods for fire blight infection risk were different for most regions expect May 16-21 when the risk was high to extreme in most areas of the province. It was likely just a little too cool during the critical growth period in most regions for infection, though, despite the rains. However, many growers saw the aftermath of the previous season infection and tree collapse due to rootstock fire blight was very common.

The wet spring caused many orchards to begin showing signs of **Phytophthora root, collar and crown rot**. Tree collapse began mid-summer and has continued into the fall. More collapse is anticipated next year.

Across the province, tree collapse (10-15%) was observed in 2016 in numerous blocks of 3-6 year old trees beginning at bud break and continuing until August. Results confirmed **phomopsis canker** at graft union in majority of cases (black rot in approx. 5% of samples). A survey this year of similar tree collapse reported more incidences of phomopsis, but confounded with fire blight and Phytophthora.

**Scab** was relatively absent this season despite the rains and frequent infection periods. There were many grower complaints in the early part of the season of the ruts they were creating in the orchard by the sprayer or never feeling like they were able to complete a protectant spray before getting rained out. The damp conditions really favoured primary infection, which started early April until late May or early June depending on the region. Unfortunately, some orchards that had a delay between applications or used reduced rates have reported damage to leaves and fruit.

Rains kept **powdery mildew** relatively low.

**Fruit rot** (black rot, bitter rot) continue to be an increasing problem in the province, mainly in Golden Delicious, Gala, Empire, McIntosh, Honeycrisp and Ambrosia.

### **Major Problems or Unusual Events -Insects:**

This year may go down as the year of the **aphids** in Ontario. The cool, wet spring encouraged lush foliage and made for ideal conditions for aphid development. Rosy apple aphid pressure, in particular, was very high across the province. Crinkled leaves as well as deformed fruit were readily observed. A flush of regrowth in late July and early August also caused a rebound in green apple aphid colonies on the new foliage. Woolly apple aphid activity was first observed in early June (3-4 weeks earlier than usual) around cankers and crevices on the trunk and large limbs. By August, colonies had moved throughout the canopy to new terminal growth. There was frustration with the limited control options available for woolly apple aphid with the loss of diazinon.

The prolonged bloom in some regions resulted in a period of time in which the tree was unprotected from **tarnished plant bug, mullein bug** and **plum curculio**. Mullein bug populations exceeded threshold in some blocks and but little damage was found. Interestingly, other blocks had very low mullein bug counts but still reported damage to fruit. An increase in damage caused by **green** and **red apple bug** is suspected in some orchards with reports of flat or raised rough scars on fruit.

**European apple sawfly** activity was relatively low over bloom in regions of the province that typically deal with this pest.

Numerous summer pests, such as **codling moth, oriental fruit moth** and **obliquebanded leafroller** had long, extended generations likely due to the weather. Heavy rains had many growers concerned about rainfastness and cover sprays had to be re-applied. Despite the wet soils, **apple maggot** pressure was very low across the province overall.

**San Jose scale** continues to be an increasingly problematic pest. First generation crawler emergence occurred late-June for 5-6 weeks. Second generation activity began in the early regions in mid-August and continued into September. In general, fruit damage was minimal; however, some orchards experienced significant damage including blocks that have not seen

scale damage before. Some growers applied dormant oil while other opted for summer insecticides such as Movento, Sivanto Prime, Closer or TwinGuard.

**Apple leafcurling midge** damage was very low this season despite the building pressure in recent years. This may have been due to the spring rains drowning the soil-dwelling pupa or preventing adults from emerging. Damage spiked at the end of summer when warm, dry temperatures caused a flush of new terminal growth. Mullein bug was a significant predator of leafcurling midge in the leaf rolls that were found throughout the season.

**Brown marmorated stink bug** adults and nymphs started to be trapped in the hot spot areas of Niagara and Hamilton earlier and in larger numbers relative to previous years. At this point, we are not sure if those numbers are the result of a larger than normal overwintering population due to the mild winter, or a function of the new lure combination (Trece BMSB attractant + Trece GSB, *Acrosternum hilare* attractant) that was used in 2017. Growers are still concerned with the limited control options that are available and how these products (eg., malathion, methomyl) will impact established IPM programs. Trials from University of Guelph (C. Scott-Dupree) have determined very little options available that are effective at Canadian labelled rates.

Suspected **ambrosia beetle** damage was detected at one orchard in eastern Ontario. However, species has not yet been identified. No trapping was conducted this year.

**Mites** remained fairly low this season but did start to build in some orchards mid-summer. Little bronzing has been observed.