

75th Annual New England, New York and Canadian Fruit Pest Management Workshop
Burlington, VT, October 22-23, 2013
2013 EXTENSION/FIELD REPORT -APPLES

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

Overall Observations:

Growers across the province have been rejoicing in one of the best apple harvests they've seen in years—a nice change from the province's 85% loss last season following the spring frosts. With the dry and cooler spring temperatures this year, bud break occurred mid to late April, on par with a typical Ontario season. Some growers reported issues with early frost or light pollination, but overall fruit set was heavy in most areas where there was no crop last year. Multiple applications of chemical thinners were required, and still hand thinning—until harvest in some cases—was needed. Extreme rain, hail and wind events in isolated areas left water logged soils in June and July. Thankfully, pest activity was relatively low in most orchards as growers struggled to find a good spray window during these wet periods.

The large harvest meant growers were pressed to arrange for labour, bins and trucking. Storage operators were stricter about maturity and quality. Late season warm temperatures pushed apple maturity ahead of what harvest crews could keep up with. Some growers bypassed 2nd or 3rd picks in order to capture storage quality needed for 1st pick of the next maturing cultivar.

Disease Observations:

Apple scab: Most regions had approximately 6 significant infection periods from the end of April to early June, with >2 inches of rain in some events. However, with the exception of a few growers that were chasing scab from last year, most were able to maintain good control. Typical scab program used captan and mancozeb season long. There is a general movement away from strobilurins and DMIs due to resistance issues (Canadian survey of 98 orchards found 52%, 98% and 39% of scab populations to be shifting or resistant to trifloxystrobin, myclobutanil and difenoconazole, respectively). However, PMRA is currently re-evaluating mancozeb and captan, which could leave growers with few options for scab management.

Fire blight: Risk of infection varied regionally, from 25 days between May 1 and June 13 at "High-Exceptional" risk in the far southwest (Essex County) to only 11 days in a more central region (Huron County) over the same time period. Late rattail bloom made for an extended infection period. Rootstock fire blight is on the rise, as more growers are planting susceptible rootstocks. Many growers that are seeing infection had assumed fire blight was not an issue in their orchard and did not use streptomycin. Growers that do use streptomycin are glad to see new alternatives, such as kasugamycin and Blossom Protect for resistance management.

Powdery mildew—Since growers struggled with this disease in 2012, many starting this season with a fairly aggressive program, including sulphur with all cover sprays. Resistance issues (preliminary results from Canadian survey suggest resistance developing to strobilurins and DMIs) are causing concern for what products to use.

Bitter rot—This has become an increasing problem in recent years, mainly in Golden Delicious, Gala, McIntosh, Honeycrisp and Ambrosia. Some growers are throwing everything at it, including captan, strobilurins, and thiram, and rot is still present (up to 40% in some blocks). Still have many questions: Is this an increasing storage problem? Some confusing bitter rot with **black rot**, which was also rampant with the wet weather, and large number of mummified fruit left on trees from chemical thinning, or are we seeing a rot complex? Symptoms similar to Glomerella leaf blotch have also been observed, but diagnostic lab cannot always isolate *Colletotrichum* spp. —is this something else?

Insect Observations:

Petal fall pests, including **plum curculio**, **obliquebanded leafroller** and **aphids** were difficult to control in some orchards due to wet weather. Heavy rain events made timing insecticide sprays difficult or required re-application.

Codling moth: Late season damage. Possible reasons for this could be because many growers target 1st generation, then back off for 2nd generation, or has there been a change in emergence patterns, ie. are we still seeing 2 distinct generations? Damage looks characteristic of codling moth feeding with frass protruding from hole, but when cut open, the tunnel is shallow and no larva present.

San Jose scale: This is an increasingly problematic pest, likely as we move away from OPs and diazinon. Even with regular monitoring, damage still came as a surprise at the end of the season, especially on higher value varieties, such as Honeycrisp and Ambrosia. Growers with a historical SJS problem applied dormant oil, but many would prefer a summer spray alternative. Current labels suggest when crawlers are active, but growers have little understanding of when this is and how to monitor for it. In surveyed orchards, crawler emergence was predicted June 20-22 and observed June 22 for 1st generation, and predicted August 4-6 and observed August 7-8 for 2nd generation. Crawlers were also observed late season just prior to harvest. Is this a 3rd generation?

Apple leafcurling midge: This is also becoming an increasing issue in all regions. Previously, growers assumed midge to be a problem for young trees only. However, in established orchards this season, up to 50-60% of shoots were infested. How does this impact yield? Growers want to know if there is any direct damage to the fruit. Larvae were observed around stem during harvest, but no obvious signs of feeding. Difficulty lies with monitoring and timing a spray, when pheromones are too expensive for commercial use.

Apple maggot: Wet weather seemed to slow emergence this season, but harvest assessments indicated maggot damage still an issue. Growers are interested to know how to use insecticides for late season pest control with the loss of OPs.

European apple sawfly: Damage from this pest was low this year but could be found where growers delayed their petal fall insecticide. This pest has moved slowly westward and damage from European apple sawfly can now be found as far west as Toronto and north to Barrie.

Dogwood Borer: More of an issue than growers realize since they really don't know they have it until trees collapse. Many reports of growers initially thinking they had rootstock fire blight or phytophthora root rot, only to find multiple borers entering through graft union, spurs or pruning cuts.

Mites: Although cooler, wet weather slowed activity in most orchards, there were some flare-ups, especially apple rust mite. Some growers and consultants were questioning the impact of novaluron on beneficials. Concerns with miticides have sparked a spider mite resistance survey.