

**76<sup>th</sup> Annual New England, New York, Canadian Fruit Pest Management Workshop**  
**Burlington, VT, 2-23 October 2013**  
**2014 REPORT - QUEBEC APPLE ORCHARDS**  
**PEST TYPE: INSECTS AND MITES**

G. Chouinard\*, A. Dieni\*, V. Fillion, K. Bergeron, M. Courchesne, E. Turcotte-Côté, S. Mantha

\* Institut de recherche et de développement en agroenvironnement (IRDA)  
Saint-Bruno, Québec, J3V 0G7

**A. OVERALL SITUATION :**

Relatively "cool" season weather-wise, following a cold winter. Even if critical cold temperatures were not observed during winter, flowering buds were weaker than usual and fruit deformities were attributed to damaged ovaries (from cold). Winter-hardy cultivars such as McIntosh, Cortland, Spartans were not affected but Honeycrisp, Gala, Empire, Sunrise, etc. often produced "pumpkin-like" fruit. Thanks to a delayed season, no spring frost was experienced and little fruit russetting was observed, contrary what was observed last year.

Thanks to cool night temperatures in September, harvested fruit were generally excellent in color, but even though pollination conditions were excellent, size tended to be small in many places because of the combined effect of damaged buds and lack of rain the month preceding harvest.

**B. MAJOR PROBLEMS, UNUSUAL OR STRIKING EVENTS**

**Key pest of the year:** no clear winner between our usual key pest trio (codling moth + plum curculio + apple maggot), probably the apple maggot... for sure the total pressure from these guys was definitely the highest in years.

**Minor pest of the year:** the apple leaf curling midge was constantly reported as "increasingly preoccupying" by growers, horticulturists and consultants (see below)

---

**Apple maggot (*Rhagoletis pomonella*) :** appeared much sooner than usual (and sooner than predicted)

**Codling moth (*Cydia pomonella*) :** increased pressure from year to year is now considered "normal". Up to six applications of insecticides (of various families : neonicotinoids, spinosyns, IGRs, altacor) were needed to control the two generations. Acceptable control was achieved as a result of aggressive control schedules.

**Plum curculios (*Conotrachelus nenuphar*)** were active for a long period of time

---

**Apple leaf curling midge (*Dasineura mali*) :** populations and distribution are steadily increasing year after year in new/young plantings. Growers and consultants know little about the economics and sound control measures for this insect. It was regularly observed in all growing areas in 2014, and not restricted to organic or poorly managed orchards

**Scales,** mostly Oystershell scale (*Lepidosaphes ulmi*) and European fruit scale (*Quadraspidiotus ostreaeformis*) : observed on harvested fruit in many orchards. Increased presence suspected to be a result of decreasing oil usage in spring (because of increasing cost).

**Apple curculio (*Anthonomus quadrigibbus*):** uncanny observations of high populations and damage in a few orchards where a "relaxed" insecticide program was used, mostly our coldest and less intensive production areas.

### C. UNUSUALLY QUIET THIS YEAR

**Aphids**, all species including the green, the rosy and the woolly apple: almost no control measures needed for any of the three pests in any orchard this year. Although they are present, populations remain under economic thresholds. Biological control? Climate? Pesticides applied against codling moth?

**Spotted tentiform leafminer** (*Litholettis blancardella*): as in 2013, populations were low and control measures rarely necessary. This pest is less and less pestiferous, neonicotinoids applied in spring as a replacement tool for OPS seems to wipe out the first generation. Trap monitoring may not be initiated next year in many places according to some of our consultants.

**Leafrollers**, including the Obliquebanded leafroller (*Choristoneura rosaceana*): leafrollers used to be part of our key insect pests, but as last year, they were not a big problem this year. Taken care of by the various insecticides applied against codling moth?

**White apple leafhopper** (*Typhlociba pomaria*): very low populations and no control measures needed. Reasons for this may include increased use of neonicotinoids, as for the leafminers?

### D. SURVEYED PESTS

**Brown marmorated stink bug**, *Halyomorpha halys* : a first case (a specimen collected from a white sticky trap) has been reported this spring in an apple orchard near the US border. However, a group of USDA-baited pyramidal traps installed at this location and in the surroundings from July to October failed to catch any more. A surveying network has been established in tree fruit, ornamentals and soybeans in 2014, and more traps and locations will be established next year. Traps installed this year mostly trapped *Euschistus* spp. (see \* below)

### E. OTHER OCCASIONAL ARTHROPODS IDENTIFIED IN COMMERCIAL ORCHARDS THIS YEAR

<b>Pests</b>	<b>Family</b>	<b>No. cases reported</b>
<i>Blastodacna atra</i>	Agonoxenidae (Apple Pith Moth)	3
<i>Euschistus servus euschistoides</i>	Pentatomidae (Brown Stink Bug)	27*
<i>Euschistus tristigmus luridus</i>	Pentatomidae (Dusky Stink Bug)	3*
<i>Grapholita packardii</i>	Tortricidae (Cherry Fruitworm)	1
<i>Pasiphila rectangulata</i>	Geometridae (Green Pug Moth)	1
<i>Morrisonia confusa</i>	Noctuidae (Confused Woodgrain)	1

\* from BMSB traps. Thanks to Jean-Philippe L  gar  , agr. entomol., Quebec diagnosis lab/diagnostic clinic, MAPAQ,