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2015 REPORT - QUEBEC APPLE ORCHARDS
PEST TYPE: INSECTS AND MITES

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A. OVERALL SITUATION :

As last year, very cold winter temperatures were experienced (-28°C to -32°C in some orchards). Damage to fruit buds, injury on trunk and dead branches were noted in some blocks. In the most severe cases, winter injury also resulted in tree death (Honeycrisp, Sunrise, Gala, Empire). Fruit deformities similar to 2014 (« pumpkin-like » fruit) were observed on Spartan, Empire, Cortland and Sunrise.

One event of spring frost was experienced on May 22-23 but damage were minimal and localized in low-lying areas. Low level of fruit russetting was observed (2%). Hail was reported in some areas in July and August.

Bloom was abundant and weather conditions were favorable for pollination. Abundant rain in May, June and July contributed to good-sized apples. Crop was estimated to be higher than normal but harvest was often delayed by a lack of coloration - caused by lack of cool night temperatures in September.

B. MAJOR PROBLEMS, UNUSUAL OR STRIKING EVENTS

Tarnished plan bug (*Lygus lineolaris*) : activity reached high levels early in the season because of high temperatures observed at the beginning of May. Many orchards had to be treated but adequate control was achieved in most orchards.

Phytophagous mites (*P. ulmi*, *T. urticae*, *T. macdanieli*, *A. schlehtendali*) : European rust mite populations were more abundant than usual in many orchards. Predatory mites (mainly phytoseids) were frequently observed in high number providing good natural control of phytophagous mites and requiring a reduced number of acaricide sprays in many orchards.

Codling moth (*Cydia pomonella*) : populations were lower than last year, possibly because of cool and rainy conditions observed in May and June. Number of sprays required to obtain acceptable control (1 to 3 sprays) was lower than in the last 3-5 years. Mating disruption is increasingly popular, with more than 240 ha of orchards with pheromone dispensers.

Apple maggot (*Rhagoletis pomonella*) : populations lower than usual this year in most apple growing areas except near neglected orchard and in some susceptible cultivars (e.g. GingerGold)

Stink bugs (mainly *Euschistus sp.* and *Acrosternum hilare*) : frequent sightings and damage observed at the end of the season, especially on Honeycrisp.

Apple curculio (*Anthonomus quadrigibbus*) : for the second year, high populations and damage observed in a few orchards where a "relaxed" insecticide program was used, in coldest and less intensive production areas. Required 2 specific OP treatments in one orchard

Apple leaf curling midge (*Dasineura mali*) : populations are now present in nearly every orchard but no control measures were needed except in new/young plantings.

Mullein plant bug (*Campylomma verbasci*) : populations were present in many orchards this year but important damage was only occasionally observed (on Gala and Spartan).

C. LESS PROBLEMATIC THAN USUAL

Plum curculio (*Conotrachelus nenuphar*): control was not problematic in most orchards except in the Laurentians where high level of damage were observed occasionally, even in the inner part of orchards

Obliquebanded leafroller (*Choristoneura rosaceana*): control was not problematic in most orchards except in the Laurentians where up to two treatments were needed in some orchards

European apple sawfly (*Hoplocampa testudinea*): after a number of years of expansion and very high captures in some areas, this year was more « normal » with populations occasionally above treatment thresholds.

D. REALLY QUIET

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 and predator and parasitoids were presents Biological control? Climate? Pesticides applied against codling moth?

Spotted tentiform leafminer (*Litholettis blancardella*): fort the third year in a row, populations were low and control measures rarely necessary. Neonicotinoids applied in spring as a replacement tool for OPs seem to wipe out the first generation.

E. SURVEYED PESTS

Brown marmorated stink bug, *Halyomorpha halys* : A surveying network has been established in tree fruit, ornamentals and soybeans in 2014, and 100 more traps and locations were established this year. Traps installed mostly trapped *Euschistus* spp. (see * below). Despite a first BMSB catch in June 2014 in an apple orchard, no BMSB has been found in 2015.

F. OTHER OCCASIONAL ARTHROPODS IDENTIFIED IN COMMERCIAL ORCHARDS THIS YEAR

Pests	Family	No. cases reported
<i>Euschistus servus euschistoides</i>	Pentatomidae (Brown Stink Bug)	27*
<i>Euschistus tristigmus luridus</i>	Pentatomidae (Dusky Stink Bug)	4*
<i>Xylosandrus germanus</i>	Scolytidae (Black Stem Borer)	2
<i>Hedya chionosema</i>	Tortricidae (White-spotted Hedya Moth)	1
<i>Hedya nubiferana</i>	Tortricidae (Marbled Orchard Tortrix, Green Budworm Moth)	1
<i>Carmenta corni</i>	Sesiidae (Aster Borer Moth)	1
<i>Podosesia syringae</i>	Sesiidae (Lilac-Ash Borer)	1
<i>Synanthedon fulvipes</i>	Sesiidae	1
Beneficials	Family	No. cases reported
<i>Podisus placidus</i>	Pentatomidae	1
<i>Orthyeus californicus</i>	Tydaeidae	2
<i>Orthyeus caudatus</i>	Tydaeidae	1

* from BMSB traps. Thanks to Ann-Marie Breton, agr. and Jean-Philippe Légaré, agr. entomol., Quebec diagnosis lab/diagnostic clinic, MAPAQ,