2017 Fruit Report for **New Hampshire**

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Weather and crop situation:

This winter we had somewhat good snow cover. Temperatures were not extremely low. Snow cover extended somewhat late. Spring had a lot of cool temperatures and cloudy, wet weather. The summer was relatively wet. Thunderstorms with hail were common this year, with the first event May 31st. Peach & apple bloom were both good, with favorable weather for pollination.

Fruit Pest Situation this Year

The incidence of pest injury on apples at harvest time was 4.38% in 2017. That's slightly below the 25 year average of 5.19%, and well below the pre-IPM incidence of 10 to 12%. The incidence of **apple scab** [caused by *Venturia inaequalis*] on fruit was 2.75% this year, above the 25 year average of 1.83%. Growers who had problems could usually trace it to equipment breakdown at a critical time, or an obvious gap in fungicide protection during the primary season. **Bitter rot**, **calyx end rot**, **flyspeck** and **sooty blotch** were all very hard to find this year.

Fireblight [caused by *Erwinia amylovora*] was relatively common in apple trees in Rockingham, Hillsborough and Strafford Counties, this year.

Mummyberry of blueberry [caused by *Monilinia vaccinii-corymbosi*] was severe in some sites. We had excellent conditions for primary infection this year, and rain to splash spores and infect fruit.

The incidence of insect injury on apples was much lower than usual this year. Injury from **plum curculio** [*Conotrachelus nenuphar*] was 0.36% this year (25-year average is 0.53%). The incidence of tarnished plant bug [*Lygus lineolaris*] injury was 0.46%. Since establishment of the European braconid wasp *Peristenus digoneutis* about 1990-91, TPB injury has never returned to the (avg 3%) level it was from 1980 to 1989. Last year, the incidence of **European apple sawfly** [*Hoplocampa testudinea* (Klug)] injury on apples at harvest was 1.82%...the highest in Alan's 38 years of records. This year the figure dropped greatly, to 0.23%.
Potato leafhopper (*Empoasca fabae*) was in relatively high numbers this year, so we saw injury on lots of apple trees, plus alfalfa, basil, beans, brambles and other crops. We saw what we think was PLH injury on our table grape trial in Durham. **Apple Maggot** [*Rhagoletis pomonella*]: trap catches seem to be low this year, and fewer than usual are on the (unsprayed) UNH campus apple trees.

Spotted wing drosophila (*Drosophila suzukii*) appeared 2 weeks early in our traps, and built up to high numbers much earlier than it had before. This was the first year that treatment was required on any cherries and June-bearing strawberries. By July 12th, trap catches (unsprayed controls) had reached 100 in one site, something that had never occurred before late August. On July 19, we found our first suspect SWD larvae (there is no larval key to species) in ripe fruit of June-bearing strawberries. Malwina (relatively new variety for us) seems especially hard hit… one of the latest of June-bearing varieties(??). On August 24th, we examined heavily infested blueberries from Stratford and Stewartstown (both in Northern Coos county, just below the Canadian border). There were many eggs and larvae. This helped us prove to skeptical north country growers that the insect was in high numbers even in their area. In 2016 we had seen an increase in SWD numbers in the north country, compared to previous years. In 2017 the increase (compared to 2016) was even higher.

Japanese Beetle [*Popillia japonica*]: We found the first adults July 12th & 13th. Normally, the first ones appear about June 30th. Drought for the previous 2 years may have caused the very late appearance and very low numbers of adults this year.
Brown marmorated stinkbug [*Halyomorpha halys*]: trap catches crossed threshold in one Hillsborough Co. orchard this year. George made his first spray recommendation for this species.
A scolytid beetle (bark beetle), *Xylosandrus germanus* Blanford, was found emerging from dead young apple trees in Ossipee, in early July. This is the same species we found attacking thornless blackberries on a Hillsborough county farm in 2010. The trees came from a Wayne, Co NY nursery, planted May 2015. One (small, stressed) died June 2016. The second one (healthier) died June 2017. Liberty on Bud 9, 5/8" stock. Our colleagues are calling this **black stem borer**.

George has noted a pattern in 5 apple orchards: **winter injury** of apple trunks/limbs is followed by colonization by **black rot** fungus, and slow advance of the pathogen that eventually requires major limb elimination or tree removal.

Weather & physiological injuries: 7% of the apple crop had hail injury (as of Sept 5). The 25-year average incidence of hail injury is 3.03%. There was limited frost russeting this year, and the overall incidence of russeting (all causes) on apples was 1%. Bitter pit was rare this year.

New/Unusual:

Marssonina blotch of apple was on foliage of a wild tree (Grafton Co.) submitted to the diagnostic center. Cheryl Smith doesn't remember seeing this before in NH. *Diplocarpon mali* is the causal organism, an ascomycete.

Codling moth [*Cydia pomonella*] numbers in traps were staggeringly high in one part of Hillsborough county. This was the section that had high injury levels in 2016. The incidence of CM injury was 0.23 this year, mostly at one farm. The CM injury incidence in 2016 (0.86%) was 20 times higher than the 10 year average (2006 to 15).

Again this year, **Fall webworm** [*Hyphantria cunea*] numbers are low. Usually we have some in apple orchards and blueberry plantings, along wooded edges. Was drought in 2015 & 16 a factor?

Psocids (species not determined) caused concern several times this summer, found on bark of apple & other trees. They feed on lichens, and are not pests, but are at higher than usual numbers this year.

Fruit-related publications finished this year:

Eaton, A. T. Beneficial Insects in New Hampshire Farms and Gardens. 23pp. [Posted Apr 26, 2017] UNH Cooperative Extension. https://extension.unh.edu/resources/files/Resource000499_Rep521.pdf

Eaton, A. T. Fruit Injury Types Recognized in Annual NH Apple Harvest Evaluations. Research Report. UNH Coop. Extension. Aug 1, 2017. 13pp. [46 color photos]
https://extension.unh.edu/resources/files/Resource006812_Rep9839.pdf

Re-formatted with color photos added:
Eaton, A. T. Raptors in New Hampshire Orchards. 7pp. [re-posted July 25, 2017; original was 1994]
https://extension.unh.edu/resources/files/Resource000014_Rep14.pdf