Massachusetts Fruit IPM Report for 2013

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Most specific observations made at the UMass Cold Spring Orchard in Belchertown, MA.

Winter was more-or-less ho-hum. Snow cover was virtually non-existent until early-February. A low of minus 4 degrees F. was recorded on January 24. No damage to stone fruit buds was expected.

Spring was – about time after last year! – more normal in terms of temperature and timing. April was quite dry, however, with less than 2 inches of rain, while May was wet with nearly 6 inches of rain – every year growers struggle with scab because, like clockwork, it starts raining in May about bloom. McIntosh apple king bloom was about May 6, and by May 14 we were pretty much into petal fall. (McIntosh full bloom was pegged as May 8-10.) Bloom stage pictures available on the UMass Fruit Advisor (http://www.umassfruit.com).

Summer was at times hot, with nearly a week of low to mid-90s in mid-July. (High of 94 on 19-July.) It never got particularly dry all summer, and in fact was actually quite wet – nearly 7 inches of rain in June, more than 5 inches in July, and 4 inches in August.

The peach crop was generally very good and we are at a point of over-production in early August during the peak. Flavor was a bit dilute because of all the rain. Signs of X-disease in several peach trees at the UMass Orchard were observed, and we appear to be headed into a period of increased X-disease incidence every 10-15 years, the last bout during the late 90's into the early 2000's. (http://www.scaffolds.entomology.cornell.edu/1999/6.21_diseases.html) Chokecherry was found in the Orchard perimeter and numerous sweet cherry trees have been planted in the last 10 years, altogether which harbor X-disease.

Apple harvest started right on schedule. Pretty exceptional weather during most of September and October lead to a large crop being adequately harvested. The only exception being once empty bins in short supply once they were filled. McIntosh are now being over-produced as demand has waned while there is no sign yet of Honeycrisp demand peaking. Expect apple prices to be considerably below what growers received for last year's short crop.

Depending on interpretation of beginning and end of primary scab season and model used, there were only 4-5 primary apple scab infection periods in 2013. Once again (as in 2012), dry weather between green tip and bloom resulted in no scab infection periods during this time. Then, depending on model, there were 3-4 infection periods during May (in some locations back-to-back), and one during the first week in June when

Peach X-disease at UMass Cold Spring Orchard, Belchertown.

primary scab was (probably) over, at least as declared by the models. The rest of June was quite wet, and where primary scab was not adequately controlled (or was not over) secondary scab became somewhat of a problem in some orchards. Year-in and year-out, managing apple scab typically presents growers with the most grief. (Crop load management, aka fruit thinning, is a close second.)

Fireblight pretty much took the year off as conditions for infection were not favorable until after bloom in most orchards. (Hurrah!) And, despite the dry early spring period, powdery mildew was not anywhere near as prevalent in 2013 compared to 2012.

The Massachusetts NEWA network (http://newa.cornell.edu) now include 21 on-site weather station/orchards (plus 23 airports, total 44 locations) providing fruit and vegetable growers with daily developmental models (including forecasts) to aid in decision-making for management of insect and disease pests. Some of these locations were a centerpiece for providing Extension team-based IPM recommendations on diversified fruit & vegetable farms via the Extension IPM (eIPM) Project, which also provided training in monitoring and management of key pests to eight mentor growers and six partner growers across Massachusetts.

Overall insect pressure seemed average, although Oriental fruit moth and codling moth seemed to be in greater abundance. An increased number of brown marmorated stink bug (BMSB) were noted in mid-fall, both in orchard border settings and around buildings (including the UMass Amherst campus) although an extensive season-long trap network (mostly in orchards) yielded few BMSB catches. It's unclear whether we are yet seeing economic damage from this pest in orchards (or other crops). In two locations where "stink bug-like" damage was reported by growers, and where we had traps, we could only find native stink bugs. A dedicated BMS page was placed on the UMass Fruit Advisor.

Brown marmorated stink bug.

Spotted Wing Drosophila (SWD) reappeared as expected after establishing themselves in 2012. A statewide trapping and monitoring program was established by UMass Extension and partially funded by the Mass. Dept. of Ag. Resources. Trap catches were low at first, but as expected, increased dramatically in most sites by late summer. More aggressive management of SWD by growers using insecticides was commonplace. A dedicated SWD web page was placed on the UMass Fruit Advisor.

We began a Northeast

SARE funded study, Towards Sustainable Disease Management in Northeastern Apples using Risk Forecasts and Cultural Controls with 13 commercial orchards in New England and University/ extension research facilities in MA, NH, and ME. Collaborating scientists are William MacHardy, Cheryl Smith, and George Hamilton of NH and Glen Koehler and Renae Moran of ME. Scab sanitation strategies, advances in the delayed 1st scab spray strategy (delay until pink), PAD counts, and spring ascospore trapping and maturation are the foci of the study. Additional commercial orchards will be added over the next year.

We also participated in the 4th year of an SCRI (Specialty Crops Research Initiative) study, Manipulating Host- and Mate-finding Behavior of Plum Curculio: Development of a Multi-Life Stage Management Strategy for a Key Fruit Pest. We performed "trap-tree" experiments for PC management at 1 orchard in New England and participated in a nematode bio-control study. Tracy Leskey, USDA-ARS Kearneysville is the project director.

Spotted wing drosophila on peach.

There were 30+ research/data-collection/demonstration trials/ plots conducted at the UMass Cold Spring Orchard in 2011, including for example: app. 7 chemical thinning trials, 1 drop control experiment, 3 fruit set, 2 cultivar evaluation (D. Greene); NE-1020 Multi-state Evaluation of Winegrape Cultivars and Clones (S. Schloemann); NC-140 rootstock planting with Honeycrisp and Gala apple, and Redhaven peach (W. Autio); evaluation of Cyazypyr™ for plum curculio and Fontelis® for apple scab (J. Clements).

We convened six growing season Twilight Meetings for commercial tree fruit growers in Massachusetts, Rhode Island (in cooperation with Rhode Island Fruit Growers' Assoc.), and New Hampshire (in cooperation with U. of New Hampshire) during April, May and June. Healthy Fruit was published 21 times from March-September with timely integrated pest management information for pome and stone fruit. The Massachusetts Fruit Growers' Association Summer Meeting was held at Honey Pot Hill Orchards in Stow – Win Cowgill of Rutgers was the invited speaker on horticultural practices to improve fruit production.

The International Fruit Tree Association (IFTA) held it's Annual Conference in Boston, MA during late February and was attended by 350 growers, scientists, extension, and industry people from most all apple producing states/provinces in North America plus 20 other countries.

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