University of Massachusetts Extension Fruit IPM Report for 2012

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Information presented here is based on specific observations made at the UMass Cold Spring Orchard in Belchertown. Winter was virtually snowless and relatively mild. A low of zero degrees F. was recorded on January 22. Spring was one for the record books. Very first bloom on peaches was March 23. Apple first king bloom was April 16. Cherries were at a very susceptible bud stage ("water bud") during sub-freezing temperatures in late March that resulted in significant damage. (No sweet cherry crop in Belchertown, but some other growers had a modest crop of sweet and tart cherries.) McIntosh full bloom started April 20. (At least 2 weeks ahead of "normal.") All tree fruit bloom was rather extended in time. Spring frost/freeze damage to apples was dependent on site (high vs. low). Some growers had a very small crop whereas others had a full crop. (Location, location, location.) Bloom stage pictures available on the UMass Fruit Advisor (http://www.umassfruit.com). Summer was generally amiable, albeit quite dry mid-summer, Growers with irrigation were able to supply young trees with water, however, those without irrigation may have seem some deleterious effects of the dry spell. A high temperature of 93 was recorded on July 17.

The peach crop was generally excellent. Despite the fact we expected to see bud damage based on the frosty spring temperatures, almost everyone had a crop that needed thinning. Quality and flavor was generally very good. Green and brown stinkbugs were observed in abundance in peach (and apple) orchards August-September. (It was definitely the year of the stink bug!)

Apple harvest started early, which was expected based on the early bloom. By the end of harvest things were more-or-less on schedule. Drop was mostly a minor issue. (Of course most of the McIntosh crop is now treated with ReTain.) Harvest conditions were good, without excessive rain and some good cool nights in mid-September bringing on good color. Overall, the apple crop was short (maybe by about 20%) because of the early spring freeze. Thus, demand for apples was high with good prices received by growers.

There were 6-8 primary apple scab infection periods, depending on the date primary season was "over" based on the ascospore maturity model. This was a bit of a discussion item in 2012, as the model showed that 100% of the spores had matured by May 1 (with only 3-4 infection events by then.) But this did not feel quite right -- in fact mature spores were still being released in the Hudson Valley into mid-May. Discussion centered on the observation that April was very dry, and although the degree-day model was ticking, mature spores were not being released as they might be in a more normal (i.e., wet) early spring. Thus, growers were advised to maintain fungicide coverage as if it was a more normal spray year, i.e., until the end of May or so. In the end, scab turned out to be quite manageable in 2012. (The dry summer probably helped.)

Fireblight was observed here and there. Although borderline, there was no risk of fireblight infection during most of bloom based on the model(s). One central Massachusetts orchard that supposedly never had a history of fireblight did have significant shoot and blossom blight that was being picked up about a month after bloom. Because the bloom was so long, most likely some blossoms got infected at the tail end of bloom and when they were not protected by strep.

Powdery mildew in apples was kind of the big gotcha in 2012, although probably it should not have been too much of a surprise given the mild winter and dry spring. (Good conditions for mildew.) By far 2012 had the most foliar mildew recently observed here. Fortunately, it did not seem to result in too much fruit russet, but growers are going to have to pay more attention to mildew control in 2013.

Bitter rot in apples was much more common this year than in the past 30 years. It isn't clear what factors are contributing to the increase.

The Massachusetts NEWA network (http://newa.cornell.edu) was expanded to include 17 on-site weather station/orchards (plus 22 airports, total 39 locations) providing fruit and vegetable growers with daily developmental models (including forecasts) to aid in decision-making for management of insect and disease pests; these locations were a centerpiece for providing Extension team-based IPM recommendations on diversified fruit & vegetable farms.

Insects were at average abundance. As already mentioned, it was the year of the stinkbug with brown and green stink bugs readily observed and causing damage. A few Brown Marmorated Stink Bug (BMSB) were caught in pheromone traps (Cape Cod, western MA), and a few other captures/sightings in structures. No "outbreak" or economic injury from BMSB occurred.

Spotted Wing Drosophila (SWD) reappeared as expected after first being found late summer of 2011. UMass participated in a regional monitoring and reporting network with other New England states, monitoring 8 sites on a weekly basis and receiving periodic reports from an additional 3-4 sites. SWD first appeared in traps July 2nd and by July 23rd were being found statewide. As was true in 2011, fall raspberries were hardest hit however late season blueberries also suffered significant damage. Information about control of SWD was presented at five meetings during the course of the season.

We began a Northeast SARE funded study, Towards Sustainable Disease Management in Northeastern Apples using Risk Forecasts and Cultural Controls with 7 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), and PAD counts are the focus of the study. Additional commercial orchards will be added over the next 2 years.

We also participated in the 3rd 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 5 orchards in New England and participated in a nematode bio-control study. Tracy Leskey, USDA-ARS Kearneysville is the project director.

There were 30+ research/data-collection/demonstration trials/plots conducted at the UMass Cold Spring Orchard in 2011, including for example: 7 chemical thinning trials, 2 drop control experiments, 2 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 (Autio); evaluation of Cyazypyr™ for plum curculio (J. Clements).

Work with the Lipco over-the-row curtain/recycling (tunnel) sprayer purchased with Massachusetts state specialty crop block grant funding continued at the UMass Cold Spring Orchard. See MassCon Project: http://masscon.blogspot.com/. In addition, 3 orchards (5 sprayers) had complete sprayer calibration sessions using the sprayer test bench purchased with EPA Region SAI funds.

We convened six growing season Twilight Meetings for commercial tree fruit growers in Massachusetts, Rhode Island, and New Hampshire during April and May. Healthy Fruit was published 19 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 the UMass Cold Spring Orchard in Belchertown – Dean Polk of Rutgers was the invited speaker on managing new/changing insect problems in orchards.