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2012 IPM Report: Massachusetts, New Hampshire and Vermont

Diseases, Insects and Mites

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Overall observations: 2012 was a difficult growing season, starting fully a month earlier than previously experienced. Due to a mild winter and abnormally warm, early spring temperatures, apples in central Massachusetts were at tight cluster the first week of April. Frost/freeze danger was real; freezes on March 23 (23°F, apricots and plums in full bloom), April 6+7 (26–28°F) and April 29+30 (24–26°F, apples in full bloom) caused widespread crop losses in the Northeastern U.S. region. Fortunately, damage was itinerant throughout central New England, and most of the fruit growers we work with had moderate to good crops. Apple prices are the highest experienced by most growers in their lifetimes; prices remain strong.

Changes in the pest complexes for both insects and diseases, and subsequent pest management strategies were dominant issues this season.

Disease observations:

Apple scab season began fully one month earlier than usual, with sufficient green tissue and spore maturity to warrant fungicide spays in the 3rd week of March. Scab season consisted of 10 infection periods, and lasted from March 22 through June 15th, when the final ascospore release was completed. Contradictions between the end of scab season predicted by the NEWA model (May 1st!) and actual spore squash data (June 15) may have been due do the extended dry period which occurred from March 23rd to April 23rd. A massive infection period during bloom on April 23-25, in which most areas received more than 2 inches of rain, was the most serious IP of the season due to tissue susceptibility, % spore release (33%+) and weather conditions. Most growers adopted protective programs using Captan, copper (for first sprays in FB susceptible blocks), mancozeb, Syllit , (aka dodine-with caution)) and covered aggressively due to high overwintering inoculum, resulting in few scab problems in commercial blocks this year.

Powdery Mildew has made a huge comeback in recent years, with 2012 populations reaching epidemic proportions. The combination of a mild winter, decrease in the use of primary tier EBI fungicides with high efficacy against PM such as myclobutanil (Rally, Nova), and continued planting of highly susceptible varieties resulted in most orchards requiring special PM treatments. Many sites treated had not had PM problems since the introduction of the EBI fungicides in the late 1980's.

Fire blight pressure was moderate in 2012 with 3 infection periods during bloom: 2 moderate and one serious (April 22-24). Streptomycin appears to still be working well as there were few blossom-phase infections in commercial orchards. One site which was unable to respond to the IP of April 22-24 sustained severe infections in a block of Asian pears, with approximately 33% of a 30-acre block destroyed by the pathogen.

Sooty blotch and flyspeck were non-issues again this year despite adequate hours of wetting. Untreated control trees at the research farm showed less than 10% flyspeck and virtually no sooty blotch in data taken in early September. ???

Insect observations:

Tarnished plant bugs, leaf miner, and many other secondary fruit and foliar pests have become non-issues because of inexpensive pre-bloom pyrethroid applications. We continue to experience virtually no detectable effects of early-season pyrethroid use on ERM and TSM populations.

Plum curculio damage in 2012 was low. High temperatures during the last two weeks of May stimulated a concentrated flush of curculio activity which was easily bracketed with insecticide sprays. Little PC damage was noted during the 2012 growing season in commercial blocks.

San Jose Scale activity is on the upswing in that sites with treatable populations continue to increase in number. However, SJS remains relatively easy to control with directed management programs.

Apple maggot remains our #1 late-season pest. AM pressure was moderate this year and most programs controlled this pest well. However, we continue to see occasional control failures, particularly when using non-organophosphate products.

Lepidopteran pests continue to present challenges. Codling moth and oblique-banded leaf roller populations are becoming increasingly problematic in southern New England orchards. Approximately 25% of our grower-clients have populations requiring monitoring and intervention. Oriental fruit moth captures are significant in pheromone traps but so far we have not had infestation issues, probably due to timing of our pyrethroid sprays targeting plant bugs and stink bugs.

Spotted Wing Drosophila was a major problem for small fruit growers and in a few locations affected stone fruit. All traps were monitored on a weekly basis. While SWD did affect yield at all locations that we monitored, it was most problematic in areas which had suspected activity the previous year. Attempts at control were more successful during early generations than they were for the later generations which for were for the most part unsuccessful.

Mites did not present many problems this year. Favorable pricing of abamectin has led to increased prophylactic use of this material, resulting in few problems with European red mite despite the extended dry period in mid-summer. Two-spotted mites required treatment in a few blocks in which the ground cover completely dried up, post-mowing.