2016 IPM '*Quick*' Summary for Monitoring Apple Arthropod Pests*

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Pest**	Silver Tip	Tight Cluster	Early Pink	Late Pink	Bloom ***NO INSECTICIDES!***	Petal Fall	June	July	August
Tarnished plant bug	Place White Sticky Traps in Orchard	Threshold Wholesale: 3/trap Retail: 5/trap		5/trap 8/trap					
Apple blotch and spotted tentiform leaf miners	Place red visual traps on south side of tree trunks. Minimum of 4 traps per 8-acre block.	McIntosh: 4/trap Non-McIntosh: 8/trap		9/trap 21/trap		Check for 1st generation sap mines in leaves. Threshold: McIntosh: 7 mines/100 lvs Non-McIntosh: 14 mines/100 lvs		Threshold: McIntosh: 50 mines/100 lvs Non-McIntosh: 100 mines/100 lvs	
Eurpoean apple sawfly			Place white sticky traps in orchard. Three/block, head height, easily visible.	Check traps for threshold (see petal fall)		Threshold: *No Pre-Bloom Insecticide: 5/trap *Blocks receiving Pre-Bloom Insecticide: 9/trap			
Codling moth					Hang pheromone traps in orchard. Check every 1-2 days and note date of first trap capture.	For 1st Generation CM, Calculate DD from first adult catch to time insecticide spray in blocks where CM are a problem: 250-350 DD (base 50F)		For 2nd Generation CM, Calculate DD from first adult catch to time insecticide spray in blocks where CM are a problem: 1260-1370 DD (base 50F)	
Plum curculio					Late Bloom - Begin to inspect fruit on early-blooming cultivars in perimeter rows for fresh egg-laying scars.	Threshold: First evidence of damage Use DD model to determine timing of last spray.			
Obliquebanded leafroller	 ****					Hang pheromone traps in orchard. Begin to accumulate DD (base 43F) from 1st capture.	When 600 DD (base 43F) are reached, examine 10 expanding terminal shoots per tree, selecting trees from as wide an area of the block as possible. Record the number of terminals infested. Use Cornell Sampling Form to determine whether to treat.		

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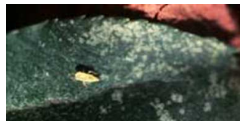
White apple and potato leafhoppers						Examine leaves for presence of 1st gen. Nymphs and adults. Threshold: 25/100 lvs	Examine leaves for presence of 1st gen. Nymphs and adults. Threshold: 25/100 lvs		Examine leaves for presence of 2nd gen. Nymphs and adults. Threshold: 25/100 lvs
European red and two-spotted spider mites						Monitor every 7-14 days for motile mites. Compare to Mite Sampling Chart, threshold changes throughout the season.			
Apple maggot fly						Hang traps during last week in June. Four traps/block at perimeter. Traps must be very visible; place in outer edge of canopy at head height and remove foliage around them.		Threshold: non-baited spheres: 1/trap baited spheres: 5/trap	Continue monitoring AMF on traps.

*This guide is based on information from the 2007 New England Apple4 Pest Management Guide, New Engalnd Tree Fruit Managament Guides, and "Integrated Management of Apple Pests in Massachusetts and New England", Coop. Ext. Sys., University of Mass. 1984 (out-of-Print). Threshold trap captures are cumulative unless noted. When thresholds have been reached and pesticide treatments applied, begin a fresh count for succesive releases or generations. Trap numbers are based on a ten-acre block, scale appropriately to your orchard.

**Abbreviations: TPB=tarnished plant bug; ABLM=apple blotch leafminer; EAS=European apple sawfly; CM=codling moth; PC=plum curculio; OBLR=oblique banded leafroller; LH=leafhoppers; ERM?TSSM=European red mite/two-spotted spider mite; AMF=apple maggot fly; GAA/SA=green apple aphid/spirea aphid.

***Thresholds apply for Apple Blotch Leafminer and not to Spotted Tentiform Leafminer. Either or both may be in your orchard.

****Photo credit: (left) E. Lizotte, http://bit.ly/1RDsifQ, (right) H. Reissig, bit.ly/1Xs3B6y. All other photos courtesy Dr. Lorraine Berkett.

Orchard IPM Resources

UVM Fruit Page: General tree fruit & viticulture information	http://www.uvm.edu/~fruit/	UVM Plant Diagnostic Clinic: Pest and disease identification	http://pss.uvm.edu/pd/pdc/
NEWA: decision support systems for insect, disease, and horticultural models	http://newa.cornell.edu/	Cornell IPM Fact Sheets	http://www.nysipm.cornell.edu/factsheets/treefruit/default.asp
Great Lakes IPM: trapping supplies	http://greatlakesipm.com/	Gemplers: IPM supplies	http://www.gemplers.com/
West Virginia University Tree Fruit Disease & Insect	http://www.caf.wvu.edu/kearneysville/wvufarm1.html	Washington State University Tree Fruit Market Diseases	http://postharvest.tfrec.wsu.edu/market/Home
A Pocket Guide for IPM Scouting in Michigan Apples	http://shop.msu.edu/product_p/bulletin-e2720.htm	A Practical Guide to Scouting Apple Orchards DVD	http://msue.anr.msu.edu/resources/a_practical_guide_to_scouting_apple_orchards_dvd_dvd273