

Northeastern IPM Center - Tree Fruit IPM Working Group					
Ranking of Research and Extension Priorities: 5-Year Comparison					
New England, NY, Canada Fruit IPM Workshop, Burlington, VT - Oct. 21, 2014 (24 respondents)					
			Percent Weighted Rank		
	2014	2013	2012	2011	2010
<b>Pome Fruit Diseases</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Apple scab	29.5	29.0	29.0	20.0	19
Fire blight	30.8	25.1	27.9	18.2	19
Powdery mildew	12.9	12.3	10.3	12.0	15
Sooty Blotch/Flyspeck	8.3	10.7	15.5	15.6	15
Fruit Rots	11.7	10.7	9.7	13.8	16
Rust diseases	1.8	4.6	2.9	7.6	-
Replant disease	1.2	4.4	-	-	-
Anthracnose	0.0	1.6	0.4	3.1	4
Cankers	3.4	0.9	2.7	4.4	8
Root rots	0.6	0.7	1.7	5.3	5
Fabraea leaf spot	0.9	-	-	-	-
<b>Direct (Fruit-attacking) Pome Fruit Insect Pests</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Internal leps (Codling moth, Oriental fruit moth, Lesser appleworm)	24.7	24.0	25.0	17.6	18
Plum curculio	22.4	19.2	20.6	16.7	15
Apple maggot	21.8	18.0	17.6	12.3	17
Stink bugs	18.4	15.1	11.0	14.1	14
Obliquebanded leafroller	6.0	9.4	17.6	16.3	13
Spotted wing Drosophila	2.9	8.4	1.6	-	-
European apple sawfly	3.2	4.1	1.8	9.7	10
Tarnished plant bug	2.3	1.7	5.0	8.8	7
<b>Pome Fruit Indirect Arth Pests/ Beneficial species</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
European red mite/Two-spotted spider mite	24.9	24.4	25.6	20.0	16
San Jose Scale	23.5	17.2	11.2	12.9	14
Predator mites	12.5	13.2	14.2	10.5	14
Borers/Ambrosia beetles	18.0	12.7	4.3	-	-
Woolly apple aphid	8.7	8.7	17.6	11.4	9
Potato/White apple leafhoppers	3.5	8.5	6.1	15.7	11
Leafminers	1.2	5.2	6.7	8.6	11
Pear psylla	7.8	5.0	6.5	10.0	8
Rosy apple aphid	3.5	4.7	7.1	7.6	9
Mealybugs	0.0	0.2	0.6	3.3	1
<b>Postharvest Issues</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Post-harvest decay management	28.1	29.2	28.1	25.9	29
GAPS & Food safety	22.2	17.7	18.1	13.7	13
Post-harvest drench alternatives	15.0	16.4	21.3	18.7	22
Bin sanitation	7.2	9.1	16.8	19.4	17
Scald	5.9	8.6	9.0	7.2	5
Bitter Pit	15.7	6.2	-	-	-
Packing line sanitation	0.0	5.6	6.6	15.1	15
1-MCP	5.6	5.1	-	-	-
CO2 Damage	2.3	2.1	-	-	-

<b>Ground Cover Management</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Perennial weed management	28.6	22.7	23.5	14.2	16
Use of new herbicides	17.3	16.4	19.1	12.9	17
Timing of control methods	17.6	16.4	15.6	10.2	-
Alternatives to herbicides, mulching, cultivation	13.6	15.6	19.1	17.3	19
Herbicide resistance	5.5	7.4	8.5	12.4	-
Weed biology & ID	5.5	7.4	3.3	8.9	11
Winter injury, etc. from glyphosate	7.8	7.1	8.1	9.8	15
Nutrient competition	1.4	6.0	2.3	5.3	11
Best use of old herbicides	2.0	1.1	0.6	8.9	13
<b>Vertebrate Pests</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Deer	35.8	28.8	31.8	33.3	32
Voies	29.2	25.5	24.7	26.7	29
Birds	23.3	23.6	21.3	33.3	27
Rabbits	7.5	7.1	6.4	0.0	5
Turkeys	6.0	5.8	8.0	0.0	3
Goundhogs	3.5	5.5	5.2	6.7	4
Canada geese	0.9	3.6	1.6	-	-
Beavers	1.3	0.3	0.8	0.0	0
<b>Application Technology Issues</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Spray coverage vs. control	30.0	25.1	27.3	19.0	19
Calibration	23.9	21.1	19.2	17.2	18
Drift management	14.4	15.9	16.1	16.7	19
Adjuvants w/ thinners (instead of oil)	8.1	11.0	9.8	12.2	-
Phytotoxicity and fruit finish	13.9	8.7	-	-	-
Canopy spray issues	3.9	7.0	11.3	14.5	18
Fixed spraying systems	2.8	6.8	9.0	7.2	9
Single-sided sprays in high density plantings	2.5	2.6	6.0	8.6	8
Herbicide shields	0.6	1.9	1.3	4.5	9
<b>Pest Management Education Issues</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Workshops for advisors/growers	27.8	22.4	22.7	18.0	19
Orchard demos	14.2	14.8	17.7	15.6	19
Production Guidelines publication	20.6	13.4	-	-	-
Web-based delivery methods	17.4	9.5	16.2	14.7	19
Pesticide applicator workshops	6.1	9.2	9.1	10.9	13
Pesticide safety programs	2.0	9.0	3.9	8.1	9
Smart phone apps	5.8	7.5	8.7	8.1	-
Consumer education	4.6	5.6	8.6	10.0	14
Biocontrol demos	0.6	5.1	7.1	6.6	9
Education for policy makers	0.9	3.4	5.2	8.1	-
<b>General IPM Issues</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Pesticide resistance	22.0	22.6	22.6	19.8	19
Invasive/exotic species	24.6	15.6	25.5	17.6	-
Weather/information delivery systems	20.6	15.4	15.3	13.5	12
Cost reduction	7.7	10.3	13.9	9.9	10
Pollinator conservation	10.3	9.8	-	-	-
Organic production	4.6	8.9	6.5	9.0	11
Pheromone technology	4.0	6.8	7.9	9.9	11

<b>General IPM Issues (contd.)</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
OP/carbamate replacements	2.6	4.2	5.9	8.6	17
Abandoned orchard impact	0.9	3.3	2.2	4.5	9
IFP certification	0.6	2.8	0.2	6.3	8
Groundwater monitoring	0.0	0.5	0.0	0.9	4
Metrics of IPM adoption	4.6	-	-	-	-
<b>Regulatory Issues</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Pesticide registration procedures/restrictions	25.2	23.2	23.4	17.0	-
Clarification of labels	18.2	15.8	13.7	15.0	13
Harmonization of labels	15.7	14.8	12.4	11.0	11
Invasive species	17.6	12.8	15.8	7.5	12
Production standards for imports/exports (MRLs)	9.6	10.7	9.3	16.0	11
Right-to-farm/drift issues	8.0	7.9	13.0	8.0	12
Smaller package sizes	4.8	3.8	3.8	6.5	7
Use of "Generally Regarded As Safe" products	1.0	3.6	4.8	6.5	-
Labor Regulations	1.9	2.5	-	-	-
Surface water regulations	0.6	2.2	3.4	8.0	10
Fast-track NYS label registrations	0.3	1.6	-	-	-
Updates on WPS	0.3	1.1	0.4	4.5	9
<b>Peach Direct (fruit-attacking) Insect Pests</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	
Brown marmorated & other stink bugs	33.6	25.9	26.7	21.0	
Plum curculio	19.9	22.4	18.2	16.7	
Oriental fruit moth	24.1	20.5	20.3	15.9	
Spotted wing Drosophila	12.4	17.5	19.1	18.1	
Tarnished plant bug	11.6	9.9	12.7	15.9	
Obliquebanded leafroller	2.5	3.8	1.8	8.7	
Western flower thrips	0.0	0.0	1.2	3.6	
<b>Peach Indirect Arthropod Pests</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	
Peach tree borers	33.2	33.8	35.8	19.6	
Japanese beetle	24.9	24.4	22.2	21.0	
Green peach aphid	14.1	15.1	9.8	13.3	
Mites	12.4	13.3	16.5	16.1	
Scales	14.5	11.6	6.3	15.4	
American plum borer	2.5	1.8	8.5	14.7	
<b>Peach Diseases</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	
Brown rot	38.3	30.7	32.0	19.9	
Bacterial spot	30.4	24.9	22.9	19.1	
Peach leaf curl	14.5	11.1	15.0	16.2	
Powdery mildew	8.9	10.0	7.0	3.7	
X-disease	7.5	8.4	6.5	11.8	
Perennial canker	7.5	5.7	4.7	8.8	
Peach scab	0.0	3.8	6.7	9.6	
Phytophthora rots	3.3	3.1	2.3	6.6	
Plum pox	6.1	2.3	2.9	4.4	

<b>Cherry Arthropod Pests</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
Spotted wing Drosophila	26.8	24.3	29.1	17.8
Plum curculio	23.2	20.7	22.7	15.8
Cherry fruit flies	18.6	20.7	14.4	16.5
Japanese beetle	15.9	13.6	12.7	12.5
Peachtree borers	9.1	9.3	4.2	8.6
Brown marmorated stink bug	3.6	5.7	12.5	10.5
Aphids	0.5	5.0	3.6	8.6
American plum borer	0.0	0.7	0.6	8.6
Scales	4.1	0.0	0.3	1.3
<b>Cherry Diseases/Disorders</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
Brown rot	32.8	32.9	29.9	19.9
Bacterial canker	27.3	20.6	24.1	15.8
Fruit cracking	16.2	18.8	17.8	11.0
Leaf spot	7.6	11.2	10.5	12.3
Powdery mildew	2.0	6.5	2.1	4.1
Black knot	7.6	4.7	3.4	9.6
X-disease	4.0	2.9	4.7	11.0
Phytophthora	1.5	1.8	1.8	6.9
Viruses	4.0	0.6	5.5	9.6
Bird control in cherries				