

# scaffolds

Update on Pest Management  
and Crop Development

F R U I T J O U R N A L

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## EYES ON THE REPRISE

### 2017 FRUIT ARTHROPOD PEST REVIEW

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❖❖ With a less-than-frigid winter behind us, the expectation for this year was naturally for relatively moderate and maybe even warm summer weather during the growing season, and for the first few months, we actually did manage to stay within view of the long-term average temperatures, so tree development through May was generally comparable to the most recent 5-year average. However, frequent rains during the period delayed field work and affected pest development accordingly (favorable for scab, not so much for insects and mites). By mid-May, the entire state was officially out of its previous drought status, but the wet weather continued into June and July, which made it hard to tell whether we were ever going to see any "real" summer conditions. As of mid-July, we've been as much as 150 DD behind our 15-year average degree day levels, and it doesn't look like we're catching up anytime soon.

True to most NY springs, **plum curculio** posed something of a challenge around the state, with some growers unable to beat the adults to the fruitlets on the front end, and not always protecting them long enough at the end of the egg-laying period. **Oriental fruit moth** and **codling moth**, the traditional drivers of many insect management programs, occurred generally on schedule in early and late May, respectively, and continued to fly at normal levels for the

remainder of the season. **Obliquebanded leafroller** was again present as usual, but didn't seem to pose many serious problems in most areas. Predictably, mites responded to the wet conditions by occurring only at low numbers, if at all. **Apple maggot** was somewhat delayed in its normal first occurrence, probably because too much soil moisture promotes disease attacks in

the pupae, but continues to be caught at moderate levels in most parts of the state. Scale pests, including not only **San Jose** but also **Prunicola scale**, required diligent attention in several areas of the state, but so far, we haven't seen too much in the way of **woolly apple aphid** infestations (knock wood).

This seems to have been a season for greater than normal numbers of **Japanese beetle** and **potato leafhopper**, but the breakout pest problem of the year was undeniably **Spotted wing drosophila**, which showed up earlier than usual (mid-June) and was therefore able to zero in on tart cherries and even sweet cherries still on the trees. Many

continued...

## IN THIS ISSUE...

### INSECTS

- ❖ 2017 Fruit Arthropod Pest Review

### GENERAL INFO

- ❖ Cornell Fruit Pest Control Field Days
- ❖ NY Farmer Heavy Rainfall Survey

### TRAP CATCHES

### UPCOMING PEST EVENTS

plantings were decimated, and hundreds of loads were rejected. Also this year, **brown marmorated stink bug** started showing up in WNY traps much earlier in the season, with moderate but regular numbers of adults being caught as early as May. Also, lately we've been catching nymphs in fairly high numbers, which could indicate a greater potential for late season apple damage in this part of the state; in contrast, numbers in the Hudson Valley have been lower than usual.

Finally, the troublesome **black stem borer** ambrosia beetle, a primary or at least secondary cause of tree decline and death in numerous plantings around the state, continues to be a problem. A definitive solution for this pest is yet to be found, and the stress caused by wet conditions this year following the drought conditions last year makes the case for our continued awareness of how easily these trees can become targets for attack. ❖❖

## EVENT ANNOUNCEMENT

### CORNELL FRUIT PEST CONTROL FIELD DAYS

The N.Y. Fruit Pest Control Field Days will take place during Labor Day week on Sept. 7-8 this year, with the Geneva portion taking place on Thursday Sept. 7, and the Hudson Valley installment on the second day, Friday, Sept. 8 (yes, that's a day later in the week than we usually hold it, but we've decided to push it back to accommodate some of our presenters' teaching schedules). Activities will commence in Geneva on the 7th, with registration, coffee, etc., in the lobby of Barton Lab at 8:30 am. The tour will proceed to the orchards to view plots and preliminary data from field trials involving new fungicides, bactericides, miticides, and insecticides on tree fruits and grapes. It is anticipated that the tour of field plots will be completed before noon. On the 8th, partici-

pants will register at the Hudson Valley Laboratory starting at 8:30, after which they will view and discuss results from field trials on apples and other fruit crops. No pre-registration is required for either event. ❖❖

WHEN  
IT  
RAINS...

### 2017 NY FARMER HEAVY RAINFALL SURVEY

Last year, we published the results of a NY State farmer drought survey put together by David Wolfe and Shannan Sweet (Horticulture Section, SIPS). This year, given the numerous heavy rainfall events and flooding issues farmers have faced, they would like to do a similar survey to see how the excessively wet 2017 season has impacted farmers, as well as if and how they were able to cope with the unusually wet spring and summer conditions. This is in hopes of gaining a better understanding of what farmers do or need to be able to cope with heavy rainfall events and flooding issues in the future. Please consider filling out the survey at the end of this issue, or if you prefer doing it online, it's at: [https://cornell.qualtrics.com/jfe/form/SV\\_0uo09Hc67IsVFfn](https://cornell.qualtrics.com/jfe/form/SV_0uo09Hc67IsVFfn)

### scaffolds

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INSECT TRAP CATCHES (Number/Trap)								
Geneva, NY				Highland, NY				
	8/21	8/25	8/28		8/14	8/21	8/28	
Redbanded leafroller	25.0	26.0	8.5	Redbanded leafroller	11.5	24.0	47.0	
Spotted tentiform leafminer	171.0	96.5	32.0	Spotted tentiform leafminer	208.0	325.0	122.0	
Oriental fruit moth	21.5	34.5	25.0	Oriental fruit moth	1.5	12.0	15.5	
Codling moth	31.5	13.5	1.0	Lesser appleworm	5.0	4.5	5.0	
Lesser peachtree borer	10.5	5.5	3.5	Obliquebanded leafroller	5.0	2.0	3.0	
Peachtree borer	1.5	0.0	0.5	Codling moth	3.5	9.0	9.5	
Dogwood borer	0.0	0.0	0.0	San Jose scale	885.5	317.5	90.5	
Obliquebanded leafroller	4.5	2.5	1.0	Sparganothis fruitworm	0.0	0.0	0.0	
Apple Maggot	1.0	0.0	0.0	Variegated leafroller	3.0	2.0	3.5	
				Tufted Apple Bud Moth	0.0	0.0	0.0	
				Dogwood Borer	15.5	12.0	9.0	
				Apple Maggot	2.3	1.3	0.5	

UPCOMING PEST EVENTS			
		43°F	50°F
Current DD*	(Geneva 1/1-8/28/17):	2881.9	1925.6
accumulations	(Geneva 1/1-8/28/16):	3140.3	2208.8
	(Geneva "Normal"):	3033.0	2098.3
	(Geneva 1/1-9/4, predicted):	3026.9	2022.2
	(Highland 1/1-8/28/17):	3443.0	2384.0
<u>Coming Events: Ranges (Normal ±StdDev):</u>			
American plum borer 2nd flight subsides		2927-3353	2018-2372
Apple maggot flight subsides		2772-3258	1907-2283
Codling moth 2nd flight subsides		2846-3462	1923-2447
Lesser appleworm 2nd flight subsides		2794-3488	1918-2422
Lesser peachtree borer flight subsides		2996-3446	2017-2433
Obliquebanded leafroller 2nd flight peak		2605-3019	1767-2101
Oriental fruit moth 3rd flight peak		2650-3200	1822-2216
Peachtree borer flight subsides		2478-3126	1672-2180
Redbanded leafroller 3rd flight peak		2704-3174	1867-2201
San Jose scale 2nd flight subsides		2673-3419	1813-2429
Spotted tent. leafminer 3rd gen flight peak		2561-3002	1743-2093
White apple LH 2nd brood adults 1st catch		2770-3098	1948-2252
*all DDs Baskerville-Emin, B.E.			

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

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# SURVEY: Impacts and Farmer Responses to 2017 Heavy Rainfalls



Cornell University

**Background:** March through July of 2017 was a period of above average rainfall in much of New York. Rainfall often came as heavy downpour events, leading to agricultural damage and disease. The purpose of this survey is to gather information on regional impacts and how farmers coped with this situation, so that farmers and those institutions and industries that support farmers will be better prepared in the future.

**Contact Information:** For information and questions pertaining to this survey contact Shannan Sweet: **Email** - sks289@cornell.edu; **Phone** - 607 255 8641; **Address** - 126 Plant Science Building, Dept. of Horticulture, Cornell University, Ithaca, NY 14853

**Please respond to the following questions if your farm experienced heavy rainfalls or flooding in spring-summer of 2017. For those who prefer to complete the survey online, here is a link:** [https://cornell.qualtrics.com/jfe/form/SV\\_0uo09Hc67IsVFfn](https://cornell.qualtrics.com/jfe/form/SV_0uo09Hc67IsVFfn)

1. Where is your farm located (nearest county)?

2. In the table below, list the crop (or top 5 crops) that you grow, approximate acreage, and your best estimate of 2017 percent yield loss due to heavy rainfalls and/or flooding.

<u>Crop</u>	<u>Approximate Acreage</u>	<u>Estimated Yield Loss (0-100%)</u>

3. Which of the options below describes issues or problems experienced on your farm related to heavy rainfalls in 2017 (circle all that apply)? Next to each issue that you circled please rate the importance of that issue in relation to economic impact on your farm (check one box for each issue circled).

	not important	somewhat important	fairly important	very important	extremely important	N/A
a. Field flooding and/or saturated soils .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Soil erosion .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Crop disease .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Unable to use equipment due to flooding and/or saturated soils .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Unable to plant and/or delays in planting or seeding .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Acres no planted .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Acres not rotated .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Acres in "prevented" planting (i.e. for crop insurance) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Lack of field access for important farm operations .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Unable to fertilize, use herbicides and/or pesticides .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Unable to harvest and/or delays in harvest .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Animal access to fields was limited .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Animal health was affected .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Manure management issues arose .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Other (describe) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Was the quality of your crop negatively impacted by any of the issues listed in #3 above (circle one)?    Yes    |    No

5. Which of the options below best describes the likely economic impact the 2017 heavy rainfalls on your farm (circle one)?

- a. A nuisance, but almost no economic impact
- b. Minor
- c. Moderate
- d. Severe
- e. Other (describe)

6. Did you have enough infrastructure and/or equipment to help deal with heavy rainfalls in 2017 (circle one)?    Yes    |    No

7. What type of infrastructure do you have on your farm to help deal with heavy rainfalls (circle all that apply)?

- a. Drainage ditches
- b. Drainage tile
- c. Water holding ponds
- d. Other (describe)

8. Did heavy rainfalls in 2017 lead to the recognition of any weaknesses or limitations in infrastructure on your farm (circle one)? Yes | No

9. What is the dominant soil type on your farm (circle one)?

- a. Clay or clay loam
- b. Sandy or sandy loam
- c. Silty or silty loam
- d. Gravelly or gravelly loam
- e. Other (describe)

10. Which (if any) soil health practices have you adopted on your farm (circle all that apply)? Next to each practice used please indicate if this lessened the impact of heavy rainfalls in 2017 on your farm.

**Lessened impact of heavy rainfalls in 2017 (circle yes or no)?:**

- a. Use of winter cover crops ..... Yes | No
- b. Reduced tillage ..... Yes | No
- c. Use of composts or manure ..... Yes | No
- d. Changed crop rotations ..... Yes | No
- e. Use of mulches ..... Yes | No
- f. Leaving crop residues ..... Yes | No
- g. Other (describe) ..... Yes | No

11. How frequently do you experience excessive rainfall or flooding issues on your farm (circle one)?

- a. Every 1 or 2 years
- b. Every 3 to 4 years
- c. Every 5 to 6 years
- d. Rarely
- e. Never
- f. Other (describe)

12. For the four questions (a-d) below rate your concern level (circle one for each question):

- a. How concerned are you that heavy rainfalls and/or flooding will occur more frequently in the future?  
*not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned*
- b. How concerned are you that heavy rainfalls and/or flooding will negatively impact your farm in the future?  
*not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned*
- c. How concerned are you that drought will occur more frequently in the future?  
*not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned*
- d. How concerned are you that drought will negatively impact your farm in the future?  
*not concerned | somewhat concerned | fairly concerned | very concerned | extremely concerned*

13. Indicate below what you might have done differently if you had known how wet 2017 would be (circle all that apply)

- a. Plant fewer acres
- b. Plant same crops earlier or later
- c. Diversify (i.e. stagger) planting dates
- d. Plant different crop or different variety of same crop
- e. More diversity in varieties and crops
- f. Expand drainage capacity (e.g. tiles, ditches, etc.)
- g. Changed fertilizing, herbicide or pesticide application timing
- h. Adopt soil health practices (i.e. cover crops, reduced tillage, composts, mulches)
- i. Other (please explain)

14. Indicate any ideas you have on how you might manage your farm and be better prepared in the future for flooding or excessive rainfall risk.

15. Indicate any ideas you have on how Cornell Cooperative Extension, university researchers, government or non-government agencies might help you make the best decisions in coping with flooding or excessive rainfall risk in the future.