

SWD Monitoring Network in New York State – preliminary report

Spotted Wing Drosophila (SWD) NE IPM Working Group Meeting – 2014

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September 15, 2014

Spotted wing drosophila (SWD) was first detected in New York in 2011, caused significant damage to berry crops in 2012, and in 2013, a coordinated approach was taken in the collection and delivery of SWD information to fruit growers, as well as home gardeners with the result that more growers were prepared and able to take appropriate action to protect their crops. The SWD blog at blogs.cornell.edu/swd1/ that started in 2013 now has 133 subscribers, up 68% from 42 in 2013.

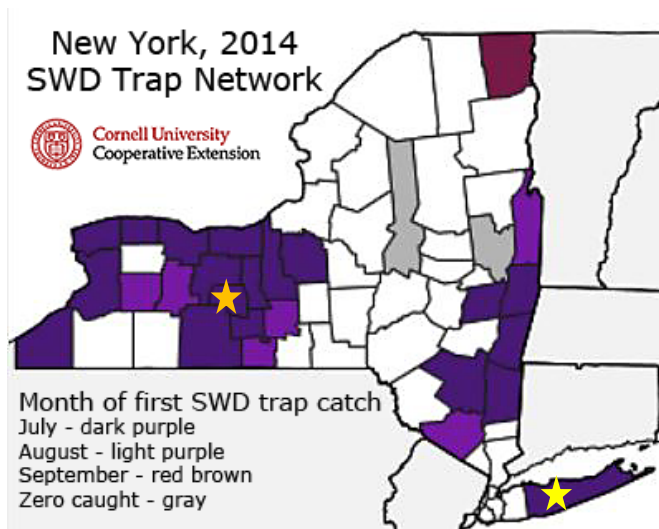


Figure 1. Nineteen Counties reported first trap catch in July (dark purple), six Counties reported first trap catch in August (light purple), and one County reported first trap catch in September (red brown). Two counties did not report SWD from traps (gray).

The monitoring network in 2014 included scientists at Cornell University, in Cornell Cooperative Extension County Associations and Regional Programs who set vinegar and bread dough baited traps at 107 sites in 28 Counties and reported trap catch data to the Eastern SWD Volunteer Monitoring Network mapping system, <http://www.eddmaps.org/swd/>. The SWD trap network data automatically generated a NY distribution map showing the months of first reports (Figure 1).

SWD first reports were posted on the SWD blog. Cornell scientists alerted growers directly and via newsletters to protect their crops when SWD was found in their area.

SWD was first trapped in NY about four weeks later than in 2012 and 2013. Continuous or sustained captures also occurred four weeks later than in prior years (Table 1).

Table 1. First captures of SWD in 2014, as compared to 2013.

	2013	2014	2013	2014	2013	2014	2013	2014
	Date	Date	County	County	Crop	Crop	Females, Males	Females, Males
First catch	June 11	July 9	Ontario	Suffolk*	woods	raspberry	1, 0	0, 2
Sustained catch	June 17	July 16	Orange	Schuyler**	raspberry	woods	2, 0	1, 0

* Shown by yellow star on Figure 1.

**Shown by orange star on Figure 1.

The delayed arrival of SWD into NY spared June strawberries, summer raspberries and most blueberry varieties from infestations. However, later maturing berries such as blackberry, day-neutral strawberry and possibly late peach varieties and grapes currently are at considerable risk.

Traps used are described www.fruit.cornell.edu/spottedwing/pdfs/SWDTraps_CornellFruit.pdf. Collaborators placed traps mainly within a raspberry crop and on the edge of the crop (Table 2). Preliminary research results had found the whole wheat bread dough lure performed best in raspberry. Traps were checked weekly until two consecutive weeks of SWD capture (sustained) was obtained or until the crop was harvested.

Table 2. Collaborators in the SWD trap network, the New York Counties where monitoring took place and the crops in which traps were located.

Name	Counties	Crops
Armata	Herkimer	Raspberry, blueberry
Bachman	Erie	Raspberry
Breth	Niagara, Orleans	Raspberry, blueberry
Burgeson	Chautauqua	Raspberry, blueberry
Carroll	Cayuga, Monroe, Onondaga, Schuyler, Tompkins, Wayne	Raspberry, blueberry
Cook	Dutchess	Raspberry
Donahue	Columbia	Cherry
Gasiewicz	Wyoming	Raspberry
Hetzler	St. Lawrence	Raspberry, blueberry
Ivy	Clinton	Blueberry
Jentsch	Orange, Ulster	Raspberry, various
Loeb	Ontario, Schuyler, Seneca, Yates	Raspberry, blueberry, woods
McDermott	Albany, Columbia, Rensselaer, Saratoga, Washington	Raspberry, blackberry, blueberry
Mehlenbacher	Steuben	Raspberry, blueberry
O'Connell	Ulster, Dutchess	Blackberry, blueberry
Thorp	Livingston	Raspberry
Warren	Chemung	Blueberry
Zaman	Suffolk	Raspberry, blackberry, blueberry, grape, woods

Table 3. SWD females vs. males caught in traps in 2014, as compared to 2013.

	First trap catch				Sustained trap catch			
	2013	2014	2013	2014	2013	2014	2013	2014
SWD	Average #		Proportion		Average #		Proportion	
Females	1.43	1.21	61%	59%	2.55	1.73	34%	51%
Males	1.30	1.30	20%	24%	1.44	1.50	25%	19%
Both	3.00	9.43	9%	17%	9.31	7.00	41%	30%

The NY trap network seems again to have proven successful in accomplishing its primary goal of monitoring for first trap catch of SWD and disseminating information to growers.

A number of people noticed that females were more common in traps this year than in 2013. Preliminary analysis of the reported data, shows this trend in the sustained trap catch numbers (Table 3). Input from collaborators underlines the need for improved trap design and a better, more selective lure for SWD.