2021 Spotted-Wing Drosophila (SWD) Monitoring Network

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Funding Sources

NYS Berry Growers Association; NYS IPM Program; and USDA NIFA CPPM EIP Award 2017-70006-27142.

Outcomes and Impacts

Carroll coordinated SWD monitoring by 16 Cornell extension scientists and one blueberry grower in 23 NY counties. During the 2021 season, first trap catch occurred over a 14-week-long period, May 11 (Niagara County) to August 17 (Steuben County) (Figure 1). Most trapping sites were not catching SWD during the late May and early to mid-June period, and only one reached sustained catch in early June. “Normally” (is there a normal?) by mid-June, many traps will have caught SWD. Were the lures off? Not the case, we were using both Scentry lures (in jar traps) and Trece lures (with sticky cards) and these traps, from a quick perusal of data, yielded comparable results. Perhaps another puzzle for researchers to ponder — climate or weather effects, emerging natural enemies, grower spray programs, etc.

Figure 1. SWD distribution map showing month of first trap catch.

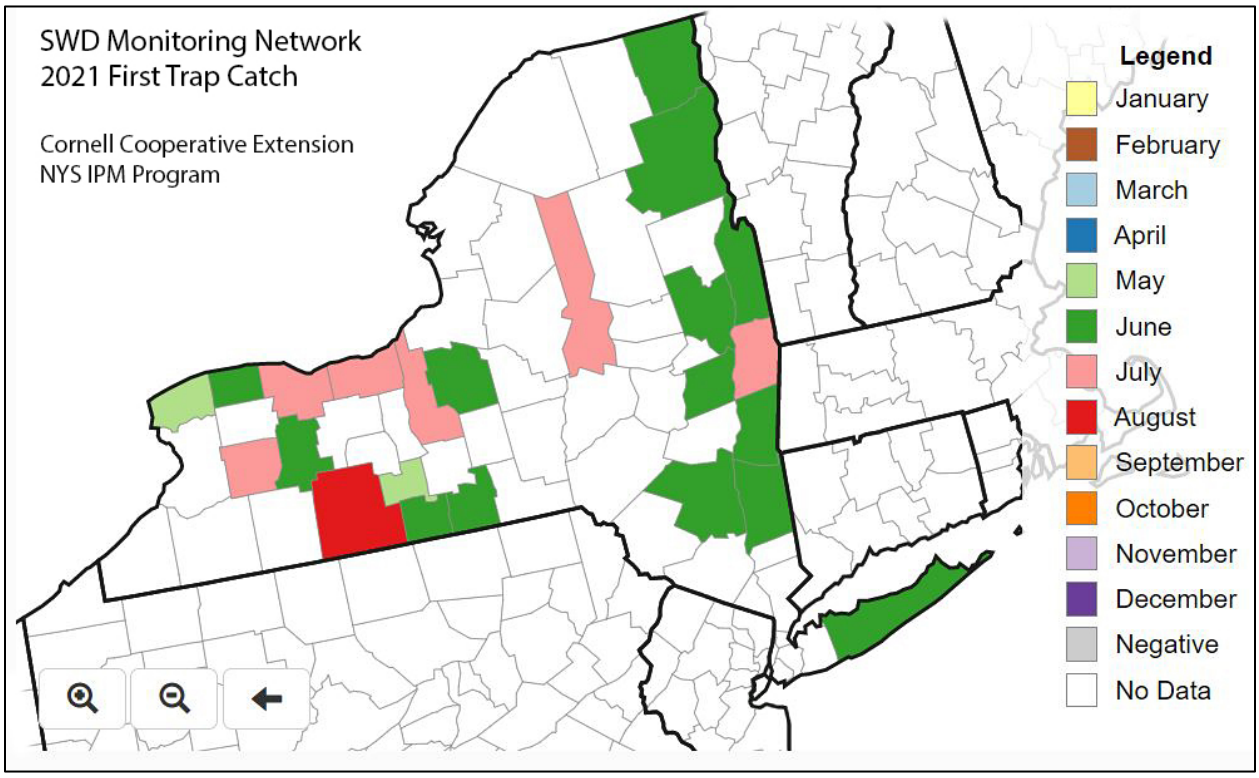


Figure 2. Male SWD as seen stuck on the Trece-lure-baited red sticky cards.

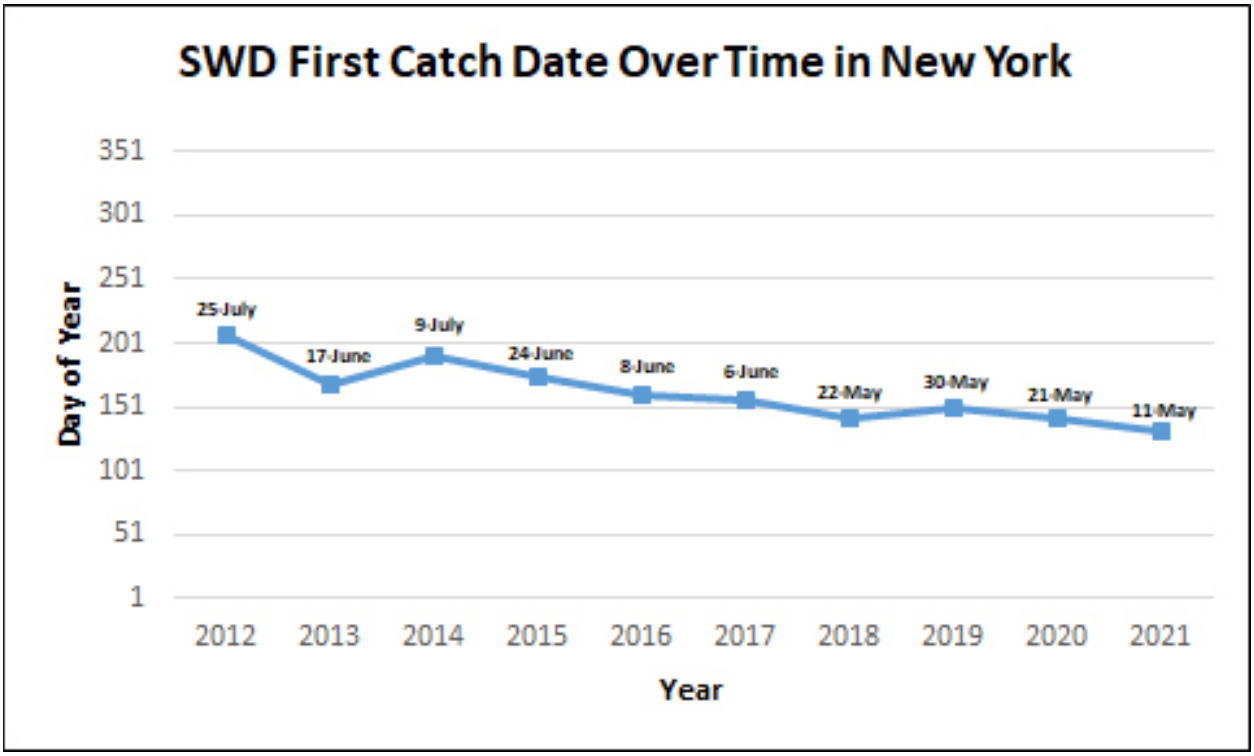
This year we successfully used red sticky cards, baited with SWD lures. The baited, red sticky traps provided good results for the network (Figure 2). We will collate comments from the

collaborators testing the sticky traps to determine their potential use by growers. Grant funding was obtained, PI Laura McDermott, ENYCHP, to further test these and educate growers and consultants on their use.

Data were entered into Ag Pest Monitor, which generated the distribution map shown in Figure 1. This map is also displayed on Cornell Fruit Resources and NYS IPM websites. Results from the monitoring network were shared in 32 posts on the SWD blog, blogs.cornell.edu/swd1/, which now has 366 subscribers, focusing on alerting growers, providing management information, and promoting field meetings and workshops associated with SWD. Growers in and outside the network locations rely on this information to alert them about the need to protect their at-risk fruits crops from SWD infestation as harvests draw near.

For a presentation to the Entomological Society of America, with Marion Zeufle and Ken Wise, NYS IPM Program, on trap monitoring networks in New York, I collated data from 10 years of SWD monitoring network trapping for first catch of SWD. These data show a trend towards earlier first arrival of SWD into fruit plantings (Figure 3). From the initial year of trapping for SWD, in 2012, we have seen a trend for first trap catch to be earlier, 76 days earlier. Other northern states with trapping programs have noticed this trend. SWD could be adapting to our climate and more adults are surviving the winters; possibly climate change and milder winters or autumns with fewer early freeze events; or perhaps the traps and lures are simply getting better. Future research may help to elucidate the reasons for this trend.

Figure 3. Trend for earlier first trap catch date for SWD shown for the years 2012-2021 in New York State.



Publications

Agnello, A., Loeb, G., Jentsch, P., and Carroll, J. 2021. 2 June 2021 - Labeled Insecticides for Control of Spotted Wing Drosophila in New York Tree Fruit and Grapes – Quick Guide. Cornell Fruit Resources, SWD Management. Web. http://www.hort.cornell.edu/fruit/pdfs/swd/treefruit-grape-insecticides.pdf

Carroll, J. and Grantham, D. 2021. NE IPM Center Partnership Grants Impacts – Spotted Wing Drosophila (SWD) Working Group (2016). NE IPM Center, web. www.northeastipm.org/working-groups/spotted-wing-drosophila and www.stopswd.org.

Carroll, J. 2021. June 2021 - Labeled Insecticides for Control of Spotted Wing Drosophila (SWD) in Dropped Fruits – Quick Guide. Cornell Fruit Resources, SWD Management. Web. http://www.hort.cornell.edu/fruit/pdfs/swd/drop-cull-insecticides.pdf

Loeb, G., McDermott, L., Jentsch, P., and Carroll, J. 2021. June 2021 - Labeled Insecticides for Control of Spotted Wing Drosophila in New York Berry Crops – Quick Guide. Cornell Fruit Resources, SWD Management. Web. http://www.hort.cornell.edu/fruit/pdfs/swd/berry-insecticides.pdf

Grants Funded

McDermott, L. and Carroll, J. Federal Capacity Funds, Smith Lever. Improving SWD management by simplifying pest monitoring on NYS fruit farms, start date 10/1/21, end date 9/30/23. $28,426.