

# Profile from the Field

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## Sustainable Pest Management Approaches for Raspberry Growers

**Project Titles:** Sustainable Pest Management

Approaches for Raspberry Growers

**Coordinators:** Heather Leach

**Location:** Michigan State University, MI

**SARE Grants:** \$9,979

**Duration:** 2015-2016

To read the full project reports, go to  
[www.sare.org/projects](http://www.sare.org/projects) and search for project  
number GNC15-205.

Spotted wing Drosophila (SWD) (*Drosophila suzukii*) is a gnat-sized fly that will damage ripe or ripening fruits such as raspberries, strawberries, and blueberries. Heather Leach, a Michigan State University graduate student in Rufus Isaacs' Berry Crops Entomology lab says that in 2014, SWD caused estimated economic losses of \$159 million in U.S. raspberry production (Burrack et al., unpublished data). The main control method is pesticide applications. Because SWD has rapid population growth, growers often spray insecticides weekly during harvest, abandoning their sustainable integrated pest management programs (Lee et al. 2011).

Leach is working on an integrated pest management scheme for SWD in raspberries in high tunnels, using specialty plastics and insect exclusion netting. In 2015, Leach received a \$9,979 NCR-SARE Graduate Student grant to explore alternative controls for managing SWD, including ultraviolet-reducing plastics and exclusion netting. She conducted her work both at the Horticultural Teaching and Research Center in East Lansing, Michigan and on a commercial farm. "Few alternative controls beyond chemical control exist for control of this pest, and new management techniques are needed," said Leach. "Growing berries under protected culture is a new and growing method for season



Heather Leach (far left) is researching alternative control methods for spotted wing Drosophila as a graduate student at Michigan State University. Photo credit: Kurt Stepnitz.

extension, but may also be a way to control this invasive fly and other pests." Leach reported that reducing ultraviolet light did not impact SWD populations significantly, but it did extend the residues of some chemicals on the leaves of raspberries.

As for the exclusion netting, while none of the netted treatments using 80 gram Tek-Knit netting maintained zero SWD captures in the traps, the overall level of infestation remained lower in the netted tunnels than in the open tunnels; exclusion netting resulted in an average reduction of 73% and a four-week delay in the arrival of SWD in high tunnels.

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“Exclusion netting can be a viable way to reduce SWD and other pests without negatively affecting the fruit quality in high tunnel raspberry production,” said Leach. “Moreover, we found that the exclusion netting resulted in a delay in the arrival of SWD, which could eliminate SWD in the summer crop of raspberries entirely. Delaying the arrival of SWD also reduces the amount of insecticide that needs to be applied during this time, reducing costs and risk to pollinators. This is one of the first alternative management tactics proposed for SWD that could be used in place of chemical management.”

For more information on Leach’s NCR-SARE Farmer Rancher grant project, visit the SARE project reporting website. Simply search by the project number, GNC15-205, at [www.mysare.sare.org](http://www.mysare.sare.org), or contact the NCR-SARE office.

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