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WMUK News

5:56 PM WED APRIL 2, 2014

Fruit Growers Continue to Battle Invasive Fly

By [SEHVILLA MANN](#) (/PEOPLE/SEHVILLA-MANN)

Isaacs holds a tube of spotted wing drosophila at the extension's Fennville research center.
Credit Sehvilla Mann / WMUK

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WMUK's Sehvilla Mann reports on efforts to minimize SWD damage.

Most people have seen an overripe peach or banana succumb to fruit flies. It's annoying to find the little winged bugs buzzing around your fruit bowl.

But for Michigan farmers and gardeners, an invasive fly called the spotted wing drosophila is much more than a nuisance – it's a crop-devouring pest that can't be ignored.

Luka Schemenauer found a few of them in his raspberry field late last summer. Schemenauer, who farms near Bangor, says he tried to stop them from ruining the crop.

"Raspberries don't all ripen at the same time. It ripens over a period of time," he says, standing near the affected field. "So I thought maybe we could get some kind of, you know – machined off everything that was already soft, cleaned it up, tried to put some organic sprays on it. I thought we could bring it back."

It didn't work. In 10 days, Schemenauer says, the flies turned two and a half acres of raspberries – 15,000 plants' worth – to "mush." None remained for his fruit stand, the farmer's market or the you-pickers who visit the farm.

“You don’t make any money when you have two and a half acres going to ground,” he says.

Spotted wing drosophila, or SWD, has been in the U.S. about six years. They’ve been in Michigan since September 2010. A quirk of adaptation means that, unlike native flies, they pose a major threat to the fruit harvest.

Native flies have to wait for fruit to soften to lay their eggs. But spotted wing females use the saw-like edges of their egg depositors to cut into fruit like blueberries and strawberries just as they ripen.

Michigan State University researcher Rufus Isaacs and his colleagues are at the forefront of the state’s efforts to beat back SWD. At the extension’s fruit research center in Fennville, Isaacs opens the door to what looks like a fridge. It holds racks of small glass vials.



http://mediad.publicbroadcasting.net/p/wmuk/files/201404/IMG_3211.JPG

Schemenauer’s raspberry field near Bangor.
Credit Sehvilla Mann / WMUK

“These are different collections from different farms, and each vial has the flies and then they lay eggs into the diet,” he says, holding up a tube. The diet is the yellowish fly food at the bottom.

Farmers from around the region send flies they’ve trapped. The extension studies SWD’s vulnerabilities and then reports back to growers.

That includes tracking the effectiveness of anti-spotted wing pesticides. Isaacs says so far the lab hasn’t seen SWD become resistant to those chemicals.

“But we want to be able to monitor this over time in the coming years as this pest develops further in Michigan, to see whether the pesticides are still working,” he says.

“If they are we need to know that, and if some of them are starting to lose their activity we need to know that too,” he adds.

They’ve been exploring physical methods as well. Isaacs says it might be possible to protect some plants with very fine mesh. The holes would measure no more than a millimeter across.

“That doesn’t work on the huge commercial scale, but it might be something that could work for a small farm or a backyard gardener,” Isaacs says.

And some in some cases, just changing habits might be enough to reduce or minimize damage. Isaacs says it helps to harvest fruit as soon as it ripens so flies don’t have a chance to move in.

“Anything you can do to chill the fruit as well, that will stop the insect from developing any further. So if you pick and put it straight in the fridge, that can help,” he adds.

He says in the long term, native species might develop a taste for SWD and help keep their numbers down. Potential predators include a wasp that preys on native vinegar flies.

“Even though the fly is inside a fruit, they can still get to them and they lay their eggs inside them. And then they actually eat them from the inside like in the Alien movie,” Isaacs says.

But so far, the wasps haven’t shown an interest in SWD.

Isaacs says despite this winter’s extreme cold, the flies will almost certainly be back. How quickly they can build up their numbers depends on the temperature.

“The warmer the season we have, the more generations they’re able to fit in and they – in our summertime temperatures, they can develop through a generation in a week or two.”

Back at the farm, Schemenauer says he’s not taking any chances with the raspberries this year.

“We’re making the patches smaller, we’re doing perimeter sprays, the biggest thing I’m doing is we’re planting a lot of new plants in another location, and smaller quantities so it’s more controllable,” he says.

“Where the you-pickers have a better chance of cleaning up that patch every day, if not we’re going to have people hired to go right behind them and make sure it stays clean to keep the insect out of there.”

He’s also going to plant varieties that come up earlier. That’s because the invasive flies tend to make the strongest showing late in the growing season.

Schemenauer’s main crop – 110 acres of blueberries – survived last year because it came out ahead of the flies.

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