

Management

A combination of pruning to maximize sunlight, weed control to improve air circulation, clean picking, immediate disposal of infested fruit, and treatment of ripening fruit with insecticides once SWD has arrived in your area are good practices for protecting crops. It can be simple to monitor for SWD with commercially available traps and lures. The hard part early in the year is sorting through the various vinegar flies looking for the first SWD caught.



Blackberries severely infested with SWD will hang limp, drip liquid, and dry out on the fruit cluster. Photo: Hannah Burrack, North Carolina State University.

For More Information

Spotted Wing Drosophila. 2012. NEIPM Regional Pest Alert. tinyurl.com/nm7lcps

Spotted Wing Drosophila. 2017 Fact Sheet. NYS IPM. hdl.handle.net/1813/42883

Spotted Wing Drosophila, Cornell Fruit Resources. fruit.cornell.edu/spottedwing

fruit.cornell.edu/spottedwing



nysipm.cornell.edu

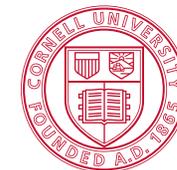
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Spotted Wing Drosophila

An invasive and destructive pest on raspberries, blueberries, blackberries, cherries, and more



Photo: T. Martinson, Cornell University

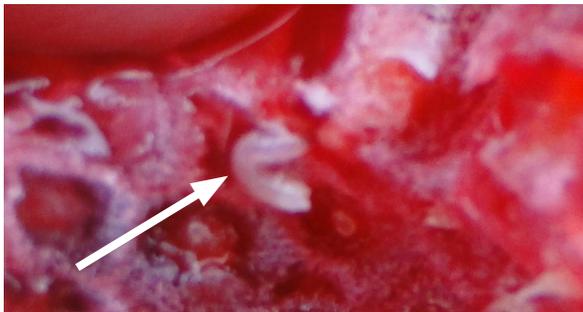


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Spotted wing drosophila (SWD) is a vinegar or fruit fly of East Asian origin. Introduced into Hawaii in the 1980s, first discovered in California in 2008, by 2011 it had found its way into New York State (NY). Today, its distribution spans the continental US. SWD infests raspberries, blueberries, blackberries, strawberries, grapes, cherries, peaches, plums, and other late-season, soft fruits, both wild and cultivated.

Damage

SWD deserves notice because they can lay their eggs inside fresh fruit, even before harvest. Aside from tiny, invisible cuts in the fruit skin, left by the female's ovipositor (her egg-laying device), the larvae do the damage by feeding inside the fruit and making fruit susceptible to decays and rots. Early-stage larvae or eggs may leave no visible impact on the fruit. However, after only a few days, the fruit skin above where larvae feed starts to dimple and wrinkle, forming shallow indents in the fruit. Barely visible holes in berries, kept open by larvae to breathe, may leak juice directly onto foliage or when gently squeezing the berry.



Larva inside raspberry. Actual size: < 1/8 inch (2-3 mm). Photo: Hannah Burrack, North Carolina State University.

Description

Just as one could imagine from the insect's common name, male SWD have a black spot on the tip of each wing. Females lack this particular trait, making them more difficult to identify, but both genders have distinct red eyes and golden brown bodies. What sets female SWD apart from other fruit flies is the dark brown to black, saw-tooth edges that line either side of her ovipositor. SWD are a medium sized fruit fly, generally about 1/8 inch (2-3 mm) long.



(L) male SWD, showing spotted wings; (R) saw-toothed ovipositor of female. Photos: M. Hauser, CDFA.



Adult female (left) and adult male (right) on raspberry. Photo: Hannah Burrack, North Carolina State University.

Life Cycle

Females use their ovipositors to cut through the surface of the fruit into the flesh, where they lay a single egg, laying 7-16 eggs per day. Damage is initially a tiny pinhole on the fruit's surface, but after 5-7 days of the larvae feeding inside, the skin collapses and the fruit may leak juice. The larvae then exit the fruit to pupate, taking anywhere from 3-15 days for adult flies to emerge. As adults, the lifespan of SWD can be as long as 3-9 weeks. About 10 generations per year can in the United States, depending on the climate. SWD typically show up in NY in early June and build to large numbers by August through September. Whether SWD overwinters in NY is still open to investigation.

