

Pest Alert: Spotted Wing Drosophila

Drosophila suzukii



Oregon
Department
of Agriculture

Introduction

The spotted wing Drosophila (SWD), *Drosophila suzukii* (Matsumura) (Diptera: Drosophilidae), is native to China, Japan, Korea, and Thailand. It is now established in at least 17 Oregon counties and has been detected in 46 other states. SWD is a temperate species so it is able to survive in much of the US. This fly is of concern because unlike most members of its family, which only attack overripe or decaying fruit, it attacks ripe, healthy fruit. It prefers stone fruit and berries, especially those with thin skin or cracked skin. Fruit is most vulnerable when it is ripe or overripe.



Adult spotted wing drosophila male.



Damaged peach due to SWD.

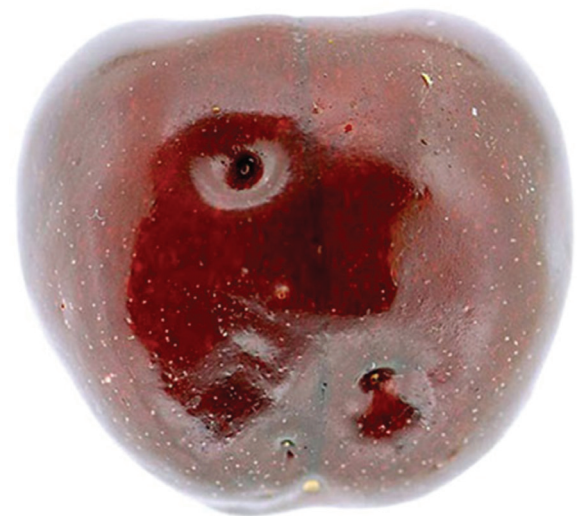
Damage

The female SWD can lay many eggs in multiple fruits. As many as 65 adults have been reported to emerge from a single cherry. After the eggs hatch the maggots start feeding. The maggots cause the fruit to turn soft and brown. The larval damage also allows fungus and bacteria to enter. Because female SWD can lay many eggs and there can be many generations of SWD per year, populations can build rapidly to damaging levels.

Not only local sales of fruit could be affected. This fly's presence in Oregon could lead to restrictions on shipping fresh fruit to other uninfested countries.

Detection

Adults, larvae, and other life stages are similar to other vinegar flies. Adults are small, 2-3 mm long, with straw-yellow to brown bodies and red eyes. Males usually have a distinctive black spot on the outer edge of their wing. No other vinegar flies with a wing spot are commonly associated with fresh fruit and established in the US. Females have a large serrated ovipositor. Eggs are difficult to detect in fruit. Oviposition scars are very small and may be mistaken for other types of damage, including the oviposition scars of other types of fruit flies. Larvae are small and difficult to detect inside the fruit, especially in early stages of attack or in low numbers. No specific pheromone lures are available for use in detection. Adults will come to McPhail traps baited with a general fruit fly lure. Other trapping options may include apple maggot traps and traps baited with ammonium carbonate, vinegar, wine, or fermented fruit mixtures.



Oviposition scars and larval feeding depressions in cherry. Photo: M. Hauser, CDEA 2009

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Adult spotted wing drosophila on a peach.

Pathways for introduction

Fresh fruit, especially of preferred species such as cherries, blueberries, and cane berries, can harbor viable eggs and larvae. Because egg laying occurs near harvest and early symptoms are subtle, it is very easy for infested fruit to be transported undetected.

Signs of infestation

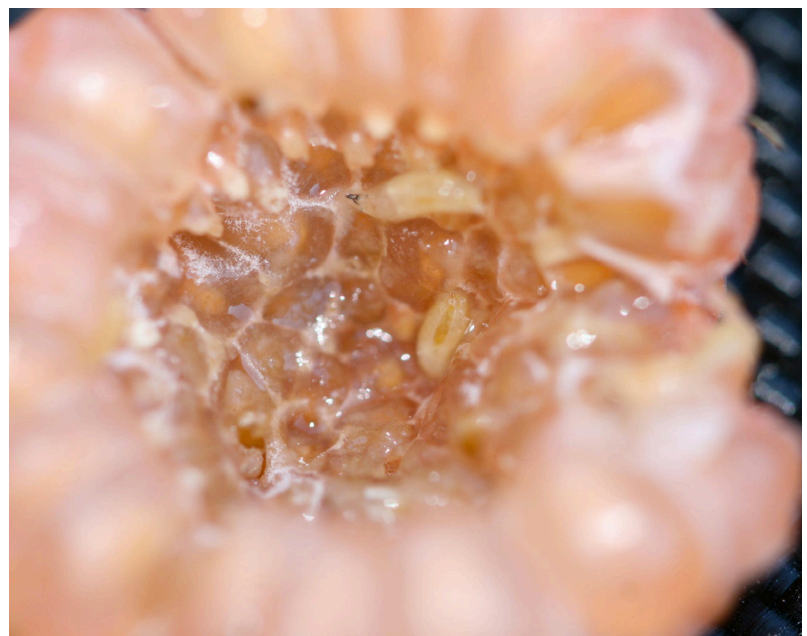
- Vinegar flies with a spot at the leading edge of the wing (male flies only).
- Small puncture (oviposition scar) wound(s) on fruit.
- Soft fruit, starting at puncture scar. Secondary pests may cause additional damage at this point.
- Small pale maggots in fruit.



Wing spots on an adult male spotted wing drosophila

Life cycle

Females oviposit in ripe fruit hanging on the plant. In cherries they typically lay a few eggs per fruit, although many more larvae per fruit is not uncommon. The oviposition scar is simply a small puncture in the skin of the fruit, although larval feeding damage can quickly cause the surrounding area to collapse forming a soft indentation. Populations in Japan have up to thirteen generations per year from April to November. The adults overwinter. A female SWD can lay 7 to 16 eggs per day, and up to 384 eggs over her lifetime.



For more information:

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