Fact sheet

Spotted winged drosophila

What is spotted winged drosophila?

The spotted winged drosophila (SWD, *Drosophila suzukii*) is a major horticultural pest affecting many crops particularly soft-skinned fruit including berries (e.g. blueberries), stonefruit and grapes. The larvae of SWD feed internally on host fruit and can cause losses of over 40 per cent in blueberries. In addition to larval feeding, crop losses are also attributed to damage during egg laying (oviposition) and secondary infection of the fruit.

What does it look like?

Adult SWD are small fruit flies 2–3 mm in length with a wingspan of 6–8 mm. They have prominent red eyes and are pale brown or yellow-brown in colour and have dark abdominal bands. The males are generally smaller than females and have a dark spot on the end of each wing. The females can be distinguished under a microscope from other Drosophila species by a double serrated ovipositor.

The pupae are found in fruit and the soil, are 1 mm wide, 2–3 mm long and red to brown in colour. They are oval shaped and have a pair of distinctive horn shaped protrusions (respiratory organs), which divide into 7 or 8 branches at one end and a small v-shaped structure at the other (also for respiration). Larvae of SWD are cream to white maggots, approximately 3 mm in length. Eggs of SWD are white, oval shaped, 0.6 mm in length and have two filaments at one end for respiration.

The female can lay eggs in both undamaged ripe and ripening fruit, which is significant as most fruit flies are a pest of either ripe or damaged fruit. Fruit damage consists of pin prick sized holes (stipples) from oviposition, softening, skin wrinkling and tissue collapse from feeding and secondary bacterial and fungal infections.

Matteo Maspero and Andrea Tantardini, Centro MIRT Fondazione Minoprio, Como, Italy, EPPO

SWD emerging from damaged blueberry

Martin Hauser, California Department of Food and Agriculture

Adult male (left) and adult female (right). Note male has a distinctive spot on the end of each wing

Matteo Maspero and Andrea Tantardini, Centro MIRT Fondazione Minoprio Como, Italy, EPPO

SWD on blueberry. Note the stipples caused by oviposition with filaments from the eggs protruding

Beverly Gerdeman, Washington State University

SWD pupae left (younger) to right (older)

Frank A Hale, University of Tennessee, Bugwood.org

SWD larvae feeding on blueberry

If you see anything unusual, call the Exotic Plant Pest Hotline

EXOTIC PLANT PEST HOTLINE
1800 084 881

What can it be confused with?

The larvae and pupae can be confused with other fruit fly larvae and pupae and require an entomologist for further identification. The adults are easily confused with the vinegar fly (*Drosophila melanogaster*). SWD can be distinguished from other Drosophila species by the dark spots on the wings on males. Fruit damage can also be confused with normal aging of mature fruit particularly skin wrinkling. This species can easily be distinguished from Queensland fruit fly (QFF, *Bactrocera tryoni*) by the absence of yellow markings and size (QFF adults are 7 mm long, SWD are 2–3 mm long).

What should I look for?

Look for signs of fruit fly damage to fruit including pin prick sized holes, fruit softening, skin wrinkling and secondary infections, on both immature fruit and ripe fruit. Also look for the presence of larvae and pupae within fruit and adult fruit flies on fruit and in traps.

How does it spread?

The adults are capable of flight allowing for localised spread. It is also possible that SWD could be accidently spread on vehicles, machinery or infested plant material (particularly fruit).

Where is it now?

SWD is native to south east Asia but has spread to other parts of Asia, North America and Europe, where it has become a serious pest.

How can I protect my farm from spotted winged drosophila?

Check your crop frequently for the presence of new pests and unusual symptoms. In particular, check your crop for SWD activity such as fruit damage of both immature and ripe fruit. Make sure you are familiar with common blueberry pests so when monitoring your crops for pests you will be alert to the possible presence of exotic pests.

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