# Spotted wing drosophila *Drosophila suzukiis*

BIOSECURITY FACT SHEET

**What is it?** The spotted wing drosophila (SWD) also called 'cherry vinegar fly', is a very small fruit fly and is a serious pest and an economic threat to summerfruit, particularly cherries. It infests a wide range of fruit crops, including prunus species, grapes and an increasing number of wild fruit. It is a very damaging pest because the females lay eggs in thin-skinned fruit just before harvest and the larvae destroy the pulp by feeding.

**Distribution.** SWD is endemic in Asia. Since 2008 it has spread rapidly throughout the temperate regions of North America and Europe, due to global trade and the initial lack of regulation over the spread of any Drosophila species. It is currently present in many regions in North America and in southern Brazil, Uruguay, Chile and Argentina. They are also found in many countries in Europe, Middle East and South East Asia.

**For current distribution go to https://gd.eppo.int/taxon/DROSSU/distribution**

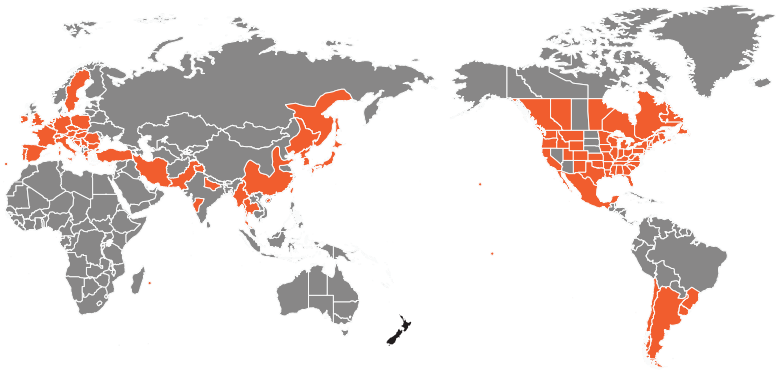

***Photo** – McEvey, Shane (2017), Australian Museum*


23mm

3mm

**Familiarise yourself with the common pests and diseases in your orchard so you can distinguish them from the attack of exotic organisms.**

**Morphology.** The eggs are oval (0.6mm long), milky-white, with two filaments at one end. The maggot-like larvae are white with visible internal organs and black mouthparts. They grow throughout three larval stages and when fully grown can reach 5.5mm long. The pupae are spindle-shaped, reddish-brown and bear two stalks with small finger-like projections. Most of them pupate inside the fruit but some of them drop and creep into the soil. SWD adults are 2-3mm long with red eyes, a pale brown or yellowish-brown thorax and black stripes on the abdomen. The antennae are short and stubby with branched arista. Adult males display a dark spot on the leading top edge of each wing and females are larger than males and have a large serrated ovipositor.

**Biology.** The life cycle from egg hatching to adult emergence ranges from about 10-25 days at 25°C and 15°C, respectively. Eggs are laid in ripening fruit and the number of eggs per fruit ranges from one to several scattered over the fruit. Each female can lay 195 eggs during her lifetime. SWD can theoretically have up to 13 generations per year, which contributes towards rapid spread where suitable hosts are available.

**Dispersal.** The key pathway for the introduction of SWD into new areas is by infested host fruit, since larvae are often undetected inside the fruit. Due to the high reproductive capacity and dispersal abilities of this pest, early warning systems should be considered vital in areas currently free of SWD. By the time this pest was detected in both Europe and USA it had already established itself to such an extent that eradication was deemed impossible in both continents.

**Symptoms.** Cherries are particularly susceptible. SWD larvae cause damage by feeding on the pulp inside fruit and berries. The infested fruit begins to collapse around the feeding site causing a depression or visible blemish. The oviposition scar exposes the fruit to a secondary attack by pathogens and other insects, which may cause rotting.

***Photo** – Hannah Burrack, North Carolina State University, Bugwood.org*

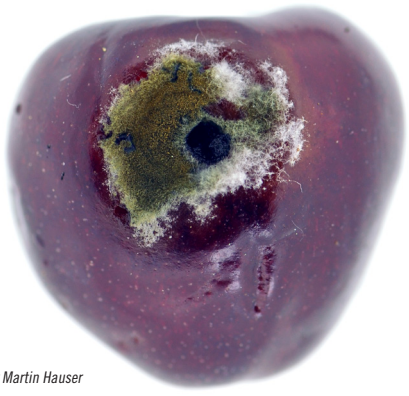

***Photo** – Dr Martin Hauser*

## Preventative measures:

- Become familiar with spotted wing drosophila in all its different life stages.
- Look for oviposition scars and rots on ripe cherries.
- Traps baited with different baits can be installed around a site where fruit for shipment is stored.
- For early detection in potentially newly-invaded areas baited traps can also be placed near fruit markets, warehouses of food retailers and sites where rotten fruit is disposed.
- If you believe you have found spotted wing drosophila in your orchard, call MPI's pest and disease hotline on 0800 80 99 66 or contact Summerfruit NZ.

Source: CABI



**To report any suspected exotic organism, call MPI on:**

**0800 80 99 66**

December 2022

**If you have any queries please contact biosecurity@summerfruitnz.co.nz**