

Exploring Integrated Pest Management options for Spotted Winged Drosophila

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As part of a Hort Innovation funded project using funds from the Raspberry & Blackberry and Strawberry levy funds and contributions from the Australian government (MT18010 – Development of IPM compatible methods for controlling *Drosophila suzukii* in berry crops), Paul Horne and Jessica Page from IPM Technologies have travelled to Europe to look at the methods used to control SWD there.

Australia is currently free of the exotic spotted wing drosophila (SWD; *Drosophila suzukii*), a pest of soft-skinned fruit that has been identified as a threat to Australian fruit production, and which is ranked in the Top 40 High Priority Plant Pests by the Department of Agriculture, Water and the Environment.

It is a particularly invasive pest originating in south-east Asia that has spread rapidly through fruit producing regions around the world where it has caused significant damage. If this pest enters and establishes in Australia it could impact a range of fruit produced commercially here, and it is recognised as a key biosecurity threat by a number of Australian horticultural industries.

There are three control options for any pest, including SWD, and these are: **Biological, Cultural and Chemical** controls. Effective Biological control agents for SWD are unlikely to be available in the near future. Chemical control options are limited, with products being either not compatible with biocontrol of other key pests or not currently available in Australia (Spinosad) or facing problems with insecticide resistance. So, the main control options for us are cultural (management).

We commenced the project (MT18010) to try and develop IPM compatible control options for SWD that maximise the use of cultural control options so that if SWD arrives in Australia it can be tackled within an IPM framework.

To achieve this, IPM Technologies' entomologists Dr Paul Horne and Jessica Page found collaborators in the UK and in Denmark. These collaborators arranged farm visits for us in the UK and Denmark in June 2019 to observe current control measures and SWD biology. We then proposed an additional cultural control option that we asked them to trial on-farm.

Current cultural options are being implemented in the UK with good effect and these are listed here:

- Ensuring that an IPM approach is in place dealing with all other pests (at present mirids pose the most disruptive controls).
- Ensuring good hygiene practices, e.g. ALL non-marketable berries need to be picked every 2-3 days and securely destroyed.
- Trimming plants to remove suitable habitat for SWD.
- Decreasing planting density (blackberries and raspberries) and reducing humidity in the crop.
- Using herbicide or otherwise keeping area under plants bare.
- Using screens/curtains around the edges of the crop from where SWD may invade.
- Using commercially available bait traps outside the crop area, on the perimeter where SWD is likely to be breeding.

The project will produce a final set of recommended cultural control practices and estimated costs for implementation in the Australian context.



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