An Integrated Pest, Disease and Weed Management program for the Apple and Pear Industry

Emily Crawford
Project Officer - Horticulture Industry Development
Community of Practice around Australia
New updated IPDM Manual – coming 2020

Published - 1 October 2018 | By Emily Crawford (Agriculture Victoria)

UNDER REVISION
Australian Apple and Pear IPDM

Pests

Diseases

Weeds

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Pests of Pome and Stone Fruit and their Predators and Parasioids
A Pocket Guide

Published: 14 May 2019
By Alison Mathews (DPIRD WA)

Autumn Snail Control
Several snail pest species are found in Australia, however damage is usually caused by the common garden snail.
OzApplePear IPDM

OzApplePear Integrated Pest and Disease Management

Facebook.com/ozapplepear.ipdm
Mite Management

Published - 12 June 2019

European Red Mite (ERM), Two Spotted Mites (TSM) and Bryobia mites all commonly affect apple and pear orchards.

David Williams (Principal Researcher, Agriculture Victoria) discusses how to identify, monitor and control mites in the following three videos:

Mite Monitoring

[Embedded YouTube Video]

Two Spotted Mite (TSM)

(photos: DPIRD Vic)
Brush up on good bugs

Published - 30 July 2019 | By Emily Crawford (Agriculture Victoria)

Beneficial insects and mites may already be in your orchard working to reduce populations of pests. But did you know many are also commercially available in Australia?

If you can identify the beneficiais in your orchard you may then be able to make more informed decisions and avoid accidentally wiping out a beneficial insect population that was helping control your pests.

The Australasian Biological Control Association Inc (ABC) aims to further the knowledge of beneficial insects and mites and the role they play in pest management systems. Visit their website www.goodbugs.org.au to view detailed information on ‘good bugs’ and their suppliers. ABC also publishes a book ‘The Good Bug Book’ which is available from suppliers, with some entries from the book are also published on the website.
Autumn Snail Control

Published - 14 May 2019 | By Alison Mathews (DPIRD WA)

Several snail pest species are found in Australia, however damage is usually caused by the common garden snail (pictured), Helix aspersa. (Photo: DPIRD WA)

Snail control is best done on multiple fronts. Snails need humid places to shelter, such as among weeds and other vegetation and in tree guards.

Orchard floor management

Reducing where snails can shelter will reduce their numbers. Remove overgrown vegetation and weeds along fence lines. Keep the orchard floor tidy and weed free. The same orchard floor management used for apple scab control and light brown apple moth, that you may be doing soon, also reduces habitat for snails by breaking down leaves faster and reducing alternative food sources for LBAM.

Chemical control

Snails become more active at this time of year, after autumn rain. If chemical control is needed then this is the recommended time to do it, killing adults before they lay eggs. In spring, snail numbers are higher so although
Case Study Orchards

TASMANIA

Orchardist: John Evans, TAS

Background: John is the 6th generation of orchardists. He is a sole operator of the 40 ha orchard, with 25 ha under production and the rest being new plantings. By 2023 the majority of the orchard will have been planted at 0.7m X 3.0m

Queensland

Orchardist: Daniel Nicoletti, Stanthorpe QLD

Background: Daniel is a third generation orchardist. The business is a collaboration between Daniel, his partner Toni, and Daniel's parents. The orchard is 40 ha, with about 95% being apples (Gala, Granny Smith, and Pink Lady) and the remaining 5% stone fruit. Most of the fruit is sold into the domestic fresh fruit market.

NSW

Orchardist: Jeremy Smart, Batlow NSW

Background: The orchard is approximately 30 hectares in size and is solely comprised of apples. The orchard is one of Batlow’s highest in elevation and generally receives cool late-Summer and Early Autumn night temperatures helping to ensure good colour development. The Smarts store, pack and distribute through Batlow Apples, predominantly to Sydney and other major Eastern seaboard markets and retailers.

Advisor perspective:

The Nicoletti’s use the services of Elders agronomist and pest scout, Andrew Hennessy, for monitoring and advice. Andrew’s perspective on IPCM in the region can be found here:

Advisor perspective: Stanthorpe QLD – March 2019
Incidence of WAA and CM infestation.

Mites – An IPM service provider was engaged in mid-February to assess our mite and predatory mite populations and determine if any intervention was needed before harvest started.

What has worked well? What hasn’t?

WAA – Hot spots of Woolly have generally stayed in check and in localised groups of trees. We have been happy to tolerate some infestation in patches and this has enabled us to build numbers of the parasitic wasp Aphelinus maili which we believe is the reason why the aphid population has not exploded or spread widely in the blocks. When we visit the hotspots, it’s easy to see adult A. maili moving around the WAA colonies within the tree canopies. The adult wasps seem to be avoiding the direct sun and can be found in significant numbers on the underside of leaves.

There is some shoot and bud damage on a small number of trees in the hotspots. In an ideal world, we would prefer not to see this damage and will be considering strategies for next season that may help us limit this damage in hotspots.
plenty of parasitism by A.mall in these older blocks. It looks like this will be kept under control for the remainder of the season. In some of our younger blocks we found hotspots of WAA in Spring, but made a decision not to spray in these blocks. It has been proven to be the right decision, as the hotspots did not spread and there is now widespread parasitism in these blocks.

You can actually look closely at the colonies and see the minute adult wasps moving around the canopy.

CM – We learnt part way through the season that our 10x lures in our mating disruption blocks needed to be set higher in the canopy. We weren’t catching anything. We adjusted their position, but this didn’t make much difference to the catches. At the same time we were finding low levels of moth stings on the edges of one block. So we supplemented the pheromones with some spraying. This approach seems to have kept the moth in-check.

We think our 1x traps in sprayed blocks may have been compromised by their closeness to neighbouring MD blocks thereby not trapping moth although they were present.

Our initial experience with the line of traps idea was inconclusive for us.

What would you do differently next time?

WAA – Will consider holding off spraying even in our older blocks next season. We’re also considering if it’s worth taking some parasitised WAA cuttings in the lead-up to harvest and storing these for release next Spring.
Ask an Expert

- Peer reviewed responses
- Upload photos
- For growers and advisors

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Mite damage

Q & A › Category: Questions › Mite damage

emilycrawford  Staff asked 4 months ago

I am seeing what looks like mite damage but cannot see any mites on the leaves. Any clues?

Comment

1 Answers

emilycrawford  Staff answered 4 months ago

Our expert, David Williams, responded with the following answer:

If you are seeing mottling on leaves but no webbing or cast skins (they will be white and shrivelled) then check the wood on nearby shoots and twigs. Bryobia mites often move off the leaves in the brighter parts of the day (mid-morning to mid-afternoon) so you may find them on the wood.

If the leaves have a rusty appearance as well as mottling and webbing is present, the culprit is probably Two-spotted mite. The motles (adults and nymphs) may have vacated the leaves because they no longer provide quality food. They may be establishing on other leaves that are not yet showing symptoms. If that is the case then check for presence of predators before deciding to spray.

Comment
Useful Tool – IPDM Monitoring Calendar

Published: 26 October 2013 | by David Williams (Agriculture Victoria)

**IPDM Monitoring Calendar**

This calendar has been designed to help you monitor orchards more effectively. The shaded areas show when to monitor, the comments section provides more information.

<table>
<thead>
<tr>
<th>Pest Location</th>
<th>Pest Name</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
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E-book – Download and save to smart phones
Australian Apple and Pear IPDM Webpage
Independent, expert advice on integrated pest and disease management.