



Future
Orchards

PIPS 2 Update

June 2020

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Introduction

- PIPs 2 R&D is rapidly coming to a close, but PIPs 3 program will be announced soon

PIPS 2

- ASE study (Dr Sally Bound) and Pear laboratory (Dr Ian Goodwin) are now finished with results previously disseminated
- Codlin Moth biological control with Matrus (Dr David Williams) is ongoing
- Water and nutrient R&D with Dr Nigel Swarts is to be presented today by Nigel himself
- Biennial Bearing study will be presented by Dr Dario Stefannelli in Sept 2020 OW

Mastrus release and establishment

Location	State	Year	Mastrus		Qld	NSW	Vic	Tas	SA
Merrigum	Vic	2014	50,000	Release sites	2	7	4	2	2
St Germain's	Vic	2016	10,000	Impact 1 st season	✓	✓	✓	✓	✓
Stanthorpe x2	Qld	2016	38,000	Establishment	?	?	?	?	?
Orange x2	NSW	2017	50,000	<p>No hyperparasites detected from 200 bands</p> <p>Lab cultured CM larvae not emitting detectable pheromone</p> <p>Lab cultured Mastrus ambiguous response to CM aggregation pheromone</p>					
Batlow x2	NSW	2017	50,000						
Batlow x1	NSW	2019	5,000						
Young	NSW	2017	9,000						
Grove x2	Tas	2017	32,000						
Ashton	SA	2018	16,000						
Loebethal	SA	2018	16,000						
Murrayville	Vic	2018	1,500						
Ardmona	Vic	2018	6,000						
Total number of Mastrus released:			283,500						

Impact of common pesticides

- Pesticide impact on survival of *M.ridens*
 - 4 fungicides; 1 miticide; 4 insecticides tested
 - **Fungicides and miticide had low-moderate effect on fertility of treated adults but not next generation**
 - **2 insecticides highly toxic**
 - **1 insecticide had low-moderate effect on fertility**
 - **1 insecticide low- moderate direct toxicity**

Pesticides		Direct toxicity	Fertility of survivors	Fertility of offspring from survivors
Fungicides	Chorus	Green	Yellow	Green
	Ziram	Green	Yellow	Green
	Dithane	Green	Yellow	Green
	Rubigan	Green	Yellow	Green
Miticides	Sorcerer	Green	Yellow	Green
	Cormoran	Yellow	Green	Green
Insecticides	Altacor	Green	Yellow	Yellow
	Avatar	Red	No survivors	No survivors
	Samurai	Red	No survivors	No survivors
Risk category		Low	Low-Moderate	Very High

Australian IPDM website resource

<https://extensionaus.com.au/ozapplepearipdm>

Hort Innovation Strategic levy investment | **APPLE AND PEAR FUND**

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Australian Apple and Pear IPDM

Pests | **Diseases** | **Weeds**

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Pests of Pome and Stone Fruit and their Predators and Parasitoids
A Pocket Guide
M.B. Mollipotti, D.G. Williams and L. Semerario

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)

Case Study Update: Nannup
PUBLISHED - 7 MAY 2019
BY ALISON MATHEWS (DPIRD WA) AND DAVID WILLIAMS (AGRICULTURE VICTORIA)

Where to next?



Next steps for IPDM

- Pheromone trap for monitoring Mastrus establishment
- Improve genetic diversity of Mastrus culture
- Continue pesticide testing to provide data on current pesticides
- Incorporate suitable nectar-producing plants into orchard ecosystem to improve survival of biocontrol agents