

# Have you seen the vegetable leafminer?



**Vegetable leafminer flies (*Liriomyza sativae*, VLM) are an exotic pest found in the Torres Strait and NPA, and are a threat to Australia's vegetable and nursery industries.** They are very small black and yellow flies that create tunnels inside leaves (called leaf mines). This damage can reduce plant growth, reduce marketability of crops, and cause severe economic losses.

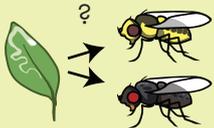
We are a group of partners working to prepare Australia for the arrival of the vegetable leafminer into vegetable, fruit and nursery production areas, and to help affected areas manage this pest.



Our project commenced in May 2017 and so far we have...

## 1 Developed a surveillance plan

We are building a survey plan for industry and government that ensures small populations can be detected.



We have developed a DNA test that distinguishes leafmines caused by VLM from those of native flies.

This will help us quickly detect incursions and show evidence of absence to maintain markets.

## 2 Mapped VLM in Australia

We have created an interactive map showing where VLM is currently present and where it is absent in Australia. You can access this map by visiting the link below and looking for the [vegetable leafminer project webpage](#):

<http://cesaraustralia.com/our-projects>

This will help growers stay aware of VLM's movements.



## 3 Identified biological control options

Parasitoid wasps are important means of VLM control overseas. We identified wasps that are killing 40 to 80% of VLM larvae in the Torres Strait.

We are mapping the ranges of these wasps, which are present all across the country. You can see their distributions on our [VLM project webpage](#).

This will help growers harness their local beneficials to control VLM.



## 4 Identified best chemicals for VLM control

We have considered toxicity to VLM, potential for resistance evolution, and toxicity to beneficial wasps to select priority chemicals for registration.

Some of the top chemicals include:

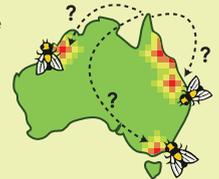
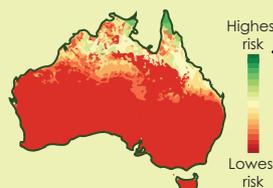
Chemical	Efficacy		Toxicity to beneficials	Resistance potential
	Larvae	Adults		
Cyromazine	Medium	Low	None	Low
Abamectin	High	High	Low	Medium
Emamectin benzoate	High	Medium	Low	
Spinosad	High		Medium	Medium
Spinetoram			Medium	Medium



This will help growers avoid outbreaks of resistant VLM when beneficials are inadvertently destroyed.

## 5 Predicted regions at highest risk of VLM

We have predicted where the most suitable climates for VLM exist. You can see a risk map on our [VLM project webpage](#).



We are also predicting how and where they might travel, via wind and humans

Together, this lets us estimate VLM risk across Australia

## 6 Raised awareness for VLM

We are engaging with government, community, and industry to ensure Australia is ready for VLM should it arrive.



**Hort Innovation**

The strategic levy investment project RD&E program for control, eradication and preparedness for vegetable leafminer (MT1 6004) is a part of the Hort Innovation Vegetable and Nursery Funds.

This project has been funded by Hort Innovation, using the vegetable and nursery research and development levies and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

**Plant Health AUSTRALIA** **AUSVEG**

**Australian Government**  
Department of Agriculture and Water Resources



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