

## Exotic leaf miners

### What are leafminers?

There are over 300 species of leafminers worldwide. However, only four are considered serious horticultural pests:

- American serpentine leafminer (*Liriomyza trifolii*)
- Vegetable leafminer (*L. sativae*)
- Tomato leafminer (*L. bryoniae*)
- Pea leafminer (*L. huidobrensis*)

Leafminers quickly establish in most crops and are particularly a problem in protected cropping systems. Plants can be affected during all growth stages.

All *Liriomyza* species are leaf-mining flies. Leaf damage occurs through puncture wounds from adult feeding and egg deposition, and the larvae tunnel, or mine, within the leaf tissue. The damage can reduce the photosynthetic capacity of the plants.

The host range for each species is large:

- *L. bryoniae* - many vegetables, mainly tomatoes
- *L. huidobrensis* - 15 plant families, key pest of potato
- *L. sativae* - 40 hosts in 10 plant families, including Cucurbitaceae, Fabaceae and Solanaceae
- *L. trifolii* - 28 plant families, key pest of Asteraceae

### What do they look like?

Adult flies are small, yellow and black, with variations in colour allowing the species to be distinguished. Although female adults are larger and more robust than males, their small size still limits field identification.

The larval stages are not usually seen as they remain inside the leaf tissue. However, the mines are easily spotted and are evidence of larvae presence.



Pea leafminer (*L. huidobrensis*) mining damage

Merle Shepard, Gerald R. Camer and P. A. C. Ooi, Bugwood.org



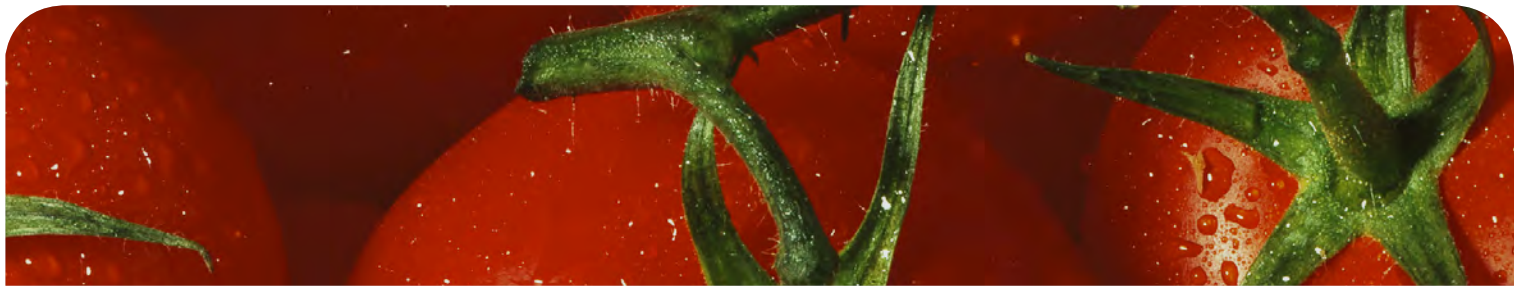
Black and yellow markings of the American serpentine leafminer (*L. trifolii*) adult fly

Central Science Laboratory, Herpenden Archive, British Crown, Bugwood.org



Tomato leafminer (*L. bryoniae*) mining damage

Plant Protection Service Archive, Bugwood.org



## What can they be confused with?

There are a number of other leafminer species already present in Australia, but these do not impact on horticultural production.

## What should I look for?

Stippled foliage (as upper leaf cells are destroyed), white or greenish-white mines (lines) and blotches on leaves indicate the presence of leafminers.

Fungal infection may also occur, as the feeding damage increases susceptibility to secondary infections.

## How does it spread?

The insects spread by flying within the crop. Long distance transport is likely to occur through the movement of infested plants, plant tops, soil or packaging.

## Where is it now?

Each of these exotic leafminers have different distributions, however they are all widespread throughout vegetable producing countries worldwide, with the exception of Australia.

## How can I protect my farm from exotic leafminers?

Check your farm frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common pests of the vegetable industry so you can tell if you see something different.

**If you see anything unusual, call the Exotic Plant Pest Hotline**

**EXOTIC PLANT PEST HOTLINE  
1800 084 881**

Disclaimer: The material in this publication is for general information only and no person should act, or fail to act on the basis of this material without first obtaining professional advice. Plant Health Australia and all persons acting for Plant Health Australia expressly disclaim liability with respect to anything done in reliance on this publication.



Vegetable leafminer (*L. sativae*) larvae visible at the end of a mine in onion leaf

Whitney Cranshaw, Colorado State University, Bugwood.org



Leaf mining damage in pea pods caused by vegetable leafminer (*L. sativae*) larvae

Whitney Cranshaw, Colorado State University, Bugwood.org



Mining damage to a chrysanthemum leaf caused by the American serpentine leafminer (*L. trifolii*)

Central Science Laboratory, Harpenden Archive, British Crown, Bugwood.org

For more information visit [www.planthealthaustralia.com.au](http://www.planthealthaustralia.com.au)