

EXOTIC PEST FACT SHEET 12

Vegetable Leaf Miners (*Liriomyza* spp.)

What are they?

Vegetable leaf miners (including *Liriomyza trifolii*, *L. strigata*, *L. sativae*, *L. huidobrensis* and *L. pusilla*) are small flies whose larvae feed internally on plant tissue, particularly the leaf. Feeding of the larvae disrupts photosynthesis and reduces the quality and yield of plants.

What are the main hosts?

Leaf miners are very polyphagous and have a wide host range, including many economically important vegetables, cut flowers, and grain crops.

What do they look like?

The black flies are just visible (1-2.5 mm long) and often have yellow spots on the head and thorax (Fig 1). Leaf mines caused by larval feeding are usually white coloured with dampened black and dried brown areas (Fig 2). These mines are typically serpentine or irregularly shaped, and increase in size as the larvae mature. Damage to the plant is caused in several ways:

- Leaf stippling resulting from females feeding or laying eggs.
- Internal mining of the leaf by the larvae.
- Secondary infection by pathogens that enter the leaf mines or punctures.
- Mechanical transmission of viruses.

Why are they an issue?

Many species of leaf miners are unwanted pests for New Zealand. Of particular concern is *Liriomyza huidobrensis* (Serpentine leaf miner) which is listed as a priority pest by Biosecurity New Zealand, and has now been detected in Australia.

What should I look for?

A leaf miner infestation is most likely detected by the presence of mines in leaf tissue. Adult flies and larvae are unlikely to be seen because of their small size.

How do they spread?

Adult flies can spread throughout a crop by flying, but most long distance spread occurs when plant material containing larvae is transported. The flies can be blown by the wind between surrounding vegetation or crops.



Fig 1. *Liriomyza huidobrensis* (top), *L. trifolii* (middle), and *L. sativae* (bottom) leafmining flies.

Image: Central Science Laboratory, York (GB) - British Crown (top, middle) and D. M. Firake and G. T. Behere (bottom). <https://gd.eppo.int>

Where are they present?

Leaf miners of concern to New Zealand are generally widespread through Africa, America, Europe, Middle East, Asia and parts of Oceania.

L. huidobrensis (Serpentine leaf miner), *L. trifolii* (American serpentine leafminer), *L. sativae* (Vegetable leaf miner) are now present in Australia.

How can I protect my industry?

Check your production sites frequently for the presence of new diseases and unusual symptoms. Make sure you are familiar with common pests and diseases of your industry so you can recognise something different.



Fig 2. Mines in squash leaf caused by *Liriomyza* leaf miners. Image: University of Florida.