

Vegetable Leafminers

Liriomyza spp.

Crops affected: Capsicum, Chilli, Cucumber, Eggplant, Tomato

What are they?

Vegetable leaf miners (including *L. sativae*, *L. huidobrensis*, *L. pusilla*, *L. strigata*, *L. trifolii*) are small black flies whose larvae feed internally on plant tissue, particularly the leaf. They are very polyphagous and have a wide host range that includes cut flowers, grain crops and many important vegetables including **capsicum**, **chilli**, **cucumber**, **eggplant** and **tomato**.

What do they look like?

The flies are just visible (1-2.5 mm in length) and often have yellow areas on the head and thorax (Fig 1 & 2). Adult flies and larvae are unlikely to be seen due to their size.

What should I look for?

A leaf miner infestation can be detected by the presence of mines in leaf tissue which are caused by larval feeding. Leaf mines are usually white with dried brown areas, often serpentine or irregularly shaped, and increase in size as the larvae mature (Fig 3 & 4). Fruit damage can also occur (Fig 5).

Plant damage can result from leaf stippling caused by female feeding or egg-laying, internal leaf mining and associated frass (Fig 4), secondary infection by pathogens entering through or punctures, and mechanically transmitted viruses.

How do they spread?

Adult flies can spread by flight throughout a crop, but most long-distance spread occurs via the movement of infested plant material.

Why are they important?

Larval feeding of the leaves disrupts photosynthesis affecting plant health and causing a reduction in crop quality and yield. Many species of leaf miners are unwanted pests for New Zealand. Vegetable leafminer (*L. sativae*) is considered an important greenhouse pest.

Where are they present?

The leaf miners of concern to New Zealand are generally widespread through Africa, America, Europe, Asia and parts of Oceania. Vegetable leafminer (*L. sativae*), Serpentine leafminer (*L. huidobrensis*) and American serpentine leafminer (*L. trifolii*) are present in Australia.

How can I protect my industry?

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



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Fig 1. *Liriomyza sativae*. Photo credit: D. M. Firake and G. T. Behere <https://gd.eppo.int>



Fig 2. *Liriomyza trifolii*. Photo credit: Central Science Laboratory, York (GB) - British Crown. <https://gd.eppo.int>



Fig 3. Leaf mines on tomato Photo credit: CABI Compendium



Fig 4. Leaf mine on eggplant leaf showing deposited frass. Photo credit: <https://ephytia.inrae.fr/>



Fig 5. Leafminer damage on tomato. Photo credit: Pete Nelson, North Carolina State University, Bugwood.org