

Tomato leafminer

Phthorimaea absoluta syn. *Tuta absoluta*

Crops affected: Capsicum, Eggplant, Tomato

What is it?

Phthorimaea absoluta, also known as *Tuta absoluta* is a highly destructive leaf mining moth. It is mainly associated with tomato plants but despite its name, it also infests other Solanaceae, including eggplant, capsicum, and potato.

What does it look like?

Adults are approx. 10 mm long which hide between leaves during the day time (Fig. 1). Females can lay up to 260 eggs, which are cylindrical, around 0.35 mm long, and white to yellow in colour. Larvae are cream coloured with characteristic dark heads (Fig. 2) and become greenish to light pink in the second to fourth instars. Bead-like antennae are an identifying feature of adults.

What should I look for?

Larvae attack the fruit leaving exit holes which are surrounded by dried frass (Fig. 3), and they attack eggplant fruit under the crown (Fig. 4). Other symptoms include leafmining damage to stems and leaves, abnormally shaped fruit, and rots due to secondary infection.

How does it spread?

Spread is primarily by the movement of infested fruit, plants and used containers.. Soil is also a suspected pathway. Wind currents can be favourable for long distance spread of adults.

Why is it important?

Most feeding damage occurs to the plant's leaves and stems. Larvae feeding on new growth reduces overall plant growth and crop yield. Crop losses of up to 100% have been reported in tomato crops, and with controls in place, losses can still exceed 5%. Fruit are usually only attacked in heavy infestations, but even small amounts of damage reduces fruit marketability. Secondary rot occurs in wounds, rendering the fruit unfit for consumption.

Where is it present?

Tomato leafminer was first observed in Peru and is now widespread across South America, Europe, Africa and Asia. It is a tropical to subtropical nocturnal moth, and has infested greenhouses in Northern Europe. Tomato leafminer was first reported in Europe in 2006 and within six years it had become widespread.

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. Adult tomato leafminer. Photo credit: D. Visser, ARC-VOP Roodeplaat



Fig 2. Tomato leafminer larvae. Photo credit: Marja van der Straten, NVWA, Bugwood.org



Fig 3. Signs of damage on tomato. Photo credit: Metin Gulesci, Bugwood.org



Fig 4. Signs of damage on eggplant. Photo credit: Soliman S., Imam A., Egypt 2013