



# *Tuta absoluta*

## Technical guide

### What is *Tuta absoluta*?

The **leafminer**, *Tuta absoluta* (Lepidoptera; moth), is a major pest in tomato. It thrives also in eggplant, cucumber and french bean.

Tomato production loss can reach up to 50-100% if it is not well managed.



ENGLISH



# Damage and Symptoms

## LEAVES:

Irregular leaf mines by larvae with larger patches to whole leaf damage, reduced photosynthetic capacity

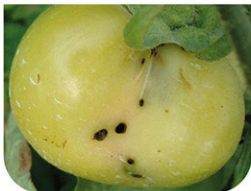


### REMINDER:

What is the difference? Left photo shows symptom of another tomato leafminer, *Liriomyza* sp. (Diptera; fly) with narrower mines than *Tuta absoluta*.

## FRUITS:

Puncture marks, chewed out areas, entry for secondary pathogen, fruit malformation





## Integrated Pest Management (IPM)

for effective and sustainable control of *Tuta absoluta*

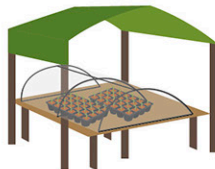
### PREVENTION: How to avoid?



Check crop field  
and pest history



Crop rotation



Net nursery  
for seedlings



Avoid high  
Nitrogen use

### MONITORING: How to check presence?



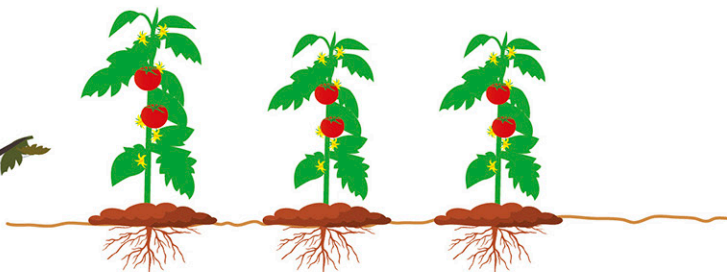
Daily monitoring  
of the field



Use of sticky traps, or sex pheromone lures  
(before transplanting)

### INTERVENTION: What to do when *Tuta absoluta* is present?

- » Removal and destruction of infested leaves and fruits
- » Weeding
- » Mass trapping with sex pheromone lures, sweet traps and/or light traps
- » Biopesticides like neem extract and *Bacillus thuringiensis*
- » Spray insecticides alternately. Always read the label.



# Insecticides against *Tuta absoluta*

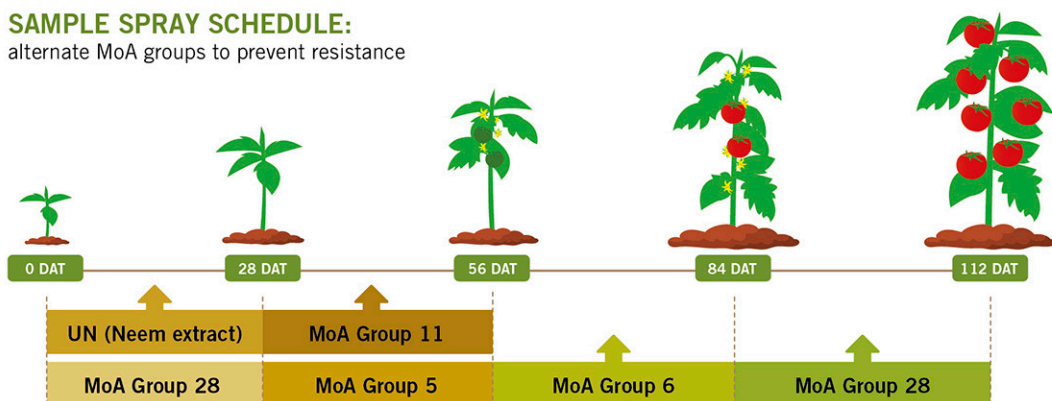
Insecticide Mode of Action (MoA) Groups for the Control of *Tuta absoluta* (from IRAC)

Group	Chemical Class	Common Active Ingredients (e.g.)
5	Spinosyns	Spinetoram, Spinosad
6	Avermectins, Milbemycins	Abamectin, Emamectin benzoate
11		<i>Bacillus thuringiensis aizawai</i> , <i>Bacillus thuringiensis kurstaki</i>
13	Pyrroles	Chlorfenapyr
18	Diacylhydrazine	Chromafenozide, Methoxyfenozide, Tebufenozide
22A	Oxadiazine	Indoxacarb
22B	Semi-carbazone	Metaflumizone
28	Diamides	Chlorantraniliprole, Flubendiamide
UN	Tetranortriterpenoid	Azadirachtin

\*Always check registration of insecticides for *Tuta absoluta* and tomato in your country.

## SAMPLE SPRAY SCHEDULE:

alternate MoA groups to prevent resistance



## Safe handling of insecticide

- Wear protective gear**
- Good weather**
- Good nozzle**
- Wash after spraying**

### References:

AVRDC, 2016. [https://avrdc.org/download/publications/from\\_the\\_field/technol/Tuta-revised-flyer.pdf](https://avrdc.org/download/publications/from_the_field/technol/Tuta-revised-flyer.pdf)  
*Tuta absoluta* information network. <http://www.tutaabsoluta.com/ipmcrsp>

Photo sources: EWS

<http://guides.eastwestseed.com>

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