

## **Alert for New Invasive Pest- South American Tomato Leaf Miner, *Tuta absoluta* (Meyrick) in Varanasi Region**

A serious invasive insect pest known as South American tomato pinworm or tomato leaf miner *Tuta absoluta* (Meyrick, 1917) (Lepidoptera: Gelechiidae) has recently been observed for the first time infesting tomato crop in research farm of ICAR-Indian Institute of Vegetable Research and farmers field of Varanasi and Mirzapur district during January 2017. Earlier no incidence of this pest have been observed during regular field surveillance as a part of Real Time Pest Dynamics (RTPD) in Tomato under the National Initiative on Climate Resilient Agriculture (NICRA) project at ICAR-Indian Institute of Vegetable Research and adjoining farmers' fields of Varanasi region during years 2015 and 2016.

In India, this pest was first recorded from states like Karnataka and Maharashtra in October 2014. Later, it spread to neighbouring states like Andhra Pradesh, Telangana and Tamil Nadu. Recently its incidence is also reported from Delhi and mid-hills of Himachal Pradesh. Now this new invasive pest has crossed all the borders and spread to Varanasi and Mirzapur areas of Uttar Pradesh. So, it is important to keep a vigil on incidence, extent of damage by this new pest in tomato and its spread to other vegetable crops in the region.

*T. absoluta* is considered to be a most serious threat for tomato production worldwide and has potential to causes 50 to 100 per cent loss in yield and fruit quality. The major host crop for this new pest is solanaceous vegetables like tomato, potato, brinjal and legume crop like common beans.

**Nature of Damage and Symptoms:** Feeding damage is caused by all the larval instars and throughout the whole plant. On leaves, the larvae feeds on the mesophyll tissue, forming irregular leaf mines/blotches which may later become necrotic. Larvae also damage fruits by making pinhole symptoms and forming galleries which cause invasion by secondary pathogens, leading to fruit rot.

### **Suggested management strategies to contain further spread of this new pest in the region**

- Cover the nursery with insect proof net to get healthy seedlings.
- Use pest-free transplants/seedlings.
- Regular inspection/scouting of the crop to detect the first signs of damage symptoms.
- Installation of *T. absoluta* sex pheromone traps @ 40 traps/ha for monitoring and mass trapping.
- Crop rotation with non solanaceous crops.
- Destruction of affected plants and damaged fruits to prevent further spread.
- Insecticides recommended for control of lepidopteran pest in tomato crop like chlorantranilprole 20SC (Rynaxpyr) @ 0.35 ml/l or cyantraniliprole 10 OD (Cyzapyr) @ 1.8 ml/l or indoxacarb 14 SC @ 1 ml/l or novaluron 10EC @ 1.5 ml/l or lambda cyhalothrin 2.5SC @ 0.6 ml/l or dimethoate 30 EC @ 2 ml/l or quinolphos 25 EC @ 2 ml/l may be sprayed at 10 days interval for control of this pest.

If any infestation of this invasive pest is observed in any farmers fields, it may immediately be reported to the “Director, ICAR-Indian Institute of Vegetable Research, Varanasi” The information give in this alert on this new pest will be highly useful for scientists, SMS in KVKs, extension workers, state dept. officers and other stake holder to contain spread of this new invasive pest in agroclimatic condition of the region.



**Leaf damage and Live mine/blotches on leaf**



**Larvae of *Tuta absoluta***

**Adult Moths**



**Fruit damage and Pinhole symptoms**