New record of leaf miner, *Tuta absoluta* (Meyrich) in Tomato

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Tomato leaf miner or South American tomato leaf miner or tomato pin worm, *Tuta absoluta* (Meyrich) (Lepidoptera Gelichiidae) is a serious pest on tomato (*Lycopersicum esculentum*) cultivation in several countries in Latin America and Mediterranean basin (EPPO 2005). The pest has been spreading fast and devastating tomato crop both in protected and open fields. It is a neotropical oligophagous pest mainly on solanaceous crops. Its primary host is tomato although potato, brinjal, common bean and various wild solanaceous plants are also suitable hosts. The main reason for the spread of this pest is through infested fruits and packing material. The aggressive nature of the pest, multivoltine character, short generation time, high biotic potential and increased resistance to insecticide use are the reasons for its key pest status in the new localities (IRAC,2014; Desneux *et al* 2010). Due to this the pest may pose a serious threat for tomato production systems worldwide.

Tuta absoluta has been observed for the first time on tomato at Vegetable Research Station, Rajendranagar, Telangana State during regular surveys from January to April 2015 as a part of Real Time Pest Dynamics of Tomato (RTPD) of National Initiative on Climate Resilient Agriculture (NICRA) project. Weekly observations were carried out in the experimental plots to study the pest. Its biology was studied in the laboratory by rearing it from egg stage to adult emergence. The adults were sent to the Department of Entomology, IARI, New Delhi for identification. The adults were also monitored in trap catches using pheromone traps kept at the rate of four /acre

Eggs were usually found to be laid singly on the underside of the leaf, buds, calyxes of the green fruits. Larvae in the initial instars were cream colored (Fig 4.) and in the later stages became green in colour with a dark black head. They were generally found feeding on leaves,

creating wide mines giving it a papery appearance (Fig 1.). They were also found boring into the apical buds and tunneling through the stems (Fig 2.). Ripe and unripe fruits were also infested. Infested fruits had a small hole closer to the stalk (Fig 3.). Fecal matter was seen on infested leaves, stems and fruits. Percent damaged leaves ranged from 14.4 to 97.9. After the final instar, they entered pupation which was initially looked dark green and later browned up (Fig 5.). Adults were brown with black spots on the narrow wings (Fig 6). Natural enemies such as spiders (*Argiop*e sp), mirid bugs *Nesidiocoris tenuis* (Reuter) were also recorded.

These may certainly pose a serious threat to tomato growers if unchecked and hence further studies on its biology, host range, population dynamics, biodiversity and management are required.

References

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Fig 1.Damage by *T.absoluta* larvae on tomato leaves

Fig 2. Tunnelling in the stem

Fig 3. Damage on fruits

Fig 4. Larva

Fig 5. Pupa

Fig 6.Adult

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For more information on *T. absoluta* in English and Hindi, Contact **Dr. Abraham Verghese, Director, NBAIR**

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