

Evaluation of management strategies of *Tuta absoluta* (Lepidoptera: Gelechiidae) in tomato

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Abstract

Tomato leaf and fruit miner, *Tuta absoluta* is a very destructive pest of tomato and other solanaceae plants in the world. This pest is problematic in both open fields and greenhouses and can cause 80% to 100% yield loss, if not properly managed. It was first reported in Sri Lanka during July 2017 on tomato in some poly-tunnels in Badulla district and later spread to many other areas in the country. As the pest is new to the country, no recommended insecticides or control measures were available at that time. Therefore, a series of studies were carried out in poly-tunnels and in open fields for five consecutive seasons starting from Yala 2017 to identify appropriate management strategies to control larvae and trapping methods to monitor and control of adults. Eleven insecticides were tested in poly-tunnels and four insecticides *viz.*, Spinetoram 25% WG (2.5 g/10 l), Emamectin Bbenzoate 5% SG (4 g/10 l), Indoxacarb 150 g/l EC (4 ml/10 l) and Abamectin 18 g/l EC (6 ml/10 l) were selected for further studies based on larval mortality recorded 24 hrs after application. Simultaneously, eight different traps including light, sticky, insecticidal and pheromonal were evaluated for mass trapping of *T. absoluta* adults in greenhouses. Results have revealed that selected chemicals were effective in managing *T. absoluta* larvae in greenhouse tomato whereas only Spinetoram 25% WG (2.5 g/10 l) was effective in open fields. CFL light traps were suitable for mass trapping of *T. absoluta* adults in greenhouses. Pheromone traps can be used to monitor adult population.

Key words: Insecticides, Light traps, Pheromones, Tomato, *Tuta absoluta*