

Abstract The tomato leafminer, *Tuta absoluta*, remains one of the most devastating pests for tomato cultivation globally. As chemical resistance increases, the need for effective biorational monitoring and mass-trapping tools is critical. This study evaluates the longevity and capture rate of Russell IPM's latest sustained-release pheromone lures over a 12-week cropping cycle compared to standard commercial competitors.

Introduction Mating disruption and mass trapping are cornerstones of Integrated Pest Management (IPM). However, the volatility of pheromone dispersion often leads to inconsistent trap counts in high-temperature environments. Our objective was to test a new polymer matrix designed to stabilize release rates at temperatures exceeding 30°C.

Methodology The trial was conducted in three commercial greenhouses using a randomized complete block design.

- **Location:** Semi-controlled greenhouse environment.
- **Duration:** 12 weeks (June – August 2024).
- **Trap Density:** 30 traps per hectare.
- **Control:** Standard commercial septa lures.

"The data suggests that stabilization of the pheromone release rate is the single most significant factor in maintaining trap efficacy past week 6 of the growing cycle."

Results and Discussion The results indicated a significant difference in lure performance during the second half of the trial. While both lures performed equally in weeks 1–4, the Russell IPM sustained-release lure maintained a capture rate of >85% in weeks 8–12, whereas the control group dropped to <45%.

This longevity allows growers to reduce labor costs by minimizing the frequency of lure replacement, while ensuring maximum protection during the critical fruit-setting stage.