

**Evaluation of hand-applied SPLAT-OFM for disruption of oriental fruit moth,
Grapholita molesta (Busck)**

by

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Objective

The objective of this study was to evaluate SPLAT-OFM for orientational disruption of oriental fruit moth, *Grapholita molesta* (Busck). SPLAT-OFM was evaluated for season-long disruption of oriental fruit moth.

Methods

General Methods for Field Study

This study was conducted in the summer of 2006 on commercial peach orchards in Coloma, MI. The experiment was conducted 25 April through 6 September. Treatments were arranged in a randomized complete block design with four replicates. Replicate plots were between 2 - 2.7 acres in size.

Treatments Evaluated

This experiment compared efficacy of SPLAT-OFM hand applied wax dispensers. SPLAT-OFM was applied with metal spatulas. A single 2.5 g dollop was applied per tree (500 / ha). The pheromone dispensers were applied to the upper third of tree canopies. Plots not receiving a pheromone treatment on an adjacent farm located ca. 50-100 m away from pheromone treated blocks served as a check.

Adult moth monitoring

Disruption of male *G. molesta* orientation to synthetic sex pheromone was assessed using four pheromone traps deployed per replicate plot. Traps were deployed at least 30 m apart. Traps were baited with red septa loaded with 0.1 mg of (Z)-8-dodecenyl acetate:(E)-8-dodecenyl acetate:(Z)-8-dodecen-1-ol in a 100:6:10 blend. Traps were deployed approximately 3 - 4 m above-ground in the upper third of the tree canopy. New pheromone lures were deployed at the onset of each moth generation resulting in 2 replacements over the course of the season. Moths captured in traps were counted and removed once weekly.

Statistical analyses

Data were transformed to $\ln(x + 1)$ (which normalized the distributions and homogenized variance) and then subjected to analysis of variance (ANOVA).

Results and Discussion

There were three discernable adult flights of oriental fruit moth in control plots (Fig. 1). Orientation of male moths to traps was disrupted > 99 % by the SPLAT-OFM pheromone treatments for the duration of the entire season (Fig. 1). Only 13 male oriental fruit moths were captured in plots treated with SPLAT-OFM season-long. These results indicate that hand-applied SPLAT-OFM, deployed as 2.5 g dollops at 500 dispensers / ha, is highly effective in disrupting male oriental fruit moth orientation.

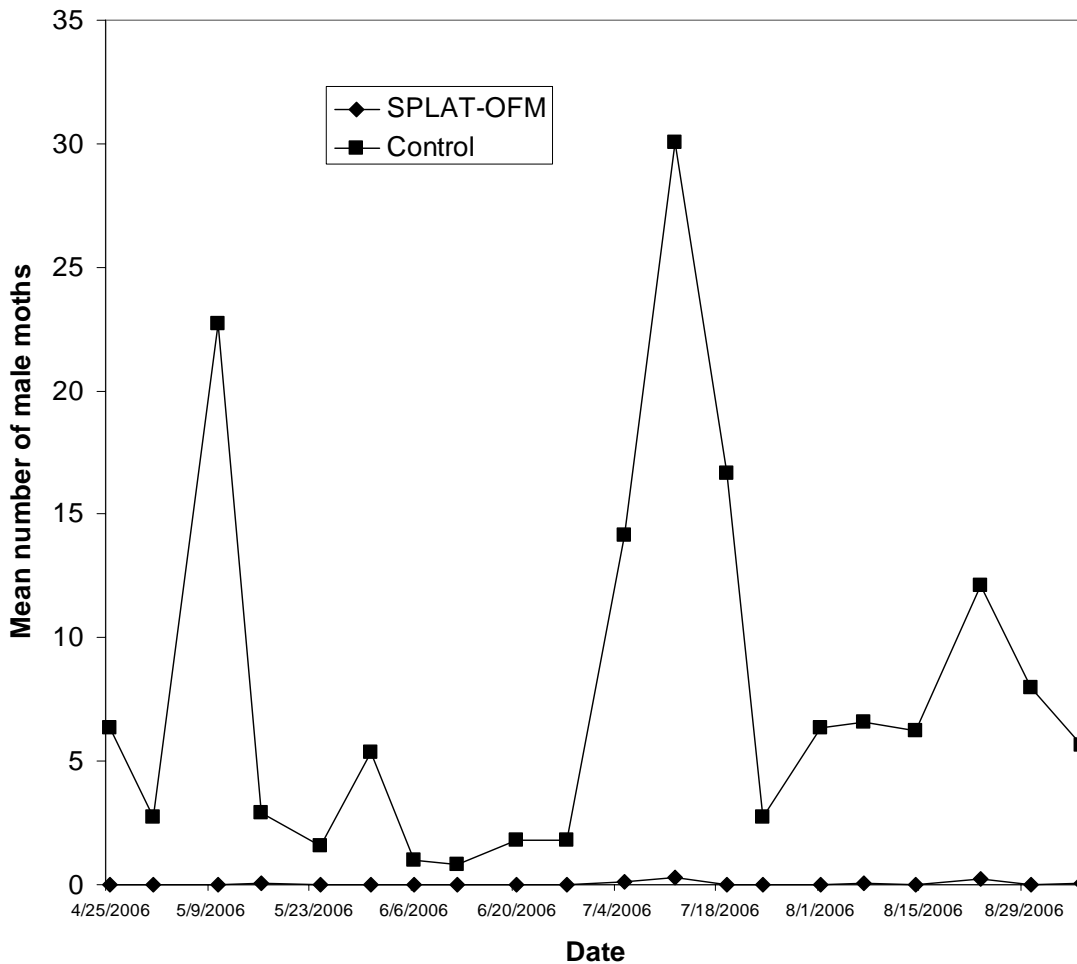


Fig. 1. Average captures of oriental fruit moth males in pheromone traps per sampling date