

**COMPARISON OF DIFFERENT PHEROMONE RELEASE SYSTEMS FOR
MATING DISRUPTION OF THE OBLIQUEBANDED LEAFROLLER
INTEGRATED WITH A BIORATIONAL INSECTICIDE
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ABSTRACT

The effectiveness of three different types of pheromone release systems in disrupting OBLR mating and subsequently preventing fruit damage were compared in 5-acre plots in two commercial orchards: (1) Microsprayers (aerosol spray-burst devices, MSU), one application setup for the summer; (2) Microencapsulated sprayable pheromone (3M), two applications applied by the growers per summer generation; and (3) Paraffin-based pheromone emulsions (Agrium), one application per summer generation. Each of these three treatments was then split into two separate half-plots in which one half was additionally treated with 3 sprays of tebufenozide (Confirm), an IPM-compatible insecticide that is an insect molting accelerator. The remaining half of each plot received the growers' conventional management program consisting of several sprays of chlorpyrifos (Lorsban). The different pheromone release treatments were evaluated by comparing male trap catches in pheromone traps with standard (Trécé) and 20x lure load rates, and pheromone+pesticide combinations were assessed by sampling growing terminals for OBLR larval infestations, and fruits for feeding damage both in the summer and at harvest in the fall.

All pheromone dispenser treatments provided good trap shutdown throughout both of the summer flights, although there were some spikes in the sprayable formulation plots, possibly indicating a shorter residual period of efficacy between applications. Larval terminal infestations after one pesticide application were higher in the Confirm plots than in the grower standards, despite starting out as fairly uniform throughout the plots before the sprays. However, fruit damage levels at the end of July were generally equal or less in the Confirm-treated trees.

There were different trends in harvest fruit damage at the two sites. At Oakes, where population pressure was moderate, Webster and 20-oz. varieties were evaluated separately. In the Websters, Confirm+pheromone and the grower standard+pheromone gave equivalent control in each individual pheromone dispenser treatment, and all were equal to the grower standard without pheromones. However, Confirm in the microsprayer and paraffin plots was significantly better than either of the pesticide programs used in the sprayable pheromone plot. In the 20-oz., the Confirm trees had lower damage than the standard in the sprayable pheromone plot, but there were no differences in the other two pheromone treatments. At Lamont, where population pressure was heavier, all of the pheromone+pesticide combination treatments gave better control of fruit damage than did the grower standard program without pheromones. In the combination plots, Confirm and the grower standard were equivalent except in the case of the paraffin pheromone formulation, where the Confirm-treated trees showed higher damage levels.

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