

Thresholds/Monitoring/Sampling

Monitoring Leafrollers with Low-Load Lures to Determine "In-Orchard" Larval Populations

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Standard and low-load pheromone lures used to monitor pandemis leafroller (PLR) and obliquebanded leafroller (OBLR) moth activity were compared for efficacy during the first generation and their ability to predict in-orchard larval densities of the following generation. Lure comparisons were conducted by crop consultants in 32 locations with PLR populations and 25 OBLR locales. Traps baited with low-load leafroller lures attract significantly fewer moths than those baited with standard lures in commercial orchards. In the case of PLR, use of the low-load lure allowed for a better correlation between moth catch of the first generation and larval density during the summer generation. The reduced attractancy of the PLR low-load lure appeared to be better at measuring only those male moths originating from within the area of interest. Examining the ratio of moth capture in traps baited with standard PLR lures:low-load lures did not appear to aid in predicting whether the traps were monitoring an in-orchard population or not. For the purpose of establishing treatment thresholds based on trap catch alone the 0.1X PLR lure seemed to be in the right load range.

Moth capture in traps baited with low-load OBLR lures was higher relative to the standard lure than with low-load PLR lures. The correlation patterns between trap catch and larval densities were similar with the standard and low-load OBLR lures. Both lures sufficiently measured populations originating from within the orchard, but in many cases they both seemed to capture males from outside the area of interest. It did not appear that the 0.05X load OBLR lure reduced attractancy sufficiently enough to measure only in-orchard leafroller density. However, it did appear that analysis of the ratio of moth capture in traps baited with standard lures:low-load lures provided useful information on whether the male moths were originating from within the orchard. A low ratio (less than 3:1) suggested that the trapping system was measuring an in-orchard population.

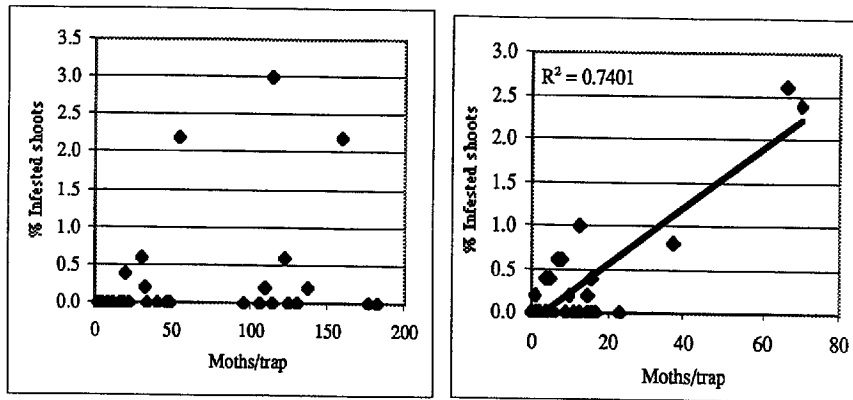


Figure 1. Correlation of male pandemis leafroller catch to infested shoots by larvae of the next generation in delta style traps baited with standard PLR lures (A) or low-load PLR lures (B).

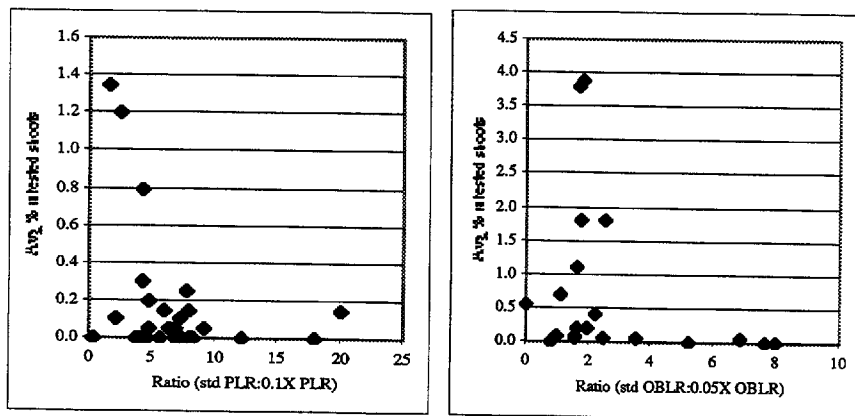


Figure 2: Correlation of the ratio of moth catch in traps baited with standard lures: low load lures to the average percentage of larval infested shoots the following generation averaged across both trapping areas. Graph A=Pandemis leafroller, Graph B=Obliquebanded leafroller