

ASK LAURA
Light Brown Apple Moth Management in Nursery Stock
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Between the Furoughs

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Question: What are the latest research findings on the management of Light Brown Apple Moth (LBAM) for nurseries?

Our research project in local ornamental nurseries demonstrates the useful but incomplete effectiveness of using pheromone mating disruption for the management of LBAM in typical Santa Cruz County nurseries. Conventional wisdom has shown that, in general, a mating disruption treatment should be used on a contiguous production area that is 10 acres or greater. For LBAM management, mating disruption (with pheromone “twist ties”) has been successful in these type of production areas such as vineyards and citrus in Australia, or recently, in the large berry fields of Watsonville. In our experiments, we wanted to see whether the control strategy would work in local nurseries, where nurseries are typically smaller than the 10 acre recommended area. We found that mating disruption was useful in reducing LBAM, but we also found LBAM on plant hosts that surrounded these nurseries on ornamentals, weeds, and native plants. Because many of the LBAM detections on production plants were located near nursery perimeters, we believe that fertile moths from these infested areas could migrate into nurseries and confound the success of pheromone mating disruption and other management strategies.

Question: What are the next research steps?

We recently submitted a grant proposal to improve the mating disruption strategy and other IPM strategies. In the previous project, we developed and used bait traps to monitor LBAM populations and evaluate the synthetic pheromone mating disruption experiment. We now are prepared to evaluate the use of these and other traps to mass trap and kill migrating moths at nursery perimeters. Also, sterilized moths from the USDA should be available by next year and we propose to apply these moths at or near perimeter of nurseries. We believe that the combined effect of pheromone mating disruption strategy with twist ties and the use of sterile moth releases at nursery perimeters will broaden control beyond nursery boundaries. This will help reduce successful mating and fertile female moths that could migrate into the nursery

In the previous project, we identified that in-house scouting was the most important part of early LBAM detection and management, and scouting needed to become more time-efficient. In the new project we will identify ornamental, weed, and native hosts that are most attractive and supportive of LBAM (susceptible) so that they can be more intensely scouted and targeted with management practices. Likewise, the poorest plant hosts (resistant) will be identified, and these plants could be used for hedge rows or visual buffers, which are commonly used on nursery perimeters.

