Current Research Objectives

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Research topic: Psyllid Management

Primary Research Objective(s): Effects of citrus grove architecture on Asian citrus psyllid population dynamics in Florida

Research Goal: Develop recommendations for management for Asian citrus psyllid based on the effects of: 1) windbreaks on psyllid population densities and 2) reset planting versus solid set re-plantings SSRPs on psyllid populations infesting young citrus trees.

Outcomes to date: Asian citrus psyllids behavior is guided primarily by visual cues and attraction to light. Grove borders are locations of population aggregation. It is difficult to prevent vector colonization of young tree plantings, which provided abundant food and egg laying resources. Our findings indicated that establishment and conservation of windbreaks is beneficial to protect groves from Asian citrus psyllid. The results also indicated that vector populations increase more within uniform landscapes of seedling trees as compared with mature orchards with randomly interspersed young seedlings. These results support the use of targeted border row treatments with insecticides as a supplement to whole grove sprays for vector management. They also provided indications that artificial border structures may help reduce vector populations. Our results indicate that planting resets (trees planted in replacement of dead or huanglongbing-infected trees) present randomly within mature orchards may be an easier strategy than solid set replanting for tree replacement. However, when the latter strategy is employed, intensive vector management is necessary. Appropriate recommendations for vector management with respect to replanting were provided to growers.

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