

# Organic Management of Asian Citrus Psyllid

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**Summary:** Asian citrus psyllid (ACP) is spread through all citrus-producing environments in Florida, Texas, California, and some other citrus producing states. Its management is critical to reducing the spread and severity of huanglongbing (HLB) for which the psyllid is a vector. We focused on evaluating and developing tools and tactics to manage ACP for organic citrus and applicable to other environments.

Several studies were initiated between laboratory and field in Florida and Texas toward developing tools and tactics useful for suppressing the populations of ACP. Laboratory experiments from UF/IFAS Dr. Xavier Martini's program with objectives to repel ACP from colonizing citrus trees revealed that kaolin clay increased repellency of four essential oils and red kaolin or kaolin combined with thymol produced the most effect including reduction in the oviposition

by ACP. Field studies from Qureshi's program showed a reduction of 37% in ACP populations with application of TriTek™ (80% mineral oil) at 1% of the application volume. Releases of the parasitoid *Tamarixia radiata* which attack ACP nymphs preferably instars 4-5 were also made and parasitism was observed in 43% of nymphal colonies averaging 29% from 13-50% per colony. Exclusion techniques employed to evaluate contribution of natural enemies in reducing ACP populations revealed 36% reduction in the nymphal populations in the colonies developing on citrus shoots exposed to natural enemies compared to the ones protected. Application of Tanglefoot® to the base of trees is an effective method for removing fire ants from trees to improve the role of biological control in the citrus groves by reducing ants interference with predators and parasitoids attacking nymphal

colonies of ACP, it is time consuming and labor intensive, which may be undesirable for certain growers. Field experiments by UF/IFAS Dr. Lukasz Stelinski's program indicated that a similar, albeit somewhat less effective, reduction of fire ants can be achieved by application of the OMRI listed Antixx® Ant Bait (Spinosad). Three organic ACP management programs with commercial growers have been initiated in Florida (Qureshi) and Texas (Setamou) and data is being collected.

## Take Home Message:

- Laboratory evidence of reducing ACP in citrus trees through combination of kaolin clay and essential oils.
- Predators and parasitoids contributing to reducing ACP populations in organic programs.
- Programs using rotations of oils, soaps, and organic insecticides showing promising suppression of ACP.

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