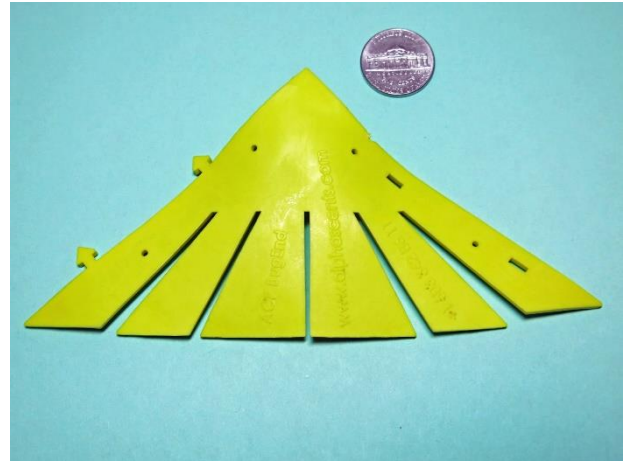


An Attract-and-Kill Device for the Asian Citrus Psyllid on Residential Citrus

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Citrus producing regions of the US must contend with the problem of the Asian citrus psyllid (ACP) spreading citrus greening disease or huanglongbing among dooryard citrus trees and from residential neighborhoods into nearby groves. Conventional insecticidal treatment of ACP-infested dooryard citrus trees is not cost-effective or sustainable. Thus, novel tactics for ACP control are needed for residential landscapes. Our solution was an attract-and-kill (AK) device that is easy to set up in tree canopies for extermination of adult psyllids.



An attract-and-kill device that visually attracts adults of Asian citrus psyllid and kills them with a contact insecticide.

What is an Attract-and-Kill Device?

This device is a weather-resistant, plasticized PVC triangle colored a yellow-green hue that visually attracts adult psyllids by simulating the color of young citrus shoots preferred as feeding or egg-laying sites. The device is treated with a potent contact insecticide, beta-cyfluthrin, that quickly kills adult psyllids and is registered for commercial and residential citrus. Strings of these devices can be easily deployed year-round in citrus trees.

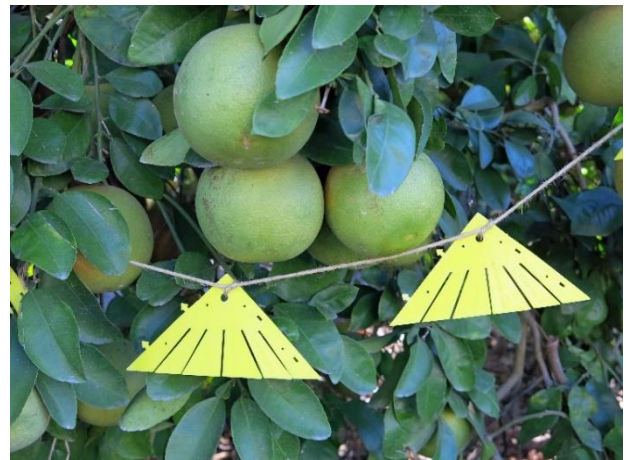
Use of AK devices to control ACP is ideal for residential areas with citrus trees. This pest management tactic has many benefits over conventional insecticide treatments, including:

Reduced insecticide use

- Lower volumes of insecticide to treat areas
- Less chemical residues on trees

Environment-friendly

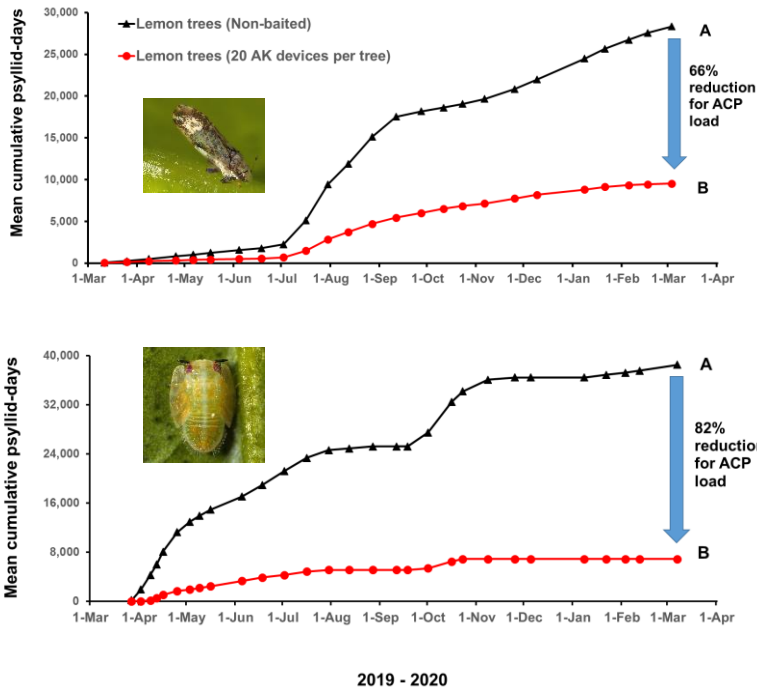
- Reduced nontarget effects
- Reduced phytotoxicity (less plant injury)



User-friendly

- No chemical mixing required
- No special training or license needed
- No spraying or insecticide drift issues
- No protective gear needed except gloves

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For South Texas neighborhoods, the ACP load (cumulative psyllid-days) of adults or nymphs were, on average, 66% and 82% higher on (A) non-baited lemon trees versus (B) lemon trees baited with 20 AK devices per tree over a year.

Device Deployment

Under South Texas conditions, these AK devices are highly lethal to adult psyllids for up to eight weeks on dooryard citrus trees. Ideally, the strings of AK devices are hung at the canopy perimeter and encircle the entire tree. Optimal height for device deployment will be around 1.5 to 2.0 meters because adult psyllids tend to fly at these heights. For lemon trees (3.0 to 4.0 meters in height), we found that four strings, each consisting of five AK devices positioned 15 cm apart along a 108 cm length of twine (20 AK devices per tree), provided substantial suppression of adult psyllids and thus also greatly reduced nymph populations. However, optimal numbers and spacing of AK devices can vary with citrus species, tree size, and time of year. AK devices should be used during periods of active shoot growth in spring, early summer, and fall when ACP populations tend to peak. Since treating every citrus tree on a property can be costly, AK devices can be prioritized for lemon and other citrus cultivars preferred by ACP and thus more at risk of psyllid infestation and Huanglongbing infection.

Device Availability

The AK device is available, as the ‘BugEnd ACP fake citrus flush’, by special order from Alpha Scents Inc. (West Linn, OR).

Biological Control Compatibility

Biological control of ACP in South Texas has relied largely on native predators and the exotic nymphal parasitoid, *Tamarixia radiata*. In lab studies, extended contact with AK devices was lethal to *T. radiata* adults and lady beetle larvae. However field studies showed parasitism rates of ACP nymphs and predator diversity or numbers were similar among trees with or without AK devices.

Acknowledgements

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