



## Evaluation of Bexar Insecticide Against Avocado Lace Bug

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The avocado Lace bug (*Pseudacysta perseae*) was first reported on Oahu in 2019 and has since spread to all major Hawaiian Islands. Damage to the leaves from this pest can be found on trees of various ages and varieties. In severe cases, leaves will completely defoliate reducing the trees' ability to support flowers and fruit resulting in reduced yields. This pest also has a life cycle of about three weeks, so there can be multiple generations a year. In 2021 various organic and conventional insecticides were evaluated to identify effective chemical control strategies (Wang et al. 2022). The study identified that imidacloprid was one of the most effective products evaluated in reducing ALB populations. Most products have a maximum number of applications per year so additional effective products are needed to have coverage all year long. Additional products are also needed to help with resistance management to ensure that products continue to be effective. One product not evaluated in the initial evaluation includes Bexar from Nichino which has an active ingredient called tolfenpyrad. This product has a completely different mode of action from the other previously evaluated products and would fit well in a spray rotational program. The objective of this evaluation is to determine how effective tolfenpyrad is at controlling ALB and how it compares to the current grower standard imidacloprid.



### Materials and Methods

A field trial was conducted from August 4 to August 21, 2023, in an avocado orchard located at a University of Hawaii experiment station in Poamoho, Waialua. Four trees per treatment were selected at random in the orchard and subjected to one application of either Bexar or Admire Pro. A set of untreated control trees were evaluated. Bexar was applied at a rate of 1.63ml/tree and Admire Pro at a rate of 0.19ml/tree. Each product was mixed in 2L of water and 0.46ml of Hi-Wett surfactant was added per 2l of water. Treatments were applied using a Stihl backpack mist blower model SR450 to obtain adequate coverage of the undersides of the leaves. Prior to application, five leaves were selected at random per tree per treatment and flagged for the duration of the trial. Prior to application initial adult and nymph counts were taken per leaf. Additional counts were taken from respective leaves at 3, 7, 14, 21, and 28 days after application.



## Results and Discussion

Overall, Bexar was just as good as the grower standard Admire Pro. Both products were able to reduce the population to zero by the end of the post-application evaluation period. Although initial counts were slightly higher on average for Admire Pro than Bexar the visual observations in the field suggest that Bexar has a faster knockdown than the Admire Pro. At three weeks when the next generation should be emerging the control numbers start to increase as expected however both Admire Pro and Bexar treated leaves maintained Zero counts, suggesting that both products might have some extended control. This would help to minimize future damage due to reduced localized populations.

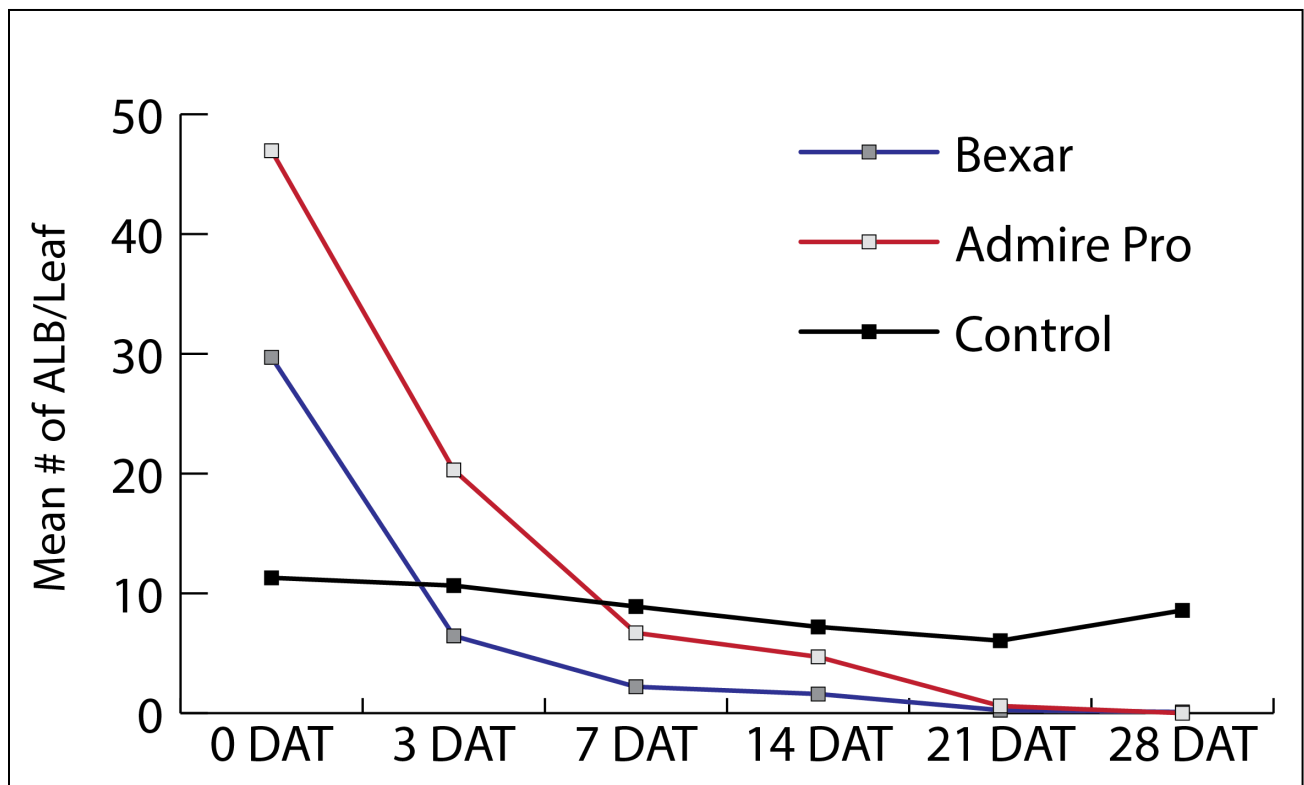


Figure 1. Mean number of avocado lace bugs alive per leaf treated with Bexar and Admire Pro compared to untreated control. Means (n=20) are an average of five leaves per tree across four trees per treatment.

## Summary

This evaluation provides a new, effective product to add to an insecticide rotation program for effective ALB management. Based on the Bexar product label, this would add three additional applications a year of an effective product with a different mode of action from previously evaluated products. It is important to read and follow all label requirements when using this or any other product to ensure the product is labeled for the target crop and other specifications



such as application timing restrictions, pre-harvest intervals, re-entry intervals, and personal protective equipment required.

## **Literature Cited**

Wang, K.-H., J. Uyeda, A. Ahmad. 2022. Evaluation of Conventional and Organic Insecticides Against Avocado Lace Bug in Hawaii. CTAHR Extension Publication IP-51.

<https://www.ctahr.hawaii.edu/oc/freepubs/pdf/IP-51.pdf>.

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