FRANGIPANI: *Plumeria rubra* L.

DISTANCE AGAINST SPIRALING WHITEFLIES INFESTING FRANGIPANI TREES, 2001

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Spiraling whitefly: *Aleurodicus dispersus* (Russell)

This study was conducted at Hualalai Resort near Kailua Kona, HI, from 25 May through 26 Jul. Distance (8.0 oz/100 gal) was applied two times (1 month apart) to upper and lower leaf surfaces of an infested 20-ft tall frangipani tree in three separate locations until runoff, which produced an output of » 3 gal/tree. Efficacy evaluations were conducted 1 month after each application and consisted of removing 10 infested leaves from each of the three treated and three untreated check trees. Each leaf was observed for mortality of pupae and presence of live adults with the aid of a dissecting microscope. Data of percent live pupae were arcsine transformed and subjected to a T-test, while data of the frequency of leaves with adults present were subjected to Chi-square analysis.

Prior to treatment, there were no differences in pupae mortality or frequency of adults on leaves among the test trees. One month after the initial application, Distance had significantly reduced survival of pupae and incidence of adults among leaves; < 5% of the pupae among treated leaves were live, and » 17% of the leaves sampled were found harboring live adults (Table). Another evaluation was conducted 1 month after a second application of Distance, and treated leaves again displayed significantly lower rates of pupae survival and incidence of leaves with live adults as compared with the untreated check. Over the course of the study, Distance was very effective against spiraling whiteflies by preventing eclosion of pupae to the adult stage. It is likely that the infestation remaining on treated trees at the conclusion of the study was caused in part by migrations of adults from surrounding untreated trees. Treatment of all sources of infestation within an area would likely result in greater control.

<table>
<thead>
<tr>
<th>Treatment/formulation</th>
<th>% live pupae</th>
<th>% leaves with adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st evaluation</td>
<td>2nd evaluation</td>
</tr>
<tr>
<td>Distance</td>
<td>4.8 a</td>
<td>2.1 a</td>
</tr>
<tr>
<td>Untreated check</td>
<td>96.2 b</td>
<td>86.7 b</td>
</tr>
</tbody>
</table>

Means within a column with different letters are significantly different by T-test of percent live pupae data and Chi-square analysis of frequency of leaves with adults.