EFFICACY OF ESTEEM FOR CONTROL OF SAN JOSE AND WALNUT SCALES
AND SECOND GENERATION CODLING MOTH

Principal Investigators: Janine Hasey, Farm Advisor, Sutter and Yuba Counties, R.A. Van Steenwyk, Extension Specialist, UC Berkeley

Grower/PCA Cooperator: Herb Dankman, Gary Walker

Objective: To test the efficacy of Esteem on San Jose and Walnut Scale and second generation codling moth

Year: 2000

Test Location: Marysville, CA


Pest Common & Scientific Name: San Jose Scale (SJS) *Quadraspidiotus perniciosus* Walnut Scale (WS) *Quadraspidiotus juglansregiae* Codling Moth (CM) *Cydia pomonella*

Plot Design: Three treatments, replicated three times in a randomized complete block design. Each sprayed plot was 1.63 acres; untreated controls were 0.75 acres.

Treatments: 1. Supracide 25WP @ 8 lbs/acre (2 lb a.i./acre) 2. Esteem 0.86EC @ 16 oz/acre (0.108 lb a.i./acre) 3. Untreated

Additives: Supracide treatments included 0.125% Trifol by vol.

Application Dates: 5 April 2000 – Delayed dormant for scale, both Esteem & Supracide 17 June 2000 – Esteem at 142 DD from 2nd CM biofix 21 June 2000 – Supracide at 237 DD from 2nd CM biofix

Degree-Days (DD) were calculated with a biofix of 29 March for the 1st generation and a 13 June biofix for the second generation using a single sine horizontal cutoff model with a lower threshold of 50°F and an upper threshold of 88°F. Maximum and minimum air temperatures were obtained from the Nicolaus CIMIS station.
Application Equipment: Air blast speed sprayer operating at 2 mph

Spray Volume: 100 gal/acre

Data Taken:
1. SJS & WS crawler populations, 12 double-sided sticky tapes per plot, weekly from 26 April – 5 July Table 1.
2. Weekly CM trap catches, 30 March – 3 October Figure 1.
3. Codling Moth infested nuts (333/rep), commercial harvest on 16 October.

Results:
This study was conducted against very high San Jose scale (SJS) and walnut scale (WS) populations. The SJS was causing extensive dieback of fruiting wood. The Esteem treatment had about 1/3 the number of crawlers as the untreated control while the Supracide standard treatment had about 1/3 the number of crawlers as the Esteem treatment. Supracide had significantly fewer crawlers than the untreated control while Esteem did not differ significantly from either Supracide or the untreated control. No CM infested nuts were observed at the harvest in any of the treatments.

ACKNOWLEDGEMENT

We gratefully acknowledge Tom DeWitt of Valent for financial assistance.

Table 1.

<table>
<thead>
<tr>
<th>Treatment/Formulation</th>
<th>Rate Lb (AI)/acre</th>
<th>Total No. Scale Crawlers/inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supracide 25WPa</td>
<td>2.0</td>
<td>15.7 a</td>
</tr>
<tr>
<td>Esteem 0.86EC</td>
<td>0.108</td>
<td>49.9 ab</td>
</tr>
<tr>
<td>Untreated</td>
<td></td>
<td>150.4 b</td>
</tr>
</tbody>
</table>

Means followed by the same letter within a column are not significantly different (Fisher’s protected LSD, P <0.1). Data was analyzed after removing the highest and lowest observations per replicate.

aTreatments included 0.125% Trifol by vol.
Figure 1. Codling Moth Flight

Codling Moth Flight

Date Traps Checked

6/13 - 2nd BioFix
8/1 - 3rd BioFix