EXPERIMENTAL PROTOCOL

TITLE
Effect of several insecticides on 1st generation codling moth larvae control.

INVESTIGATORS:
Steve Sibbett, University of California Cooperative Extension Service Farm Advisor - Tulare Co. Ca.

OBJECTIVE:
To determine the efficacy of COMPLY relative to other standard insecticides for control of 1st generation codling moth larvae in walnut.

YEAR:
1998

CROP/VARIETY:
English walnut, Ashley cultivar (mature)

LOCATION OF TEST:
Visalia, California

PEST (S) COMMON NAME:
Codling moth
Walnut aphid

PEST (S) SCIENTIFIC NAME:
Laspeyresia pomonella
Chromaphis juglandicola

TREATMENTS:
Protocol

1) Control – no treatment
2) COMPLY 40wp @ 44.8r ai/ac @ 50 DD + 21 days later
3) COMPLY 40wp @ 44.8r ai/ac @ 100 DD + 21 days later
4) COMPLY 40wp @ 44.8r ai/ac @ 150 DD + 21 days later
5) Guthion 50wp @ 336.4 g ai/ac @ 300 DD
6) Pencap-M @ 8 pts product/ac 300DD
7) Pencap-M @ 8 pts product/ac 300DD + 1b flight
8) Imidan 70wp @ 5lbs product/ac @ 300 DD
9) Imidan 70wp @ 5lbs product/ac @ 300 DD + 1b flight

Note: Due to adverse weather including persistent rainfall, access to the orchard for treatment was not possible on the timely basis planned. See application dates below.

ADDITIVES:
None

APPLICATION DATE(s)
(Biofix 15 April)

T2 applied 21 April and 13 May (23 days)
T3 applied 23 April and 15 May (22 days)
T4 applied 27 April and 18 May (21 days)
T5 applied 6 May
T6 applied 6 May
T7 applied 6 May and 26 May
T8 applied 6 May
T9 applied 6 May and 26 May
APPLICATION EQUIPMENT: John Bean 100-gallon high-pressure handgun sprayer

SPRAY VOLUME: 200 gal/ac, 3.6 gallons/tree

PLOT SIZE: Individual single tree replications

DESIGN: Randomized complete blocks

REPLICATES: Five

DATA TAKEN: 1) Infested nut drop counts – May and June
2) Walnut aphid counts – May and June
3) On-tree infested nut count - June

RESULTS: See attached table

NOTES: 1. Walnut aphid did not build to measurable levels in the plot.
2. Rainfall was frequent and excessive often occurring 16-24 hrs following treatment.
### Table 1. Total 1st generation codling moth larval infested nuts per tree. 1/
Ashley walnut, Visalia CA - 1998

<table>
<thead>
<tr>
<th>Rep</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (no treatment)</td>
<td>86</td>
<td>118</td>
<td>116</td>
<td>119</td>
<td>98</td>
<td>107.4a</td>
</tr>
<tr>
<td>Comply (40 wp) @ 44.8 g ai/ac @ 50 DD + 21 days later</td>
<td>32</td>
<td>25</td>
<td>23</td>
<td>23</td>
<td>12</td>
<td>23.0 bc</td>
</tr>
<tr>
<td>Comply (40 wp) @ 44.8 g ai/ac @ 100 DD + 21 days later</td>
<td>56</td>
<td>20</td>
<td>15</td>
<td>37</td>
<td>21</td>
<td>29.8 bc</td>
</tr>
<tr>
<td>Comply (40 wp) @ 44.8 g ai/ac @ 160 DD + 21 days later</td>
<td>37</td>
<td>27</td>
<td>37</td>
<td>54</td>
<td>24</td>
<td>35.8 b</td>
</tr>
<tr>
<td>Guthion 50 wp @ 336.3g ai/ac @ 300 DD</td>
<td>29</td>
<td>53</td>
<td>21</td>
<td>23</td>
<td>23</td>
<td>29.8 bc</td>
</tr>
<tr>
<td>Pencap M @ 8pts product/ac @ 300 DD</td>
<td>23</td>
<td>27</td>
<td>9</td>
<td>0</td>
<td>17</td>
<td>15.2 c</td>
</tr>
<tr>
<td>Pencap M @ 8pts product/ac @ 300 DD + 1b flight</td>
<td>42</td>
<td>9</td>
<td>13</td>
<td>2</td>
<td>12</td>
<td>15.6 c</td>
</tr>
<tr>
<td>Imidan 70 wp @ 5 lb product/ac @ 300 DD</td>
<td>26</td>
<td>21</td>
<td>37</td>
<td>27</td>
<td>15</td>
<td>25.2 bc</td>
</tr>
<tr>
<td>Imidan 70 wp @ 5 lb product/ac @ 300 DD + 1b flight</td>
<td>12</td>
<td>26</td>
<td>1</td>
<td>35</td>
<td>12</td>
<td>17.2 c</td>
</tr>
</tbody>
</table>

LSD .05 = 16.1

1/ includes infested dropped nuts 13 May - 26 June and on-tree infested nut count 26 June