Chemical Control/New Products

Control of Apple Aphid on Apple

D.F. Mayer, S.J. Bradley and J.D. Lunden
Washington State University, IAREC, Prosser, WA

Keywords: apple aphid, Aphis pomi, Admire, Miles, Penncap, Atochem, Pirimor, Zeneca, RH 7988, Rohm & Haas, Sterling, Ciba-Giegy, Vydate, Dupont, TD 2342-1, TD 2348-1, apple

This study was designed to evaluate Admire 240FS (Miles), Penncap MS 2FM (Atochem), Pirimor 50DF (Zeneca), RH 7988 4E (Rohm & Haas), Sterling 50WP (Ciba-Geigy), TD 2342-1 2FM (Atochem), TD 2348-1 2FM (Atochem) and Vydate 2L (Dupont) for control of apple aphid (AA) (Aphis pomi) when applied to apple (Malus domestica).

Ten plots were established in a 3-year-old commercial orchard of Red Delicious apples located near Milton-Freewater, OR. Plot size was 0.17 acre. Individual plots were treated with insecticides and one plot was not treated. Insecticides were applied 15 June between 1 pm and 2 pm. Temperatures were about 18°C, relative humidity 50%, solar radiation 817 W/SG M and no wind. Sprays were applied with a Rears (Eugene, OR) Pak-Blast airblast sprayer using 100 gal water per acre.

Evaluations were made pre-application on 15 June and post-application 18 and 25 June by counting the number of aphids on 8 shoots of 8 randomly tagged terminals on 8 randomly selected trees per plot.

Conclusions

Admire gave good control of apple aphid. Penncap MS gave poor control of apple aphid. Pirimor gave good control of apple aphid. RH 7988 gave good control of apple aphid. Sterling at the low rate gave poor control of apple aphid. Sterling at the high rate gave fair control of apple aphid. TD 2342-1 gave poor control of apple aphid. TD 2348-1 gave good control of apple aphid. Vydate gave fair control of apple aphid.
Table 1. Effect of insecticide treatments applied to Red Delicious apple trees on 15 June on apple aphids, Milton-Freewater, OR, 1994.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate</th>
<th>15 Jun</th>
<th>17 Jun</th>
<th>25 Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admire 240FS</td>
<td>6.4 oz</td>
<td>98a</td>
<td>10ab</td>
<td>28b</td>
</tr>
<tr>
<td>Penncap MS 2FM</td>
<td>1 gal</td>
<td>58a</td>
<td>135b</td>
<td>391c</td>
</tr>
<tr>
<td>Pirimor 50DF</td>
<td>12 oz</td>
<td>289a</td>
<td>1b</td>
<td>89c</td>
</tr>
<tr>
<td>RH 7988 4E</td>
<td>0.375 lb (AI)/acre</td>
<td>76a</td>
<td>2b</td>
<td>22c</td>
</tr>
<tr>
<td>Sterling 50WP</td>
<td>0.167 lb (AI)/acre</td>
<td>109a</td>
<td>88a</td>
<td>500b</td>
</tr>
<tr>
<td>Sterling 50WP</td>
<td>0.25 lb (AI)/acre</td>
<td>155a</td>
<td>78b</td>
<td>109ab</td>
</tr>
<tr>
<td>TD 2342-1 2FM</td>
<td>1 gal</td>
<td>125a</td>
<td>135a</td>
<td>695b</td>
</tr>
<tr>
<td>TD 2348-1 2FM</td>
<td>1 gal</td>
<td>419a</td>
<td>8b</td>
<td>25b</td>
</tr>
<tr>
<td>Vydate 2L</td>
<td>2 pt</td>
<td>86a</td>
<td>7b</td>
<td>155c</td>
</tr>
<tr>
<td>Untreated check</td>
<td>--</td>
<td>41a</td>
<td>48a</td>
<td>325b</td>
</tr>
</tbody>
</table>

Means within a line followed by the same letter are not significantly different at the P=0.05 level, Newman-Keuls studentized range test.

Table 2. Effect of insecticide treatments applied to Red Delicious apple trees on 15 June on apple aphids, Milton-Freewater, OR, 1994.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate</th>
<th>18 Jun</th>
<th>25 Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admire 240FS</td>
<td>6.4 oz</td>
<td>90</td>
<td>71</td>
</tr>
<tr>
<td>Penncap MS 2FM</td>
<td>1 gal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pirimor 50DF</td>
<td>12 oz</td>
<td>99</td>
<td>69</td>
</tr>
<tr>
<td>RH 7988 4E</td>
<td>0.375 lb (AI)/acre</td>
<td>98</td>
<td>71</td>
</tr>
<tr>
<td>Sterling 50WP</td>
<td>0.167 lb (AI)/acre</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>Sterling 50WP</td>
<td>0.25 lb (AI)/acre</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>TD 2342-1 2FM</td>
<td>1 gal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TD 2348-1 2FM</td>
<td>1 gal</td>
<td>98</td>
<td>94</td>
</tr>
<tr>
<td>Vydate 2L</td>
<td>2 pt</td>
<td>81</td>
<td>0</td>
</tr>
<tr>
<td>Untreated check</td>
<td>--</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>