
ASSAIL VERSUS DOGWOOD BORER IN YOUNG APPLE TREES, 2004

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Dogwood borer (DWB): *Synanthedon scitula* (Harris)

The effectiveness of Assail for control of DWB was evaluated in a 4.2-acre block of 3-yr-old ‘Idared’ and ‘Golden Delicious’ trees on M.26 rootstock, planted at a spacing of 10 × 18 ft. Trees showing fresh frass from DWB feeding on the above-ground portions of the rootstock were selected. Fifteen infested trees were identified in each of five adjacent rows (one row ‘Idared’, four rows ‘Golden Delicious’) and five treatments were replicated 15 times by randomly assigning each treatment to three trees within each row. Treatments were applied on 14 Jun as a drench spray using a Solo backpack sprayer. Approximately one pint of spray solution per tree was applied to the rootstock and lower trunk; the untreated check trees were sprayed with water. Maintenance pesticides applied for control of foliar and fruit pests and diseases during the test included Ziram, Dithane, sulfur, Captan, Asana and Guthion. DWB pupal cases around the base of each tree were counted and removed prior to the application of treatments. Thereafter, the number of DWB feeding sites on the rootstock and lower trunk of each tree was recorded at approximately biweekly intervals through 3 Sep, and then about one month later on 6 Oct. The feeding site of one DWB larva was considered to be a discrete and contiguous area of fresh frass on the surface of the plant. DWB pupal cases found on each tree were counted and removed at each evaluation. Data were analyzed using ANOVA and Fisher’s Protected LSD at $P \leq 0.05$.

There were no differences among treatment means in the number of pupal cases collected at 14 d post-spray (28 Jun) (Table 1). There were no significant differences among treatment means in the number of areas of fresh frass recorded, although only trees treated with Lorsban showed no fresh frass. Lorsban provided the strongest control of DWB larvae through 6 Oct. After 28 Jun, no pupal cases were found on trees treated with Lorsban. No fresh frass was recorded on trees treated with Lorsban on four of seven sample dates and when fresh frass was found, there were statistically or numerically fewer areas of fresh frass than on trees treated with other materials. Assail 70WP alone or in combination with oil and Assail 30WSG did not prevent larvae from completing development, pupating and emerging as moths. Fresh pupal cases were collected from trees treated with those treatments through 3 Sep. There were, however, indications that those treatments did reduce the larval population to levels below those in the untreated check trees. On every sample date after 28 Jun, numerically more areas of fresh frass were recorded from the check trees than from treated trees and on 12 Jul, 11 Aug, 3 Sep and 6 Oct, all treatments showed significantly fewer areas of fresh frass than the check. Based on pheromone trap captures, the flight of DWB ended during the first half of Oct.
<table>
<thead>
<tr>
<th>Treatment/formulation</th>
<th>Rate</th>
<th>13 Jun (pre-trt)</th>
<th>28 Jun</th>
<th>12 Jul</th>
<th>26 Jul</th>
<th>11 Aug</th>
<th>24 Aug</th>
<th>3 Sep</th>
<th>6 Oct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pupal cases</td>
<td>Pupal cases</td>
<td>Fresh frass</td>
<td>Pupal cases</td>
<td>Fresh frass</td>
<td>Pupal cases</td>
<td>Fresh frass</td>
<td>Pupal cases</td>
</tr>
<tr>
<td>Assail 70WP</td>
<td>3.4 oz</td>
<td>0.33a</td>
<td>0.33a</td>
<td>0.20a</td>
<td>0.20a</td>
<td>0.60a</td>
<td>0.00a</td>
<td>1.9ab</td>
<td>0.13ab</td>
</tr>
<tr>
<td>Assail 70WP + Damoil</td>
<td>3.4 oz + 1.0% v/v</td>
<td>0.40a</td>
<td>0.33a</td>
<td>0.20a</td>
<td>0.27a</td>
<td>0.20ab</td>
<td>0.07a</td>
<td>1.7ab</td>
<td>0.13ab</td>
</tr>
<tr>
<td>Assail 30WSG</td>
<td>8.0 oz</td>
<td>0.40a</td>
<td>0.60a</td>
<td>0.20a</td>
<td>0.27a</td>
<td>0.20ab</td>
<td>0.07a</td>
<td>2.5ac</td>
<td>0.27a</td>
</tr>
<tr>
<td>Lorsban 4E</td>
<td>3.0 pt</td>
<td>0.73a</td>
<td>0.27a</td>
<td>0.0a</td>
<td>0.00b</td>
<td>0.00a</td>
<td>0.87b</td>
<td>0.00b</td>
<td>0.07b</td>
</tr>
<tr>
<td>Water-treated check</td>
<td>---</td>
<td>0.27a</td>
<td>0.33a</td>
<td>0.20a</td>
<td>0.27a</td>
<td>1.4c</td>
<td>0.27b</td>
<td>3.0c</td>
<td>0.07ab</td>
</tr>
</tbody>
</table>

Means within a column followed by the same letter(s) are not significantly different (Fisher’s Protected LSD, $P > 0.05$).