EFFICACY OF FOLIAR INSECTICIDE TREATMENTS FOR FIRST AND SECOND GENERATION EUROPEAN CORN BORER CONTROL, 1999: Five foliar insecticide treatments were compared for control of larval stages of ECB in Pennsylvania on a Hagerstown silt loam soil. The study was conducted at the Russel E. Larsen Agricultural Research Center of the Pennsylvania State University located near Rock Springs, PA. The study was laid out as a RCB experiment with six treatments and four blocks. Each plot was 4 rows wide (30-inch rows) by 21 ft long, leaving 10 ft of unplanted area between blocks. The sixth treatment was an untreated check. The plots were established on 20 May. The corn was planted at 26,100 plants per acre. On 20 Jun, ten plants in one of the middle rows were infested with seven egg masses per plant because the natural first generation population was extremely low in the area. Foliar treatments were applied 10 days after the egg masses were infested. Foliar applications for the second generation were timed to the egg laying period by monitoring flights with a blacklight trap and both Iowa and New York type pheromone traps. Treatments, formulations and rates are shown in Tables 1 and 2 for first and second generation, respectively, along with infestation and yield information. Rainfall and temperatures were near normal in May, but Jun, Jul and Aug were below normal in precipitation. No irrigation water was applied to the plots during the growing season. First generation larval counts were taken on 15 Jul and second generation larval counts were taken on 27 Oct. Yield data were collected in early Nov using a two row plot harvester. Both ECB infestation and yield data were analyzed using the ANOVA procedure in SAS™ and the Waller-Duncan Mean Separation Test (P< 0.05).

First generation ECB pressure was low with 0.5 larva/plant, 0.31 tunnels/plant, and a 31.3% infestation in the untreated checks (Table 1). Second generation ECB pressure was moderate with 0.53 larvae/plant, 1.2 tunnels/plant, 67.5% of the plants infested in the untreated checks (Table 2). All the insecticide treatments had significantly lower numbers of larvae/plant, tunnels/plant and % infestation than the untreated check for both the first and second generation (Tables 1 and 2). During the second generation (Table 2), all insecticide treatments provided statistically the same level of control, with the exception of Warrior 1EC which had significantly fewer tunnels/plant than the Tracer treatments. The 0.063 lb/acre Tracer treatment had a significantly higher percentage of plants infested compared with the Warrior 1EC treatment. Yields were not significantly different for any of the treatments at P< 0.05.

![Table 1](https://academic.oup.com/amt/article-abstract/25/1/F21/109684)
<table>
<thead>
<tr>
<th>Treatment/formulation</th>
<th>Rate lb form/acre</th>
<th>No. larvae/plant</th>
<th>No. tunnels/plant</th>
<th>% Plants infested</th>
<th>Yield* (bushels/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracer 4SC</td>
<td>0.063</td>
<td>0.15b</td>
<td>0.38b</td>
<td>32.5b</td>
<td>123.1a</td>
</tr>
<tr>
<td>Tracer 4SC</td>
<td>0.126</td>
<td>0.10b</td>
<td>0.18b</td>
<td>15.0bc</td>
<td>121.2a</td>
</tr>
<tr>
<td>Tracer 4SC</td>
<td>0.189</td>
<td>0.10b</td>
<td>0.18b</td>
<td>15.0bc</td>
<td>114.6a</td>
</tr>
<tr>
<td>Pounce 3.2EC</td>
<td>0.375</td>
<td>0.05b</td>
<td>0.20bc</td>
<td>17.5bc</td>
<td>110.1a</td>
</tr>
<tr>
<td>Warrior 1EC</td>
<td>0.194</td>
<td>0.00b</td>
<td>0.00c</td>
<td>0.0c</td>
<td>120.3a</td>
</tr>
<tr>
<td>Untreated check</td>
<td>0.53a</td>
<td>1.20a</td>
<td>67.5a</td>
<td></td>
<td>110.3a</td>
</tr>
</tbody>
</table>

Means followed by the same letter in a column are not significantly different at the P = 0.05 level using the Wallner Duncan Mean Separation Test.

*Yields were corrected to a 15.5% moisture content.