**COTTON:** Gossypium hirsutum L., 'Sure-Grow 125'

Tarnished plant bug (TPB): Lygus lineolaris (Palisot de Beauvois)

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**EVALUATION OF FOLIAR INSECTICIDES FOR CONTROL OF TARNISHED PLANT BUG CONTROL IN COTTON-CAGE TRIAL, 1999:** Mortality of TPB exposed to cotton sprayed with 5 insecticides was determined using caged plants. Cotton was planted 13 May on the Cotton Branch Experiment Station, Marianna, AR, in 8-row (38-inch centers) wide and 50 ft long plots with 10 ft alleys. Insecticides tested were Steward 1.25SC, Provado 1.6F, Orthene 90S, and Actara 25WG. Treatments were arranged in a RCBD with 3 replications. Insecticides were applied 29 Jul using a 8-row CO$_2$ charged hi-boy sprayer calibrated to deliver 17.7 gpa at 60 psi with TX 10 hollow cone nozzles on 19 inch spacing. Prior to application, TPB were collected in blooming mustard using sweep nets. The collected TPB immediately were placed in 15 ml plastic vials (5 insects per vial) in coolers on ice. Three organdy sleeve cages, 6 inches diam by 18 inches long, were secured to randomly selected individual plants in the center 2 rows by tying the lower end of each cage around the plant ca 1 ft from the terminal with twist ties. The cages were rolled down to the tie and covered with aluminum foil leaving plant terminals exposed. Following treatments, the foil was removed, the cage pulled up, and 5 TPB nymphs (3 to 5th instar) were placed into each cage. Cage tops were secured with twist ties. After 96 hrs plants were cut below the cage and taken to the laboratory where TPB mortality was determined. Mortality data were analyzed with AOV, and means separated with LSD.

Mortality at 4 DAT was greater than 97% in all insecticide treatments and was significantly higher than the 15.5% observed in the untreated check. The level of insecticidal control in cages may be inflated because TPB were confined to treated areas for an extended period. The extended exposure time was used because some insecticides in the test were believed to be slow acting.

<table>
<thead>
<tr>
<th>Treatment/formulation</th>
<th>Rate lb (Al)/acre</th>
<th>% Dead (4 DQT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steward 1.25 SC</td>
<td>0.11</td>
<td>97.80</td>
</tr>
<tr>
<td>Provado 1.6 F</td>
<td>0.047</td>
<td>100.00</td>
</tr>
<tr>
<td>Orthene 90S</td>
<td>0.50</td>
<td>97.77</td>
</tr>
<tr>
<td>Actara 25 WG</td>
<td>0.047</td>
<td>100.00</td>
</tr>
<tr>
<td>Untreated check</td>
<td></td>
<td>15.56</td>
</tr>
<tr>
<td>P &gt; F (AOV)</td>
<td></td>
<td>0.05</td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td></td>
<td>9.20</td>
</tr>
</tbody>
</table>