PEACH: *Prunus persica* L. ‘Bounty’

CONTROL OF ORIENTAL FRUIT MOTH AND OTHER INSECT PESTS IN PEACH, 2013

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Oriental fruit moth (OFM): *Grapholita molesta* (Busck)  
Plum curculio (PC): *Conotrachelus nenuphar* (Herbst)  
Brown marmorated stink bug (BMSB): *Halyomorpha halys* (Stål)  
Brown stink bug (BSB): *Euschistus servus* (Say)  
Dusky stink bug (DSB): *Euschistus tristigmus* (Say)  
Green stink bug (GSB): *Acrosternum hilare* (Say)  
Tarnished plant bug (TPB): *Lygus lineolaris* (Palisot de Beauvois)  
Obliquebanded leafroller (OBLR): *Choristoneura rosaceana* (Harris)  
Tufted apple bud moth (TABM): *Platynota idaeusalis* (Walker)

The objective of this trial was to evaluate various insecticides for the control of OFM as well as other insect pests present. The study was conducted in a 2-acre block of 12-yr-old ‘Bounty’ peach trees at the West Virginia University Tree Fruit Research and Education Center in Kearneysville, WV. Single-tree treatment plots were replicated four times and arranged in a RCB design with at least one non-sprayed buffer tree separating plots. Trees were planted at a spacing of 21 x 20 ft. All insecticides were applied as complete sprays with a Swanson DA-500A airblast sprayer, which traveled at 2.6 mph and delivered a spray volume of 100 gpa. Treatment applications were timed to coincide with various stages of 1st and 2nd generation OFM egg hatch and were based on degree-day (DD) accumulations from 15 Apr biofix. Dates of application (OFM DD from biofix [estimated % egg hatch]) were 1 May (196 [14]), 17 May (432 [76]), 17 Jun (1172 [15]), and 27 Jun (1451 [64]). Other materials applied separately to all treatments included Bravo Weather Stik, Captan, Microthiol Dispers, Nova, Pristine, and Topsin-M. OFM injury to shoot terminals was assessed on 24 May, 25 Jun, and 8 Jul by counting the no. of flagging shoots from each plot tree. Fruit injury at harvest was assessed on 9 Aug by examining 50 fruit per plot (200 fruit per treatment) for OFM entry holes or frass. Fruit were also scored for injury from other insect pests. Data were analyzed using ANOVA, and means were separated using Fisher’s LSD test ($P \leq 0.05$).

All treatments significantly reduced the incidence of OFM flagging and fruit injury when compared with the untreated check (Table 1). Fruit injury from PC was low and not significantly different across all treatments. All insecticide treatments provided equivalent control of catfacing (CF) injury collectively caused by various stink bugs and TPB, which accounted for the majority of injury to all fruit sampled. Fruit injury from OBLR and TABM (collectively noted (LR) was significantly higher in the Altacor + Lannate treatment than all other treatments. Overall, the percentage of clean fruit was significantly lower in the untreated check than from all other treatments.

This research was supported by industry gift(s) of pesticide and/or research funding.
Table 1.

<table>
<thead>
<tr>
<th>Treatment/ formulation</th>
<th>Rate amt product/acre</th>
<th>% OFM flagged shoots/plot 24 May 25 Jun 8 Jul</th>
<th>% fruit injury OFM PC CF&lt;sup&gt;a&lt;/sup&gt; LR&lt;sup&gt;b&lt;/sup&gt;</th>
<th>% clean fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDS63 0.83SC</td>
<td>2.0 fl oz</td>
<td>0.0a 1.3b 3.5b</td>
<td>0.5b 0.5a 30.0b 2.0b</td>
<td>67.0a</td>
</tr>
<tr>
<td>RDS63 0.83SC</td>
<td>2.7 fl oz</td>
<td>0.0a 0.5b 4.0b</td>
<td>1.5b 1.5a 37.5b 2.0b</td>
<td>60.0a</td>
</tr>
<tr>
<td>RDS63 0.83SC</td>
<td>4.1 fl oz</td>
<td>0.0a 0.0b 1.5b</td>
<td>1.0b 1.5a 33.0b 1.0b</td>
<td>65.0a</td>
</tr>
<tr>
<td>RDS63 0.83SC</td>
<td>5.5 fl oz</td>
<td>0.0a 0.5b 2.0b</td>
<td>1.0b 0.5a 49.0b 3.5b</td>
<td>46.0a</td>
</tr>
<tr>
<td>Atacor 35WG</td>
<td>4.1 oz</td>
<td>0.0a 0.5b 2.0b</td>
<td>0.5b 0.5a 30.5b 2.5b</td>
<td>66.5a</td>
</tr>
<tr>
<td>Imidan 70WP</td>
<td>3.0 lb</td>
<td>0.0a 1.0b 1.0b</td>
<td>0.7b 0.7a 31.0b 8.7a</td>
<td>68.0a</td>
</tr>
<tr>
<td>+ Lannate LV (2&lt;sup&gt;nd&lt;/sup&gt; gen)</td>
<td>3.0 pt</td>
<td>--- 6.8a 24.0a</td>
<td>4.5a 0.5a 81.5a 3.5b</td>
<td>14.0b</td>
</tr>
</tbody>
</table>

Means within columns followed by the same letters are not significantly different (P > 0.05) according to Fisher’s LSD test.

<sup>a</sup>CF = aggregate damage caused by BMSB, BSB, DSB, GSB, TPB

<sup>b</sup>LR = aggregate damage caused by OBLR and TABM