Red Palm Weevil notes

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30 November 2010
Dates and palm trees

- In the Middle East, dates are an important food item bearing cultural and religious significance (mentioned in the Bible, the Koran, and the New Testament).

- Palm trees are very widespread as ornamentals and fruit-bearing trees. The latter are mainly found in the hotter climate regions.
The region

[Map of the region showing cities and geographic locations such as Tel Aviv, Jerusalem, Gaza Strip, Beersheba, and others.]
offshoots

Established trees
• Infested trees can be cured
• the main mode of distribution is by offshoot dissemination
• The RPW is a particular pest.
Detection is a key to management

lack of care results in tree loss (Over a million lost since the pest entered the Middle East)
Trapping

~4000 traps were employed

Pheromone*ferrugineol-based + food bait + ethyl Acetate

*4-methyl-5-nonanol
on-tree detection

sniffing  Listening
Cooperation and division of labor within Israel:

Initially: → The Peres Center

taken over by growers and ministry of Agriculture

Trap improvement, insecticide efficacy, detection through sound → taken over by ARO personnel.
RPW: Activities of the PCP

- Establish a trapping – monitoring system
- Capacity building - establish laboratories for diagnostic and educational purposes.
- Implement a management system according to the findings.
- Set up a collaborative network of the parties
## Residual activity of Cyhalothrin on date trunk fibers

<table>
<thead>
<tr>
<th>Days from application</th>
<th>Residual quantity in-ppm</th>
<th>Survival of adults in-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2.3±0.1</td>
<td>0</td>
</tr>
<tr>
<td>35</td>
<td>1.4±0.98</td>
<td>NT</td>
</tr>
<tr>
<td>60</td>
<td>NT</td>
<td>0</td>
</tr>
<tr>
<td>175</td>
<td>2.0±1.44</td>
<td>0</td>
</tr>
</tbody>
</table>

### Pheromone retention studies

- **remaining pheromone**
- **TDmax °C**
Dynamics of systemic pesticides

Leaflets

Stem

Roots
# Time dependent distribution of Imidacloprid in young potted dates

<table>
<thead>
<tr>
<th>Amount of Imidocloprid in mg per kg sample</th>
<th># Trees</th>
<th>Time after treatment (days)</th>
<th>Confidur per application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.7</td>
<td>6.7</td>
<td>5.5</td>
<td>6.5</td>
</tr>
<tr>
<td>*4.0</td>
<td>1.9</td>
<td>0.07</td>
<td>0.97</td>
</tr>
<tr>
<td>7.2</td>
<td>3.6</td>
<td>2.5</td>
<td>1.05</td>
</tr>
<tr>
<td>3.0</td>
<td>1.8</td>
<td>0.3</td>
<td>1.0</td>
</tr>
<tr>
<td>70</td>
<td>54.6</td>
<td>12.4</td>
<td>57.6</td>
</tr>
<tr>
<td>*13.5</td>
<td>15.5</td>
<td>11.5</td>
<td>2.0</td>
</tr>
<tr>
<td>24.9</td>
<td>12</td>
<td>1.8</td>
<td>11.1</td>
</tr>
<tr>
<td>15.6</td>
<td>4.2</td>
<td>0.2</td>
<td>11.2</td>
</tr>
<tr>
<td>1.4</td>
<td>0.6</td>
<td>0.4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

* Denotes a special note or condition
Total RPW trap catches for Israel
1999-2002

Number of catches/month

Month

Jan Feb March Apr May June Jul Aug Sept Oct Nov Dec

1999 2000 2001 2002
RPW in Jordan
infested and cured trees

2003: Jan - Dec.
2004: Jan - July

Number of trees

<table>
<thead>
<tr>
<th>Year</th>
<th>Infested Trees</th>
<th>Cured Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>2004</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>
RPW: Activities of the PCP

- Establish a trapping – monitoring system
- Establish laboratories for diagnostic and educational purposes.
- Implement a management system according to the findings.
- Set up a collaborative network of the parties
The Delegation from Jordan visiting Israel to observe RPW-associated problems on both sides of the border.
Staff members of Suez Canal University Faculty of agriculture, June 2002 in a RPW training course
Palm trees as ornamentals
Thank you