SESSION THREE
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Pest Disease Control Strategies, Integrated Production Systems and the Impact on Market Access

New Zealand and Australia Avocado Grower’s Conference’05
20-22 September 2005
Tauranga, New Zealand
Spotting bug management in avocados –
A review

By Dr Henry Drew

HAL Project No. AVO4013 funded by Avocados Australia and Horticulture Australia
Spotting bugs (SB) in Australia

- Native coreid stink bugs.
- **Two species overlap in most areas, Amblypelta lutescens and Amblypelta nitida.**
- Attack green fruit and shoots.
- **Pest of avocado, macadamia, mango, papaw, persimmon, lychee, citrus and passionfruit.**
- Collected from over 200 plant species.
Project methodology

AN INDUSTRY AUDIT OF GROWER PRACTICES

• **Postal survey through Talking Avocados.**
  80 growers producing 1.15 million trays

• **Telephone survey.**
  50 growers

• **On-farm visits by local consultants.**
  20 growers in Central NSW, Northern NSW
  Mt Tamborine, Blackbutt, Sunshine Coast
  Bundaberg, Atherton Tablelands

• **NSW DPI investigation of unsprayed property at Duranbah, northern NSW.**
SB hotspots are real!

Geographic

• Highest in Palmwoods - Woombye area of Sunshine Coast and Alstonville area of northern New South Wales.

On-farm

• Edge & local effects.
• Highest next to native habitat, particularly regrowth around watercourses.
• Preferred varieties Fuerte & Pinkerton.

SB hotspot monitoring makes sense!
Factors contributing to SB hotspots

- Individual trees: 10%
- Varieties: 10%
- Biggest trees: 10%
- Local areas: 60%
- Not really: 10%
- Not sure: 5%
- X: 10%
- NA: 5%
SB monitoring by growers

• 29% say they are carrying out monitoring for SB.
• 40% had seen nymphs & 65% had seen adults.
• 33% saw SB every year & 14% saw SB every month.
• However 66% could NOT tell difference between SB and Assassin bug nymphs & 41% could NOT tell difference between adults.

Surprisingly 65% said they could tell the difference between SB and QLD fruit fly damage.
Growers spray practices

• 80% sprayed for insects & disease.
• 4% sprayed DISEASES only.
• 5% sprayed INSECTS only.
• 11% used no insecticide “organic” programs.

• 73% used airblast sprayers.
• 38% applied LESS than 6 sprays.
• 52% applied 6-10 sprays.
• 10% applied MORE than 10 sprays.
Chemicals used for SB control

Efficacy, residues, secondary pests, beneficials …
Spray practices and Endosulfan use

- Average spray volume was 2.6 L / 100m$^3$ of canopy.
- Only 4% were using a Dilute spray VOLUME equivalent to 6.0 L / 100m$^3$.
- 64% used Dilute RATES.
- 19% used Concentrate RATES.
- 40% used less than 50% of the Dilute DOSE.
- 9% used more than 20 L / hectare per season.
- 50% used less than 10 L / hectare.

There is confusion on VOLUMES and RATES.
Spray volume and Endosulfan dose

9.0 ml Endosulfan / 100m³ canopy = DILUTE DOSE
### Losses to SB versus spray costs

<table>
<thead>
<tr>
<th>Percentage of respondents</th>
<th>Losses to SB LOW Less than 10%</th>
<th>Losses to SB MEDIUM 10-20%</th>
<th>Losses to SB HIGH More than 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray cost $0/ha</td>
<td><strong>NIL</strong></td>
<td>9.0</td>
<td>2.6</td>
</tr>
<tr>
<td>Spray cost Less than $100/ha</td>
<td><strong>LOW</strong></td>
<td>7.7</td>
<td>5.1</td>
</tr>
<tr>
<td>Spray cost $100-300/ha</td>
<td><strong>MEDIUM</strong></td>
<td>20.5</td>
<td>10.2</td>
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<tr>
<td>Spray cost More than $300/ha</td>
<td><strong>HIGH</strong></td>
<td>11.5</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>48.7%</td>
<td>23.0%</td>
<td>28.3%</td>
</tr>
</tbody>
</table>
RESEARCH …

- Improved SB monitoring systems using pheromones or volatiles.
- Improved understanding of SB predation.
- Breaking the link between fungicide and insecticide sprays.
- Registration of a “soft” chemical option
EXTENSION ...

✓ Identification of SB nymphs and adults.

✓ Understanding Dilute / Concentrate rate concepts.

✓ Training for improved airblast sprayer setup and calibration.

✓ Preservation of predators.

Dr Henry Drew
Growing Greener Growers