SESSION THREE

Session Three
Pest Disease Control Strategies, Integrated Production Systems and the Impact on Market Access

New Zealand and Australia Avocado Grower's Conference'05
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Spotting bug management in avocados – A review

By Dr Henry Drew

HAL Project No. AVO4013 funded by Avocados Australia and Horticulture Australia

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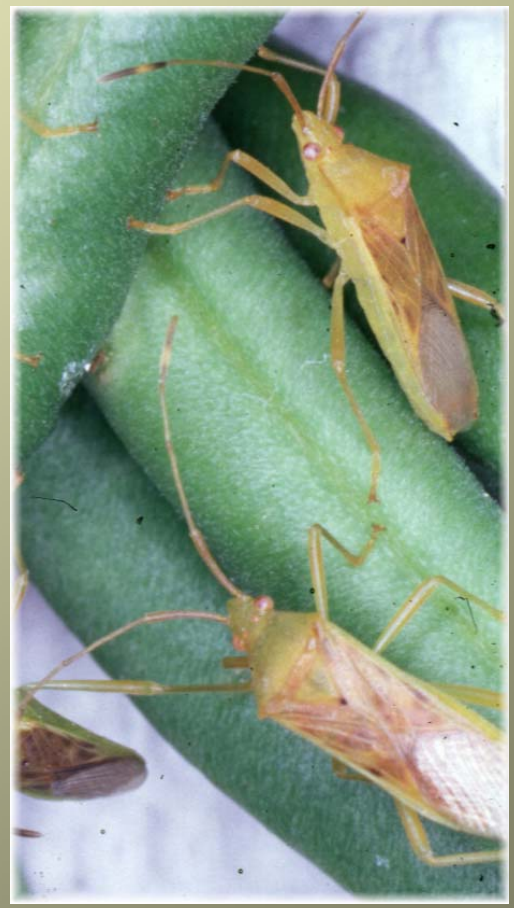
Growing Greener Growers

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.**



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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.**

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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!

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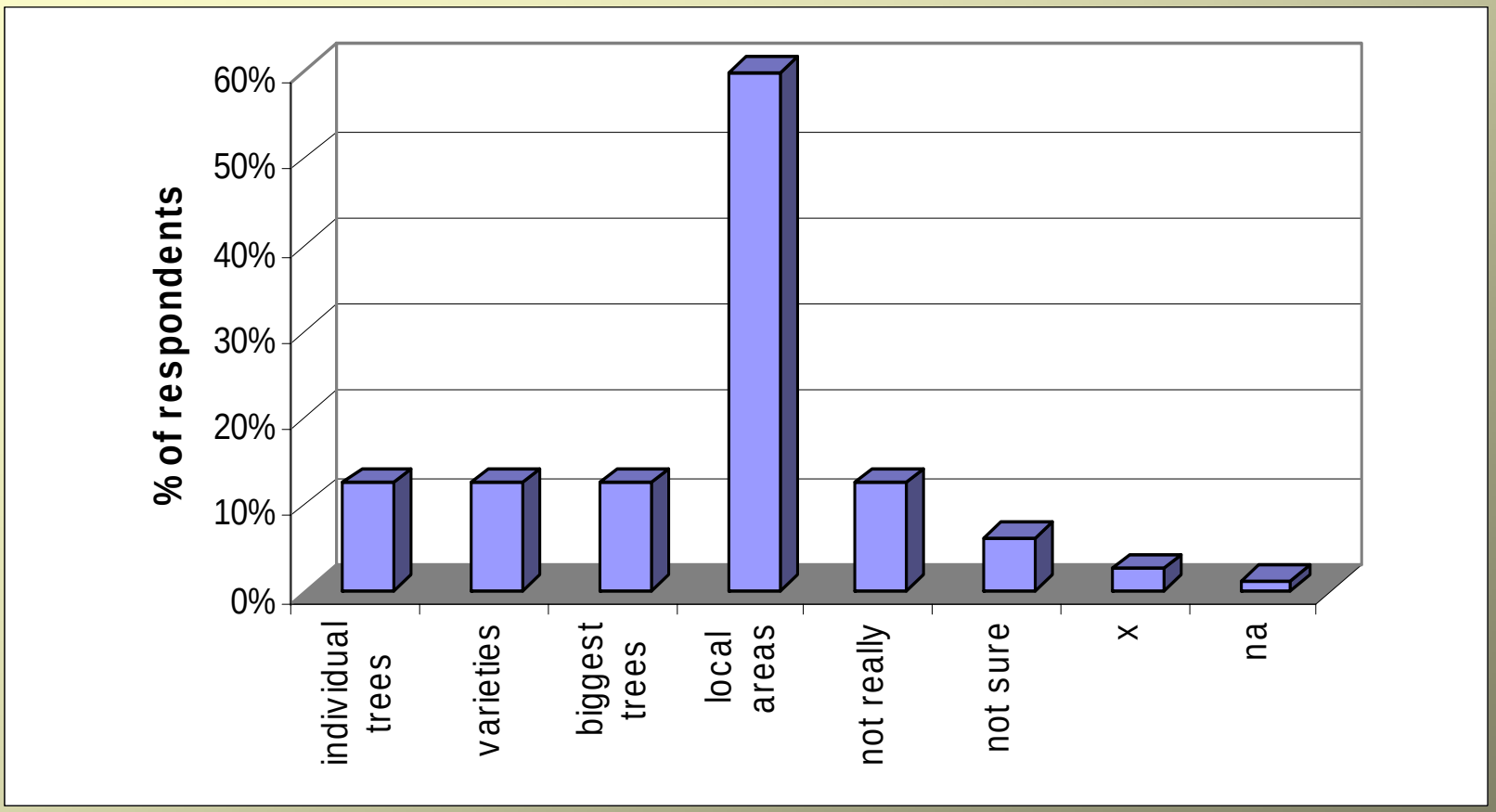
Factors contributing to SB hotspots



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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.

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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.**

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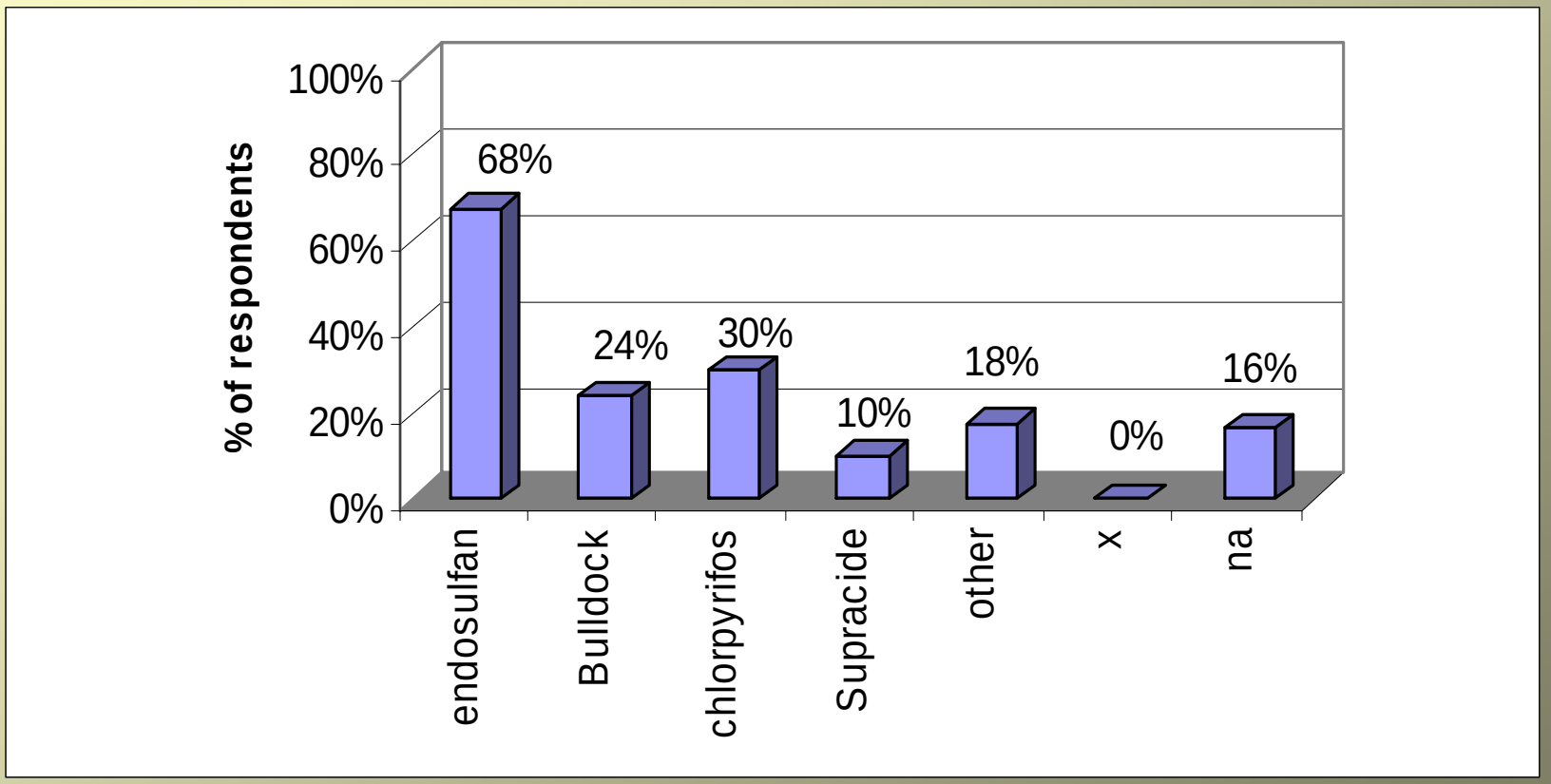
Chemicals used for SB control

Efficacy, residues, secondary pests, beneficials …



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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.

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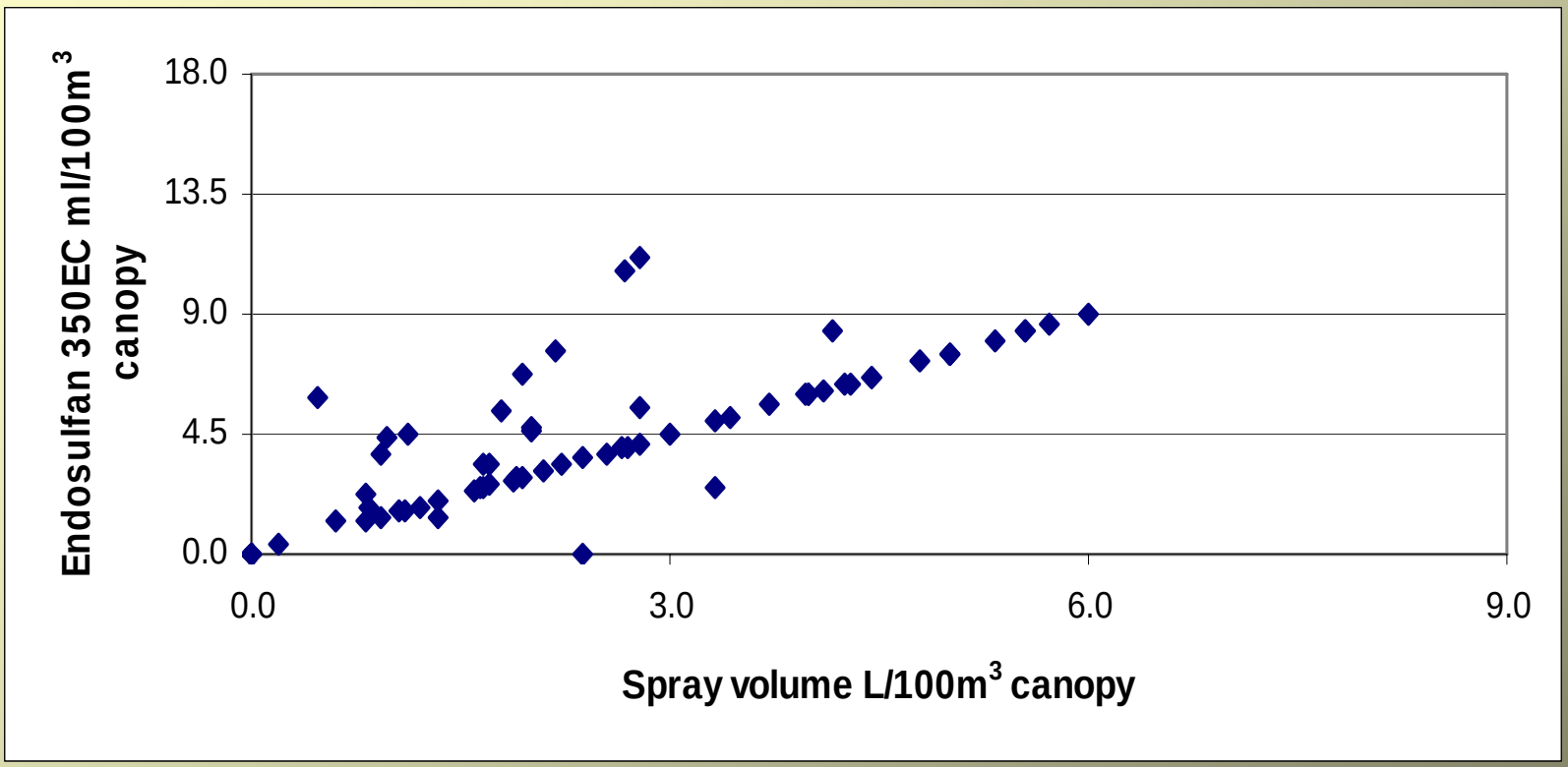
Spray volume and Endosulfan dose



9.0 ml Endosulfan / 100m³ canopy = DILUTE DOSE

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Losses to SB versus spray costs

Percentage of respondents	Losses to SB LOW Less than 10%	Losses to SB MEDIUM 10-20%	Losses to SB HIGH More than 20%
Spray cost NIL $0/ha	9.0	2.6	6.4
Spray cost LOW Less than $100/ha	7.7	5.1	2.6
Spray cost MEDIUM $100-300/ha	20.5	10.2	15.4
Spray cost HIGH More than $300/ha	11.5	5.1	3.9
TOTAL	48.7%	23.0%	28.3%

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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**

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EXTENSION …

- ✓ **Identification of SB nymphs and adults.**
- ✓ **Understanding Dilute / Concentrate rate concepts.**
- ✓ **Training for improved airblast sprayer setup and calibration.**
- ✓ **Preservation of predators.**

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