

Grapevine Scale Biology and Monitoring in Australian Vineyards

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Australian Government

Wine Australia



Government
of South Australia

Department of Primary
Industries and Regions



2024-25

2025-26

2026-27

Robyn Dixon

Industry advisory
gp



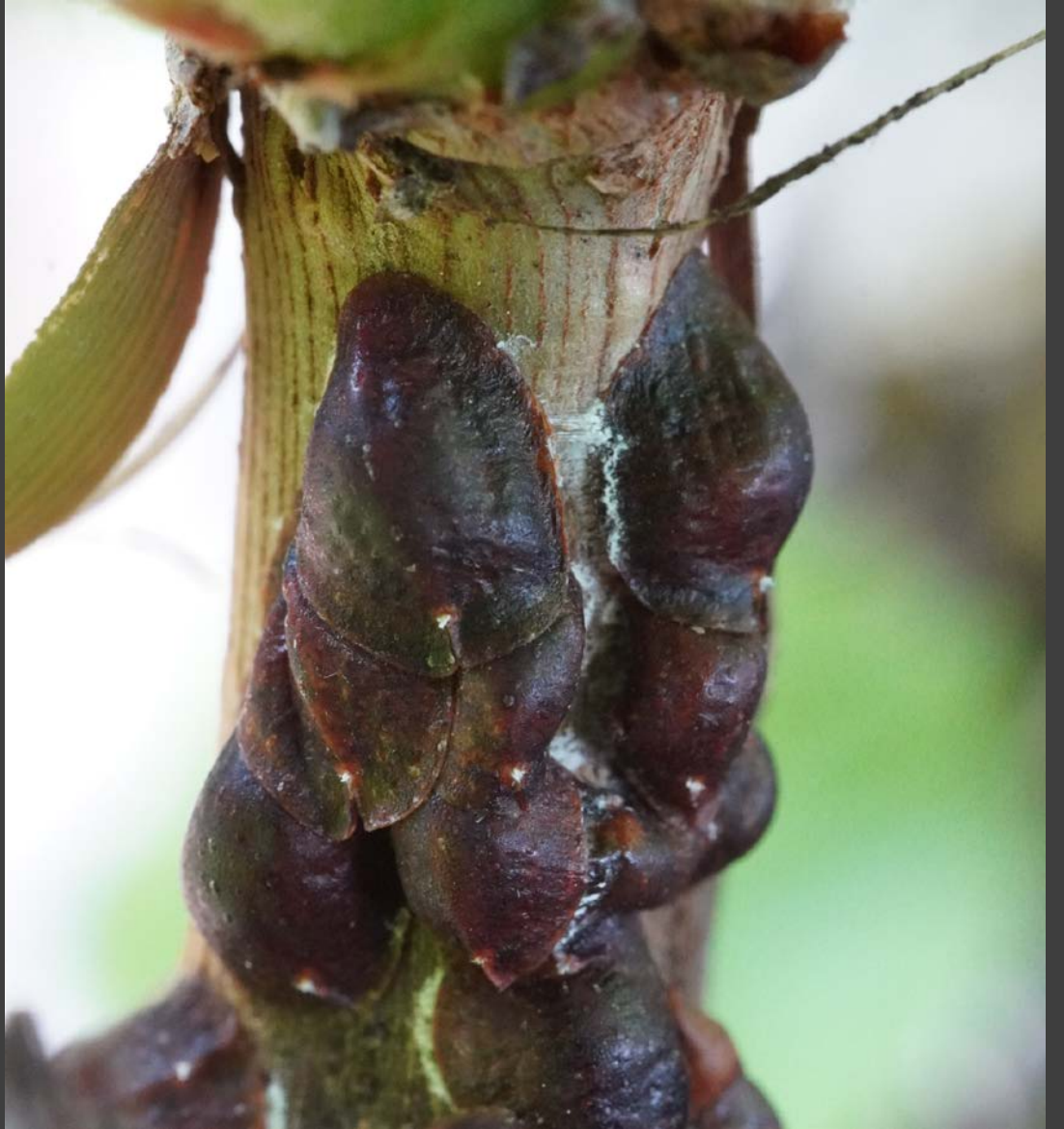
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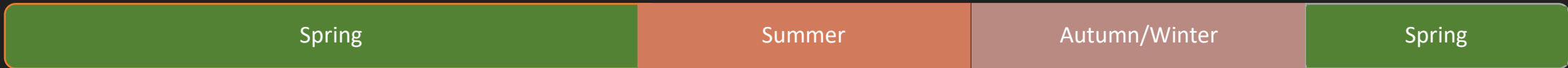
- Reduced yield and quality
 - Virus transfer
- Honeydew and sooty mould
- Increasing concern





Virus transmission

Honeydew/sooty mould





National survey to determine
species



Vineyard surveys: scale
phenology, number of
generations, management



Agrichemical tests

Is the problem due to a new species?

2011

Grapevine scale,
Parthenolecanium persicae



Frosted scale, *Parthenolecanium pruinosum*

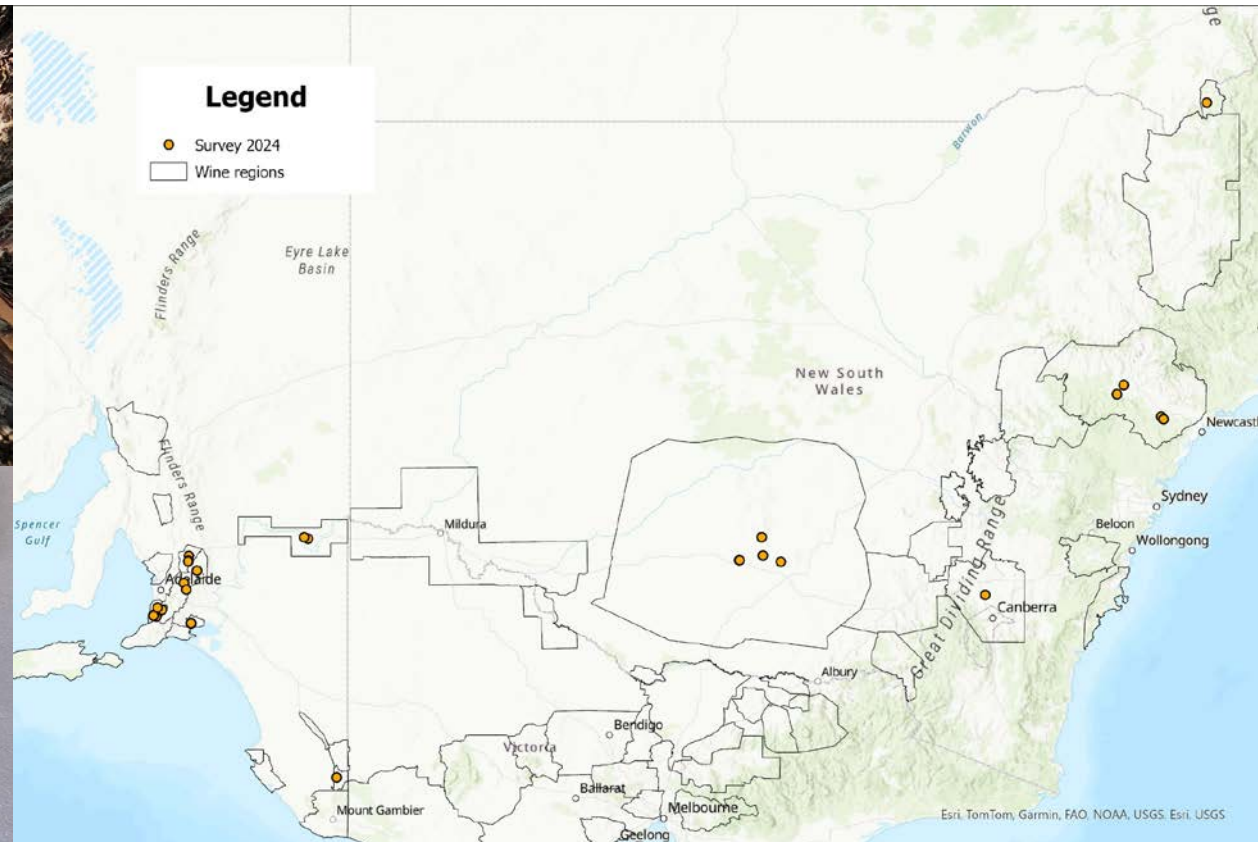
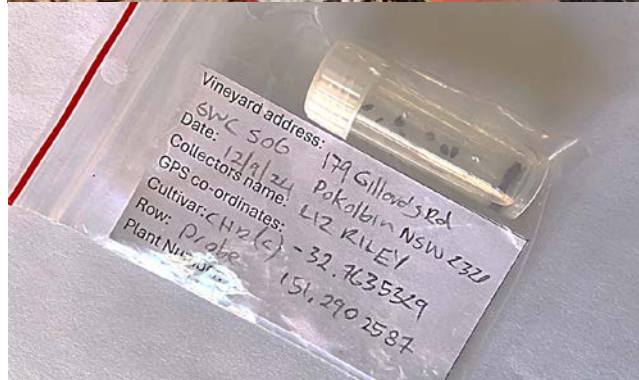


2022

Plum scale *Parthenolecanium corni*



National survey Aug-Nov 2024



Multiple approaches to identification

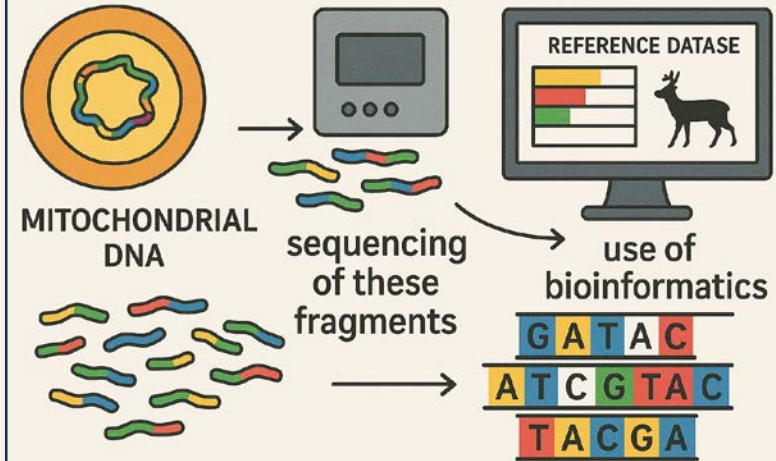


BARCODING
GACTGCTAGC



**MORPHOLOGICAL
CHARACTERS**

SHOTGUN SEQUENCING OF MITOCHONDRIAL DNA



- Early days in identification

- Most common :

Frosted scale, *Parthenolecanium prunosum* (or plum scale, *Parthenolecanium corni*?)

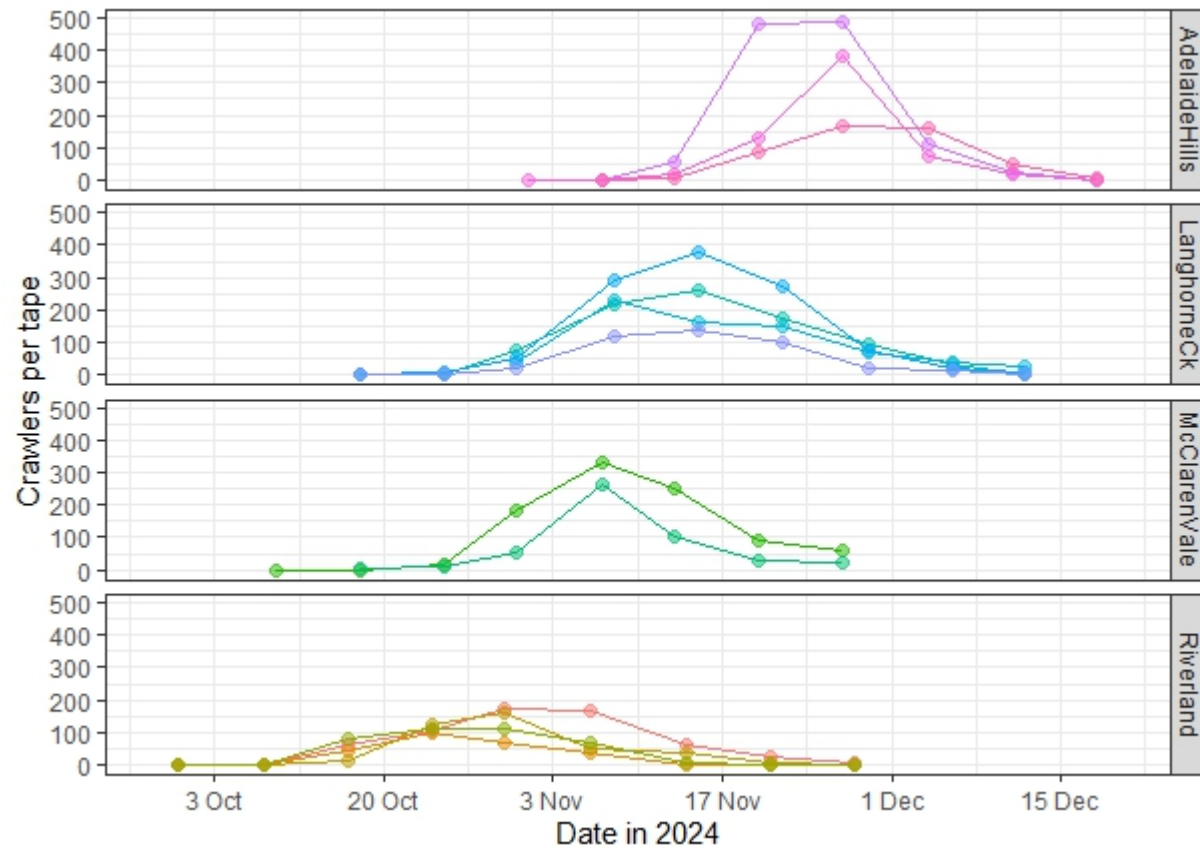
- What is the impact on management?



Monitoring



When do crawlers occur?



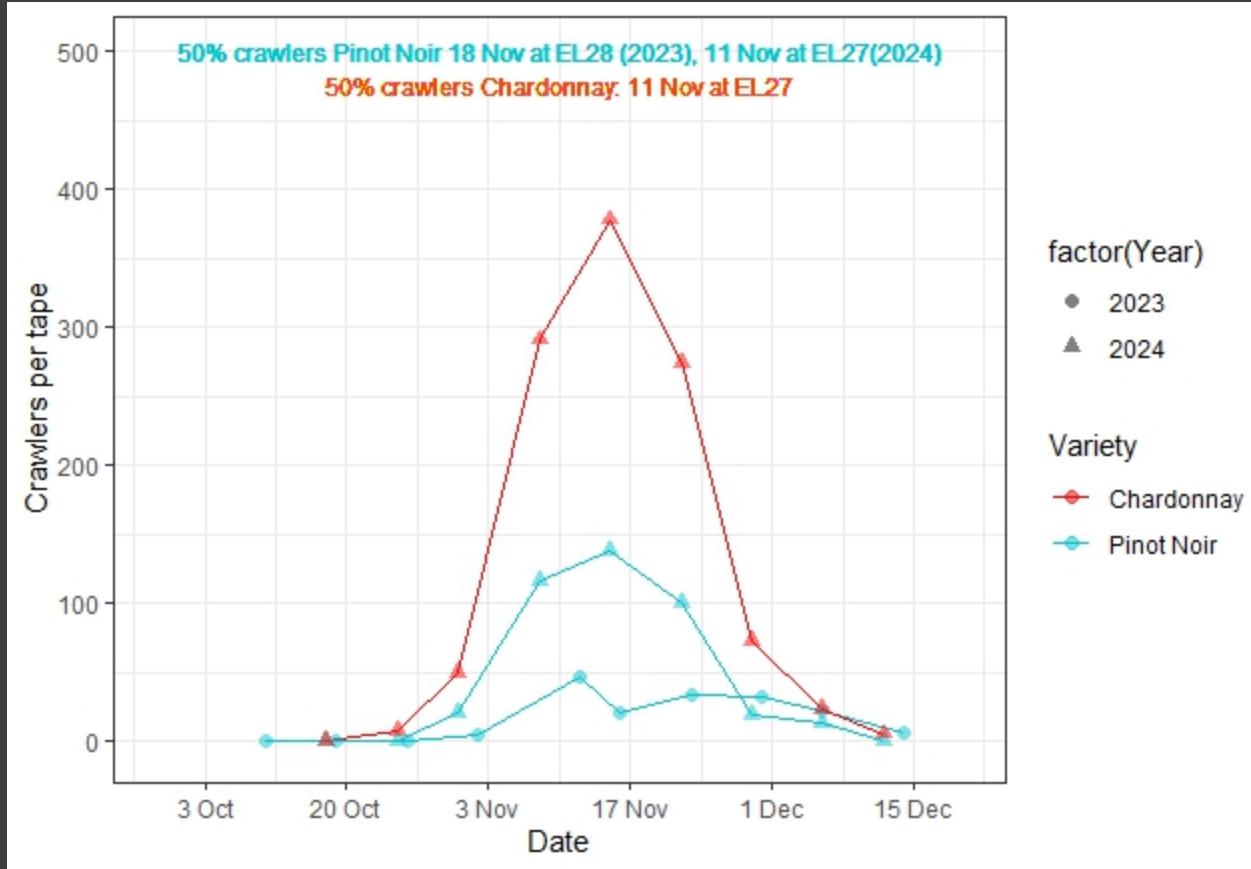
Adelaide Hills (1530 DD)

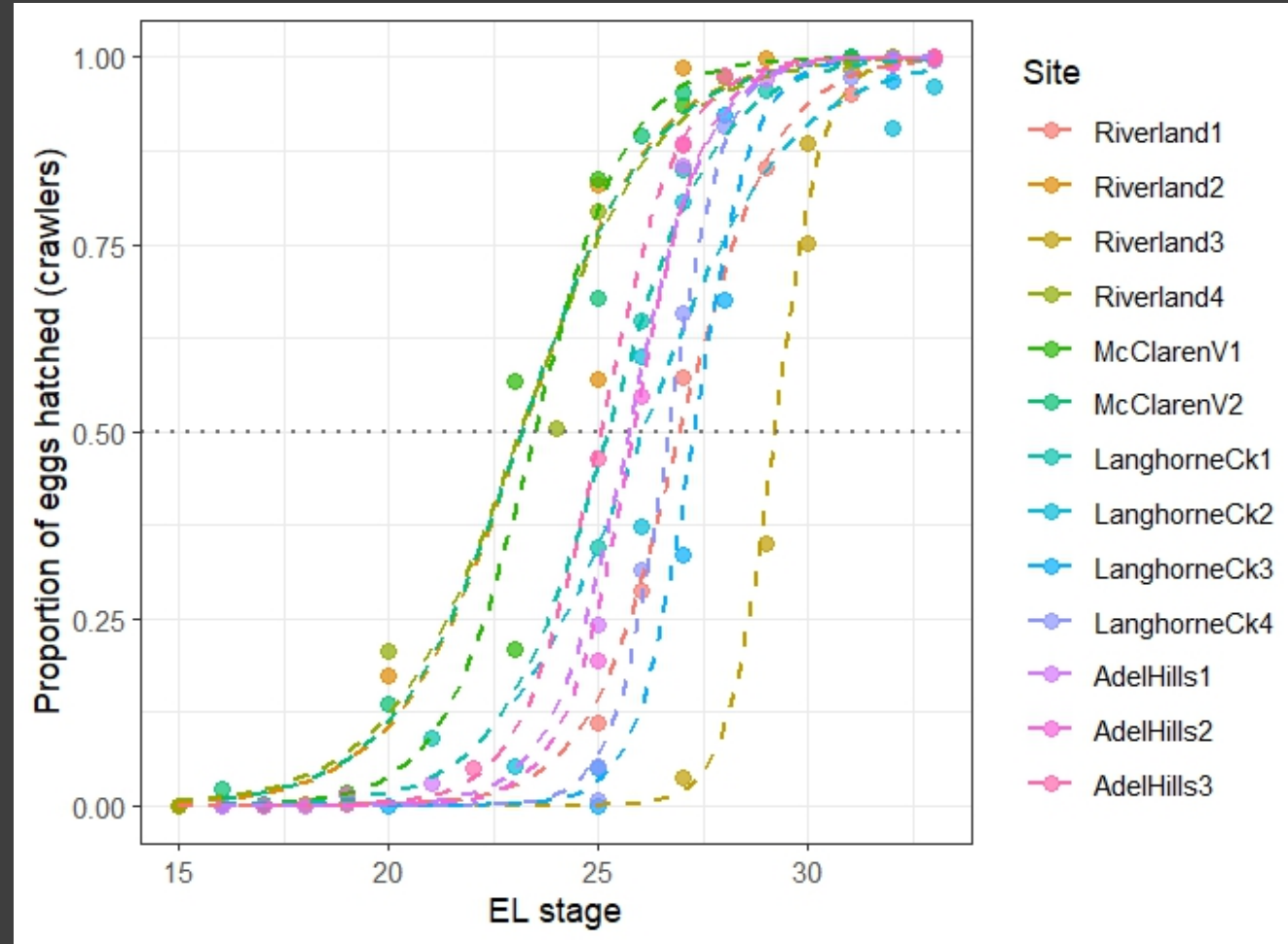
Langhorne Creek (1894 DD)

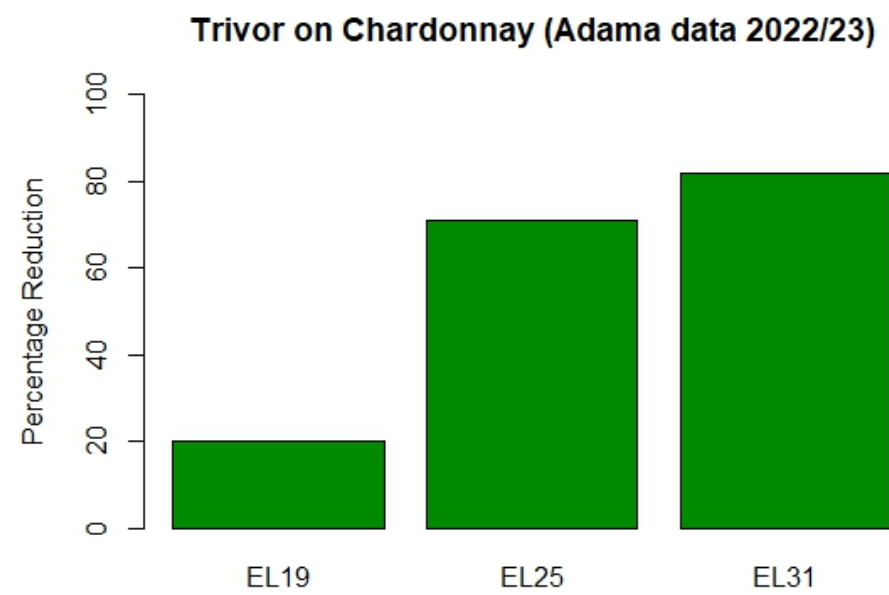
McLaren Vale (1865 DD)

Riverland (2305 DD)

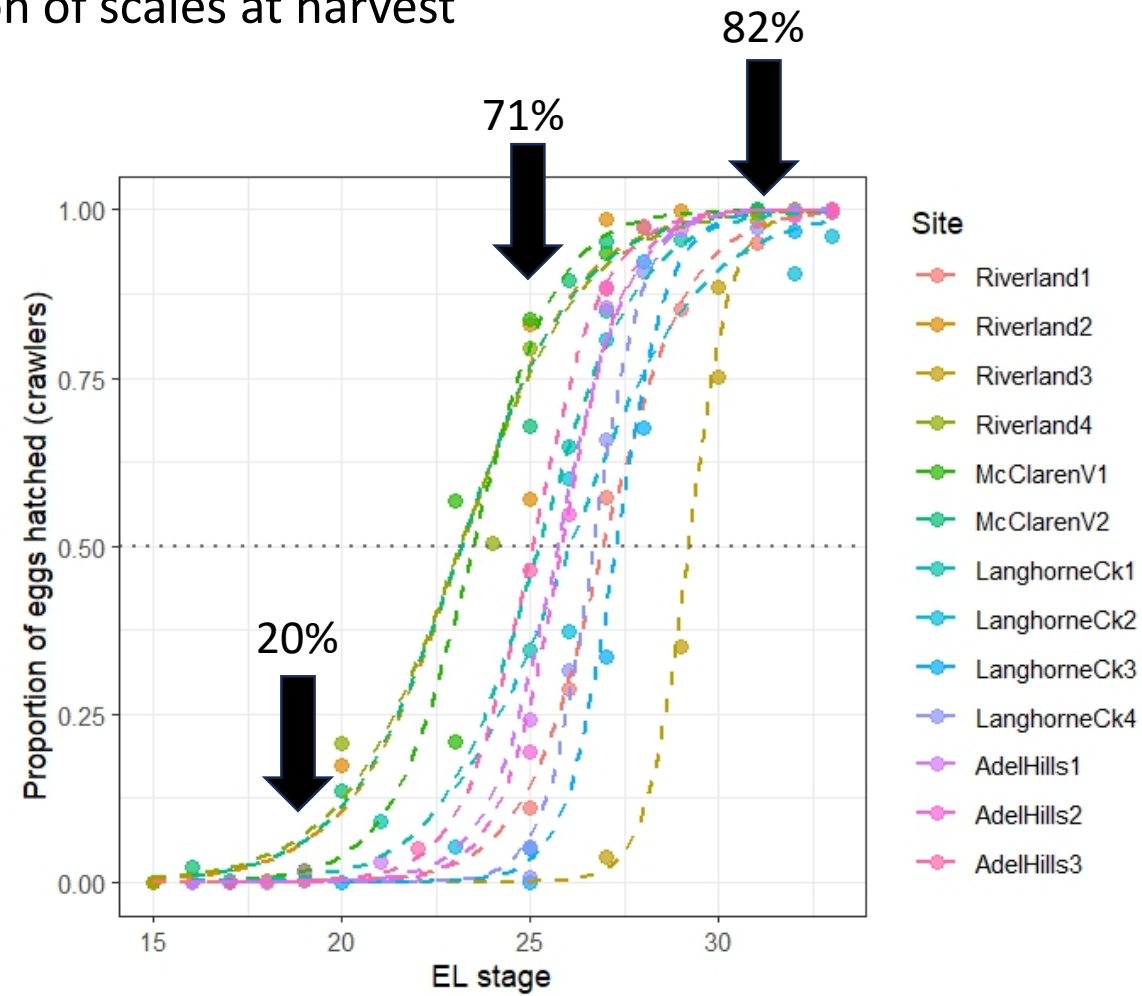
Swan Hill (2238 DD)



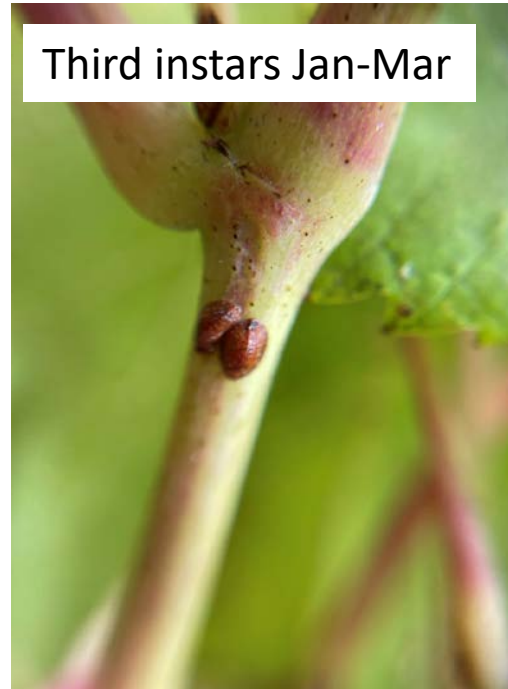




Reduction of scales at harvest



Second generation crawlers during Jan-Mar



Small increase in new scale on leaves

Parasitism rare



Except at one site with soft brown scale

Insecticides

Trivor

- Acetamiprid+pyriproxyfen
- WHP: EL19
- Translaminar, IGR
- Lasts up to 28 days
- Ingestion or direct body contact

Movento, Viento

- Spirotetramat
- WHP: EL18
- Systemic
- Lasts up to 28 days

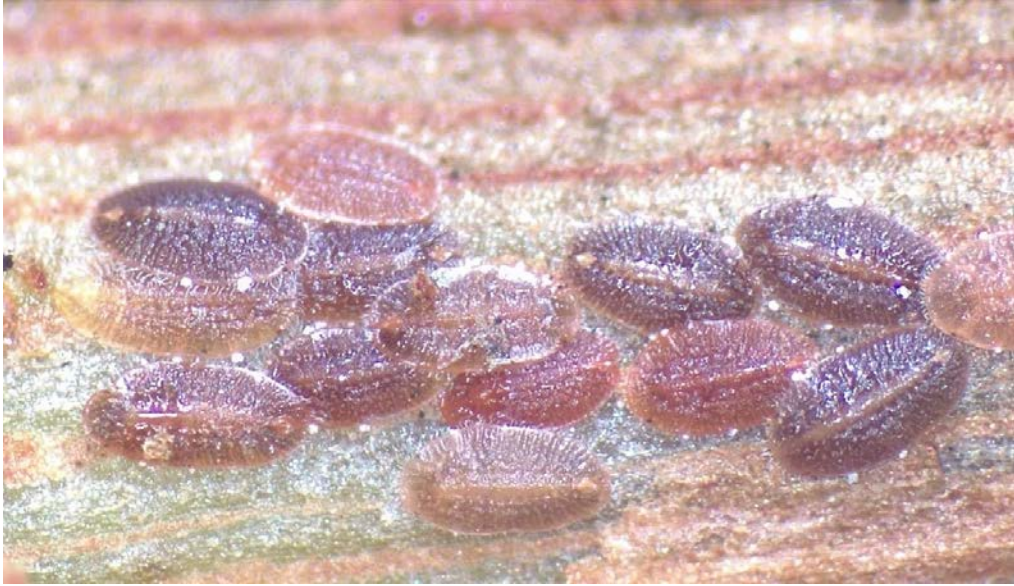
Applaud, Buprofezin 440 and others

- Buprofezin
- Mealybugs but may also kill scale
- WHP: EL25
- IGR – taken up during direct contact, acts during moulting
- Lasts up to 28 days

Oils e.g. Biopest, Vicol winter oil



- Recommended rates x different age of scale
- Potter tower for direct contact and residual activity with Trivora, oils with chlorpyrifos (as standard)
- Potted vine tests for spirotetramat, acetamiprid + pyriproxyfen, buprofezin, and oils
- Tests of spreaders and penetrants?
- Other chemistry? Sulfoxaflor?



Post-harvest sprays

- Still being tested – noisy data
- Adama trials of Trivor: EL1-3>EL41>dormancy
- Grower trials of Movento

