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# Olive anthracnose and lace bug

Barbara Hall October 2016





Government of South Australia Primary Industries and Regions SA



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# Len Tesoriero & Robert Spooner-Hart **Australian Government** Primary Industries University of Western Sydney **Rural Industries Research** and Development Corporation SARDI

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- Caused by *Colletotrichum* spp.
- Important disease affecting yield in most olive growing regions of the world (Spain: 6-50%)
- Losses result from aborted flowers & fruit, branch dieback, & poorer oil quality (16% infection, <EV)</li>
- Fungicides cost Spanish growers >\$250M/yr
- Cultivars vary in susceptibility

- Carried over in mummified fruit, leaves and wood
- Mummified fruit <u>on trees</u> are the major source of secondary infection
- Found on non symptomatic tissue, weeds, other plants
- Infects all parts of olive
- Flower infection causes blossom blight and latent fruit infection
- Favoured by wet conditions, temps 10-25°C
- Increased disease development in high density plantings



S A R D I

- Spores produced on infected material in wet, humid conditions
- Spread by rain splash









#### Anthracnose management

- Avoid humid sites, close plantings and dense canopies
- Prevent fruit damage
- Aerate canopy
- Remove infected material
- Harvest early
- Choose less susceptible cultivars in high risk areas
- Use appropriate fungicides



## **Cultivar susceptibility**

#### Detached fruit assays:

- Barnea, Manzanillo, Picual & Arbequina
- % disease 7, 14, 21 days after inoculation



#### **Fungicide trials (L. Tesoriero)**

#### **Detached fruit:**

Aero, Copper, Amistar on Barnea, Manzanillo, Picual, Arbequina

#### Field trials Coonalpyn & Boort:

3 applications of:

- Aero @ 200g/100L (metiram + pyraclostrobin)
- Amistar @ 80mL/100L (azoxystrobin)
- Tri Base Blue @ 280mL/100L (CuSO<sub>4</sub>)
- Norshield WG @ 280mL/100L (CuO)
- Water



#### **Conclusions from trials**

- Aero & Amistar were effective in both field trials
- Copper & dithiocarbamate products were of marginal value alone in controlling anthracnose however they DO CONTRIBUTE to resistance management
- Barnea and Picual highly susceptible to anthracnose (but Picual low susc. in Spanish data)
- Manzanillo & Arbequina less susceptible
- In detached fruit assays chemicals were less effective at reducing anthracnose in more tolerant cvs (Manzanillo & Arbequina) – however could be useful to reduce infection to below 16% threshold.

#### **Olive lace bug**

Native Australian species: *Froggatia olivinia* Froggatt 1901 (Hemiptera: Tingidae)



### Olive lace bug (OLB)

- Original reported host *Notelaea* spp. (native olive)
- Normally 3 generations/yr
- Recorded in NSW, Qld, Vic, SA, WA
- 1<sup>st</sup> generation infestations occur in spring in north first
- 5 nymphal instars
- First generation is usually discrete, later can have overlapping generations















### **Olive lace bug damage**

- All motile stages have piercing and sucking mouthparts
- Mostly feed on undersides of leaves, but adults also found on upper surface
- Causes yellowing and leaf drop





#### **Olive lace bug movement**

- Nymphal stages are clustered on undersides of leaves
- Adults less clustered, fly short distances
- Eggs, a few adults and occasional nymphal clusters overwinter



#### **Olive lace bug movement**

Extent of movement in different locations is not clear. OLB can possibly infest groves

- from forests (and vice versa?)
- from within a grove
- from nearby groves
- on equipment or people
- from nurseries/plant movement

# **Olive lace bug hosts**

Natural host native olive (*Notolaea longifolia*)



#### **Olive lace bug hosts**

Other possible hosts

- Claret ash (*Fraxinus angustifolia*)
- Green olive tree (*Phyllyrea latifolia*)
- Holly (*llex* spp.)



#### **OLB** chemical management

#### AIM TO TARGET THE NYMPHS OF THE FIRST GENERATION IN SPRING

- **Clothianidin, Shield**<sup>®</sup> PER14897 until end March 2020. Add MAXX Organosilicone surfactant. 1 application per season, WHP 56 days
- Esfenvalerate, Sumi-Alpha<sup>®</sup> Flex PER81949 until end Nov 2021. No more than 4 applications per season to fruiting trees. WHP 14 days
- **Bifenthrin, Talstar**<sup>®</sup> General PER13703 until end March 2017. Add DuWett (trisiloxaneethoxylate). WHP 6 weeks
- **Potassium salts of fatty acids, Natrasoap Insecticidal Soap Spray** PER11152 until end Sept 2023. 2 applications 7-10 days apart. No WHP, organically acceptable

#### **OLB** – non chemical options

- Restrict new infestations from nearby forests or groves, including on equipment
- Avoid stressing trees
- Green lacewings are commercially available and may be of some use in suppressing populations.



Green lace wing larva with OLB nymph

# Len Tesoriero (anthracnose) Robert Spooner-Hart (Olive lace bug)



University of Western Sydney



Australian Government

**Rural Industries Research** and Development Corporation

