Invasive Ambrosia Beetle Conference The Situation in California August 12 - 14, 2012

Meeting sponsored by:
The Hofshi Foundation
University of California, Riverside
UC Center for Invasive Pest Research
The Huntington Botanical Gardens
The Los Angeles Arboretum

Invasive Ambrosia Beetle Conference The Situation in California August 12 - 14, 2012

Session 4
Biology of the Fungal Symbiont

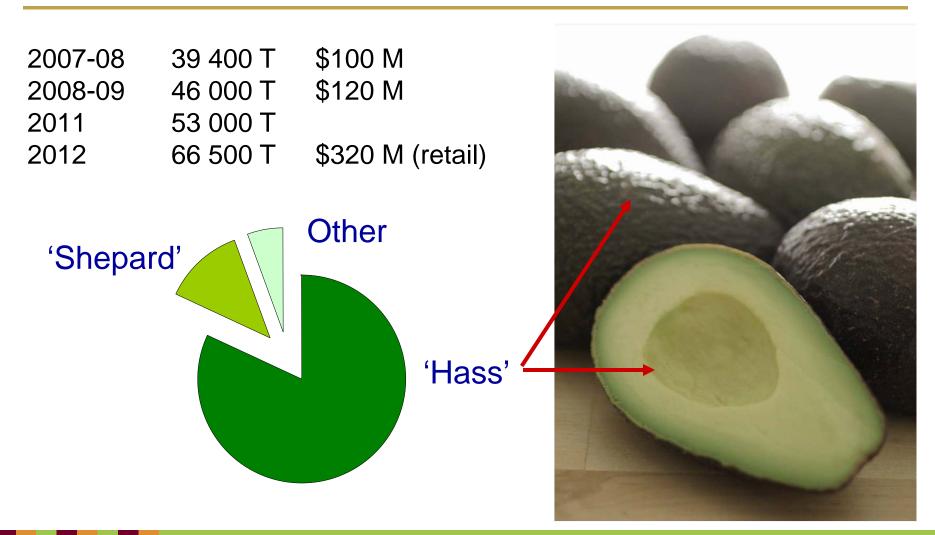


The situation in Australia...

Andrew Geering, QAAFI Paul Campbell, QDAFF

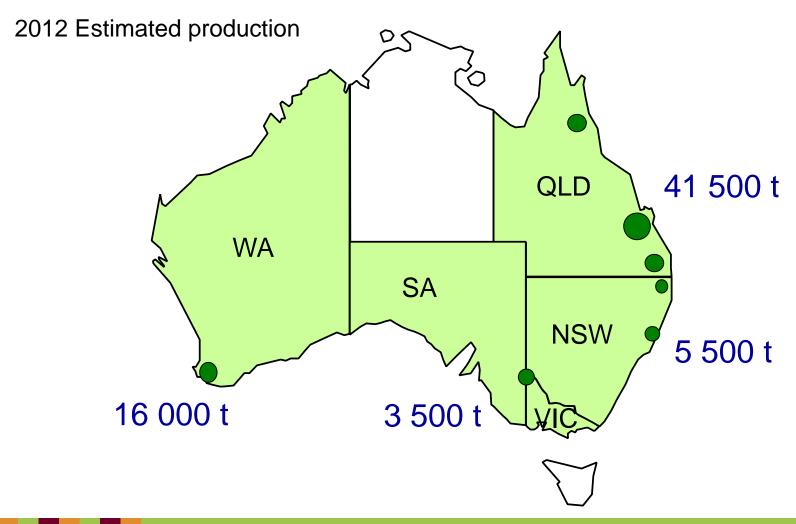


Australian avocado industry





Australian avocado industry



Pathology challenges



- Phytophthora root rot
- Anthracnose and stem end rot
- Phellinus brown root rot
- Avocado sunblotch viroid
- Laurel wilt and beetle vectors











The story so far...

- E. fornicatus Reported
 - -2009
 - Macadamia (Sunshine Coast)
 - 2010
 - Avocado (Sunshine Coast)
 - 2011
 - Avocado (Atherton Tablelands)



Sunshine Coast (Hass)





Sunshine Coast (Hass)





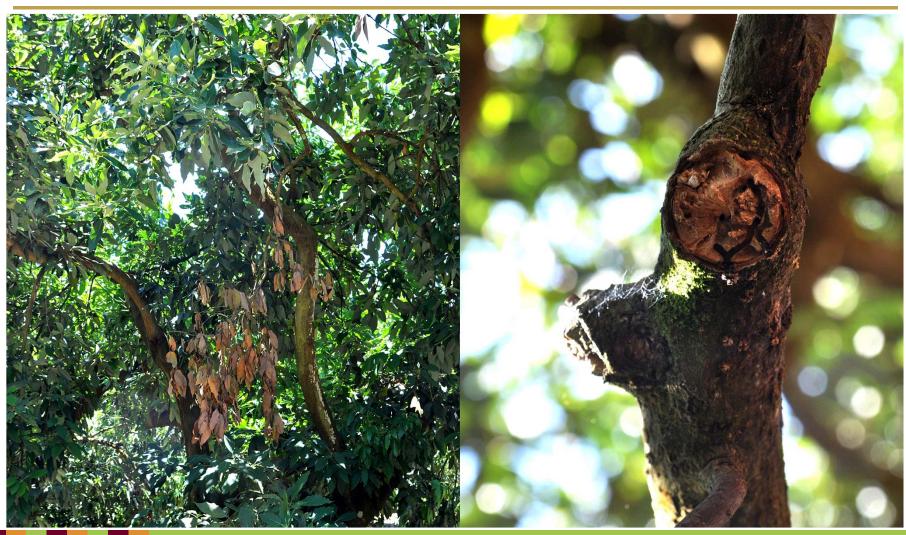


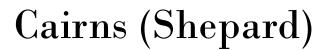
Cairns (Shepard)





Cairns (Shepard)









Microperus spp







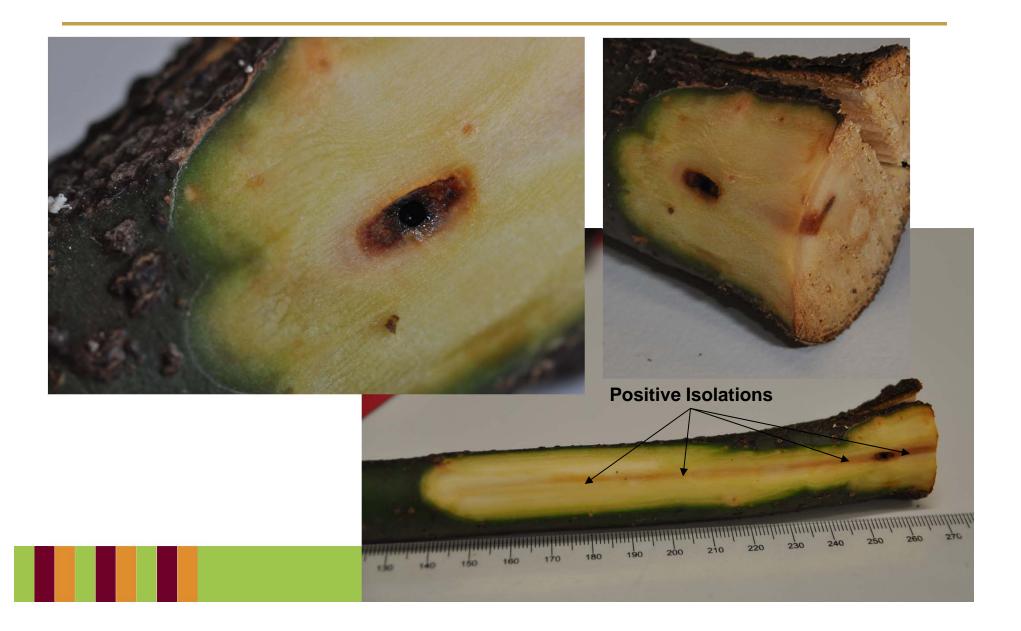


Sunshine Coast (Hass)





Fungal Isolations





Fungal Isolations







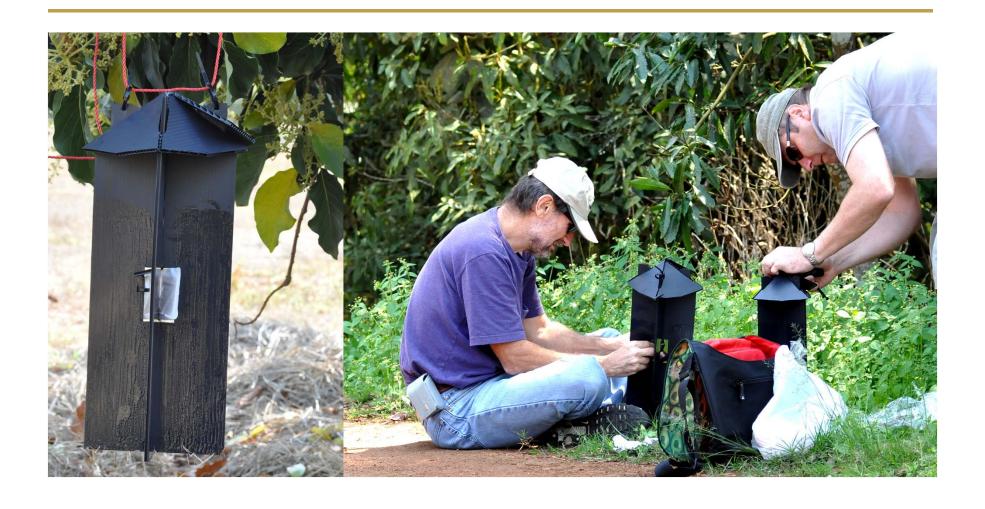
Fungal Isolations

- Sunshine Coast E.F.
 - Fusarium spp
- Cairns
 - Fusarium spp
 - Bionectria ochroleuca
 - Beauveria bassiana









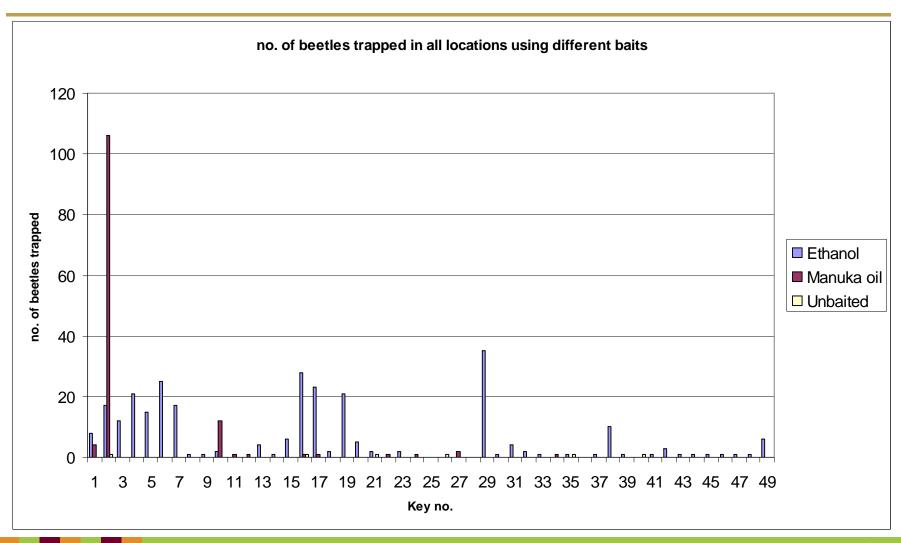




- 4 Trapping locations
 - Qld and NSW
- 3 baits
 - Ethanol
 - Manuka oil
 - Unbaited



Surveillance







Ambrosiodmus latecompressus







- Metagenomic Analysis
 - 454 Sequencing
 - Cytochrome oxidase 1 5' (beetle)
 - Cytochrome oxidase 1 3' (beetle)
 - ITS (fungi)
 - Elongation factor 1 (Fungi)



We Have:

The beetle

Some sort of Fusarium

Some dead avocado branches

Some dead avocado trees