

Pythiaceae root pathogens
associated with *Eucalyptus*
gomphocephala decline in
Western Australia

Tuart distribution in main affected area

 Tuart forest


+ **Extent of decline:-**


 1990

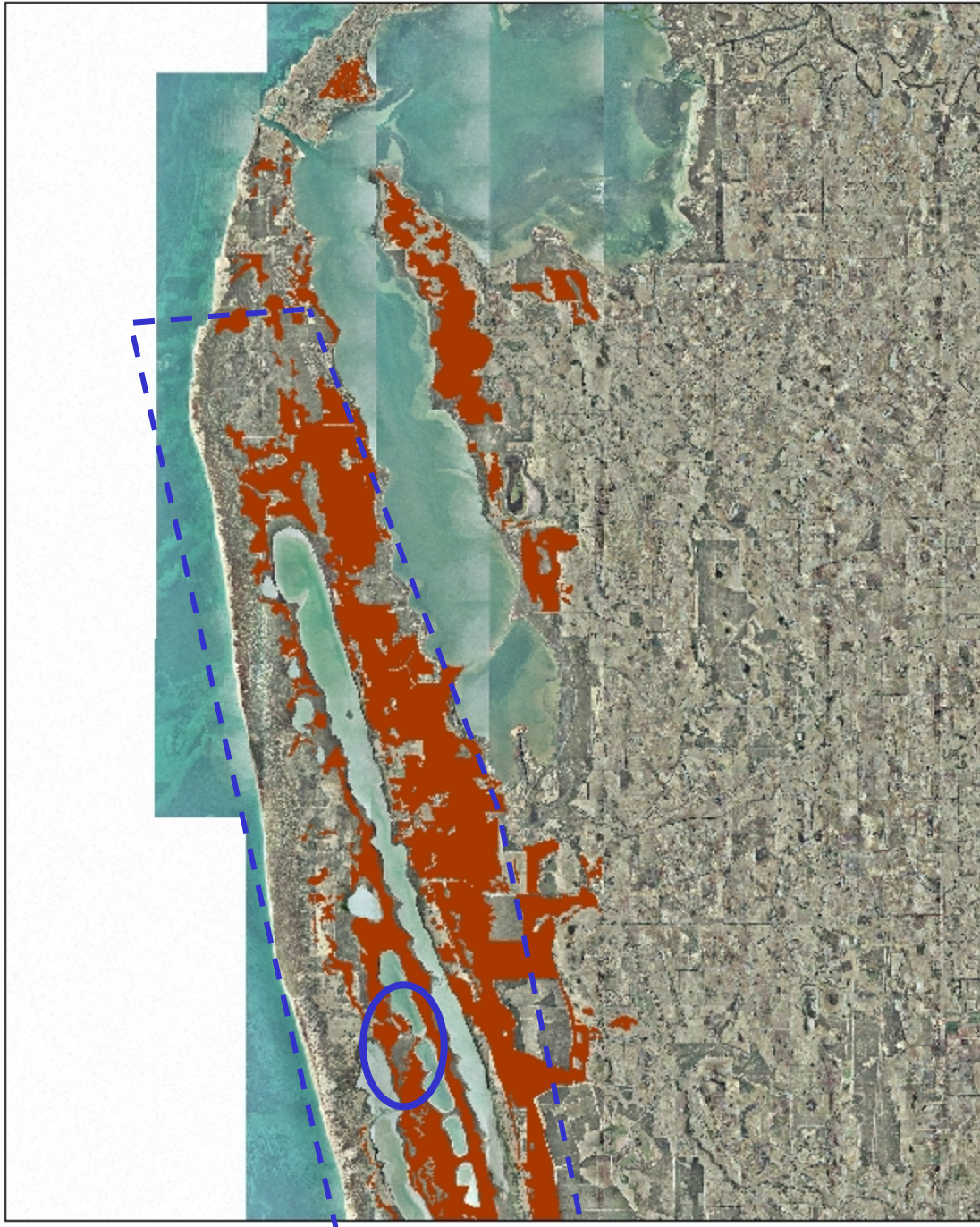
 2007



(Distribution map)

 Kilometers

 Miles



Expression of typical *Phytophthora* symptoms



Overview of research

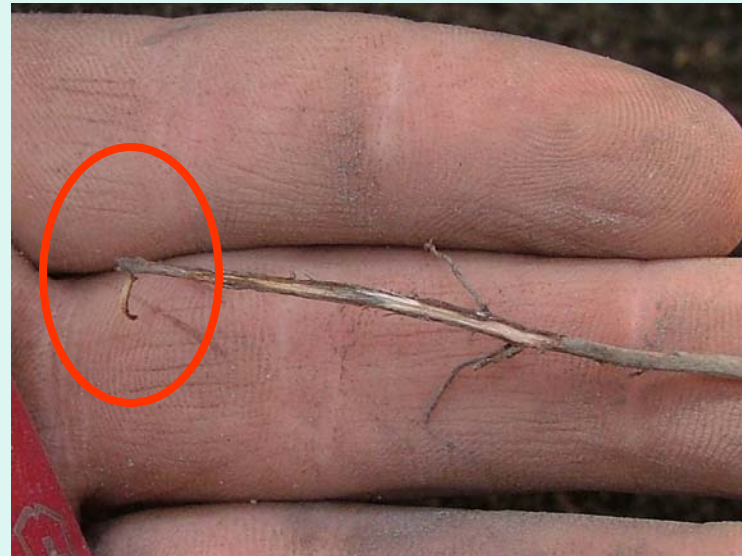
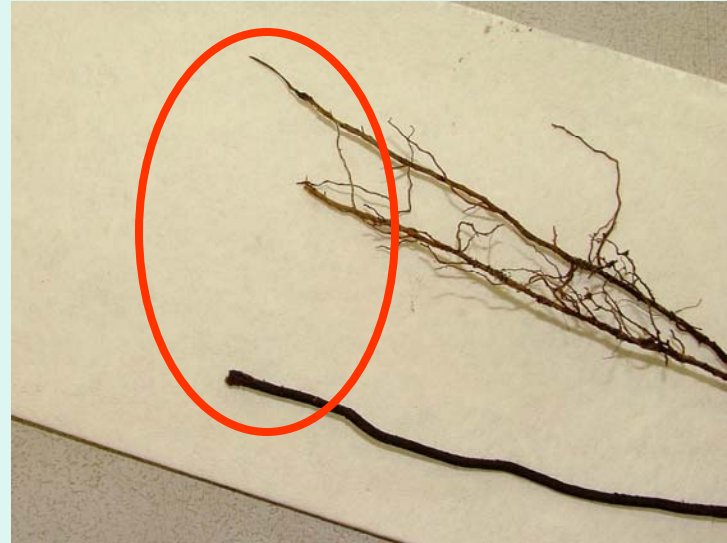
Investigations into
potential role of *Phytophthora*
species in Tuart decline

Stem, lateral and fine
feeder root surveys
for necrosis

Phosphite was applied -
to explore if a role of a
Phytophthora was likely

Phytophthora sp. was
Isolated

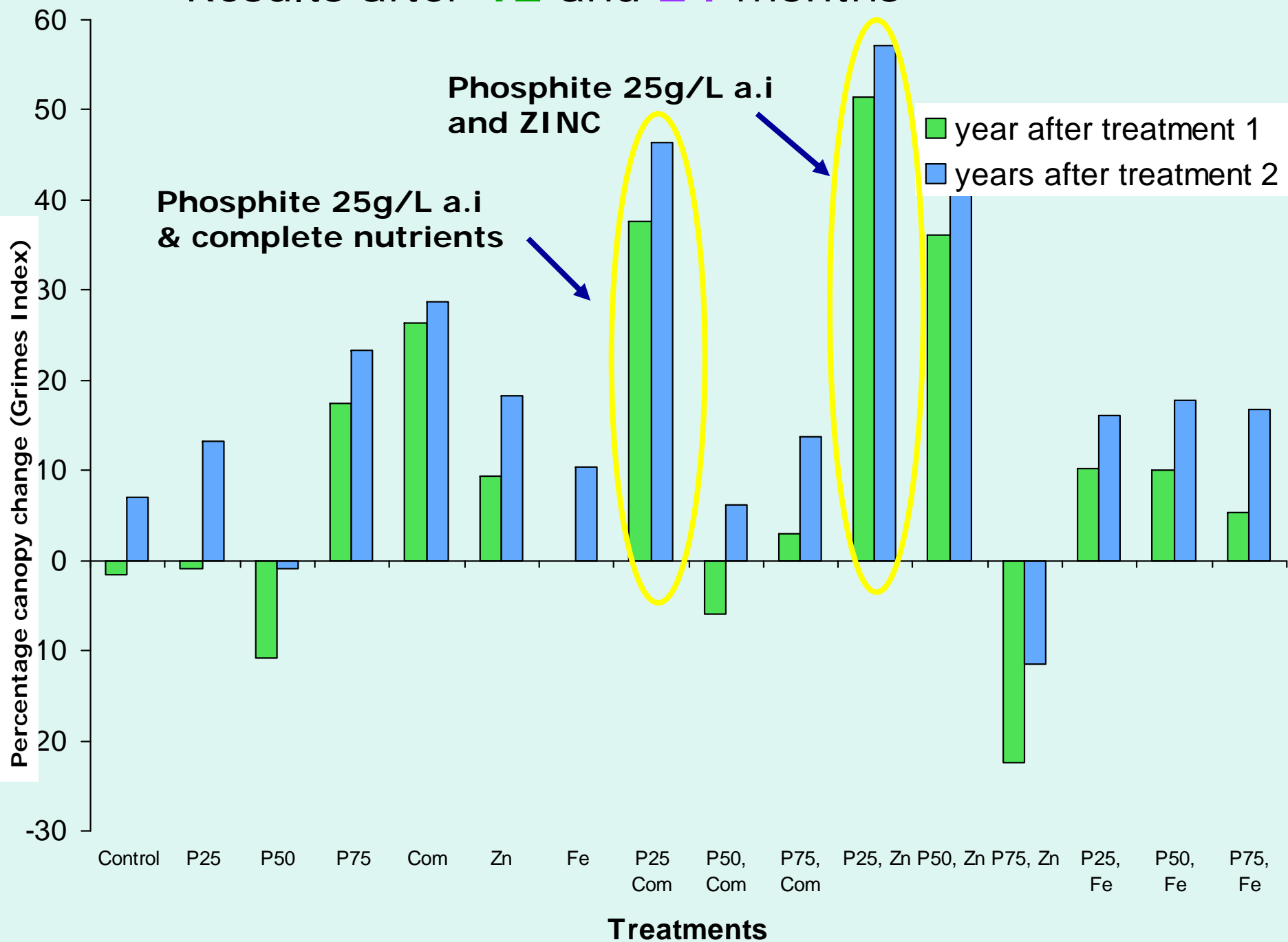
Roots (magnified sections) illustrating: fine root loss and root tip dieback



- **Aim: Assess whether Phosphite, Nutrient and Insecticide injections can improve tree health**
 - Phosphite: 25, 50 & 75 g L⁻¹
 - Nutrients: Combined (Zn, Fe & Mn), Zn & Fe MEDICAP®
 - Insecticide: Orthene®.



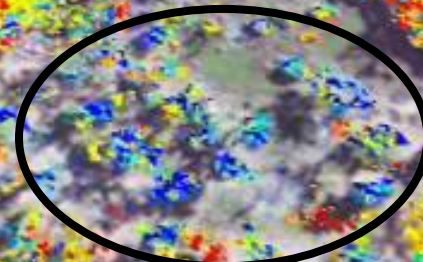
Results after 12 and 24 months



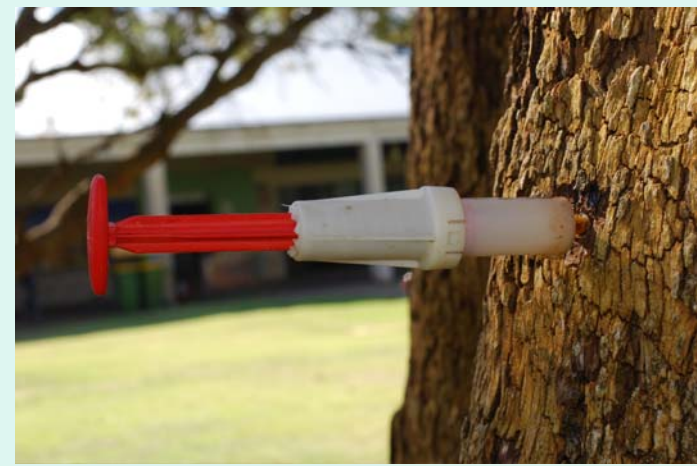
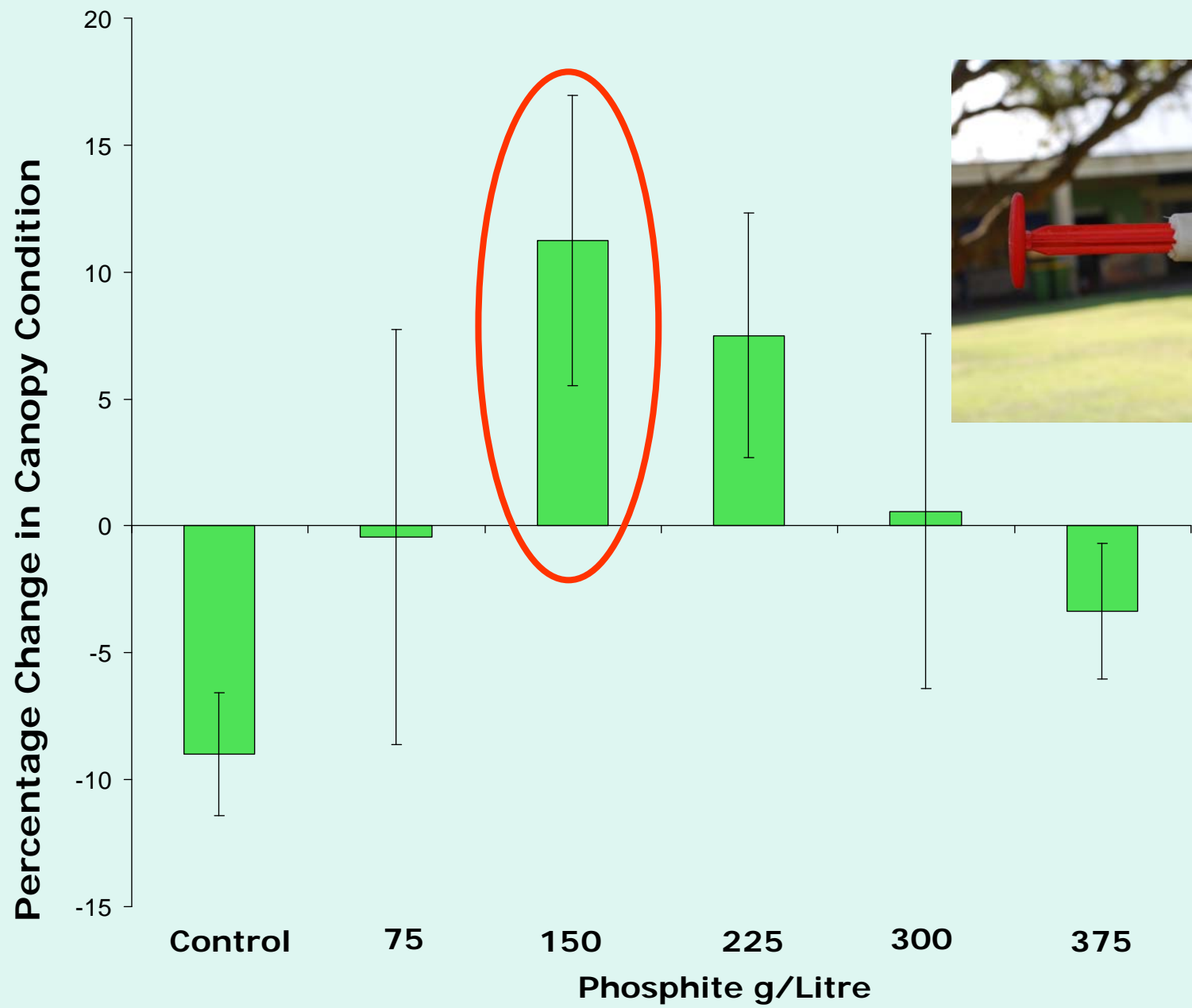
Aim: assess the influence of different phosphite concentrations tree health

Phosphite at 75, 150, 225,
300 & 375 g L⁻¹
Confirm Phosphite uptake
(foliar)
Monitor Phytotoxicity

Injection & Restoration Trial



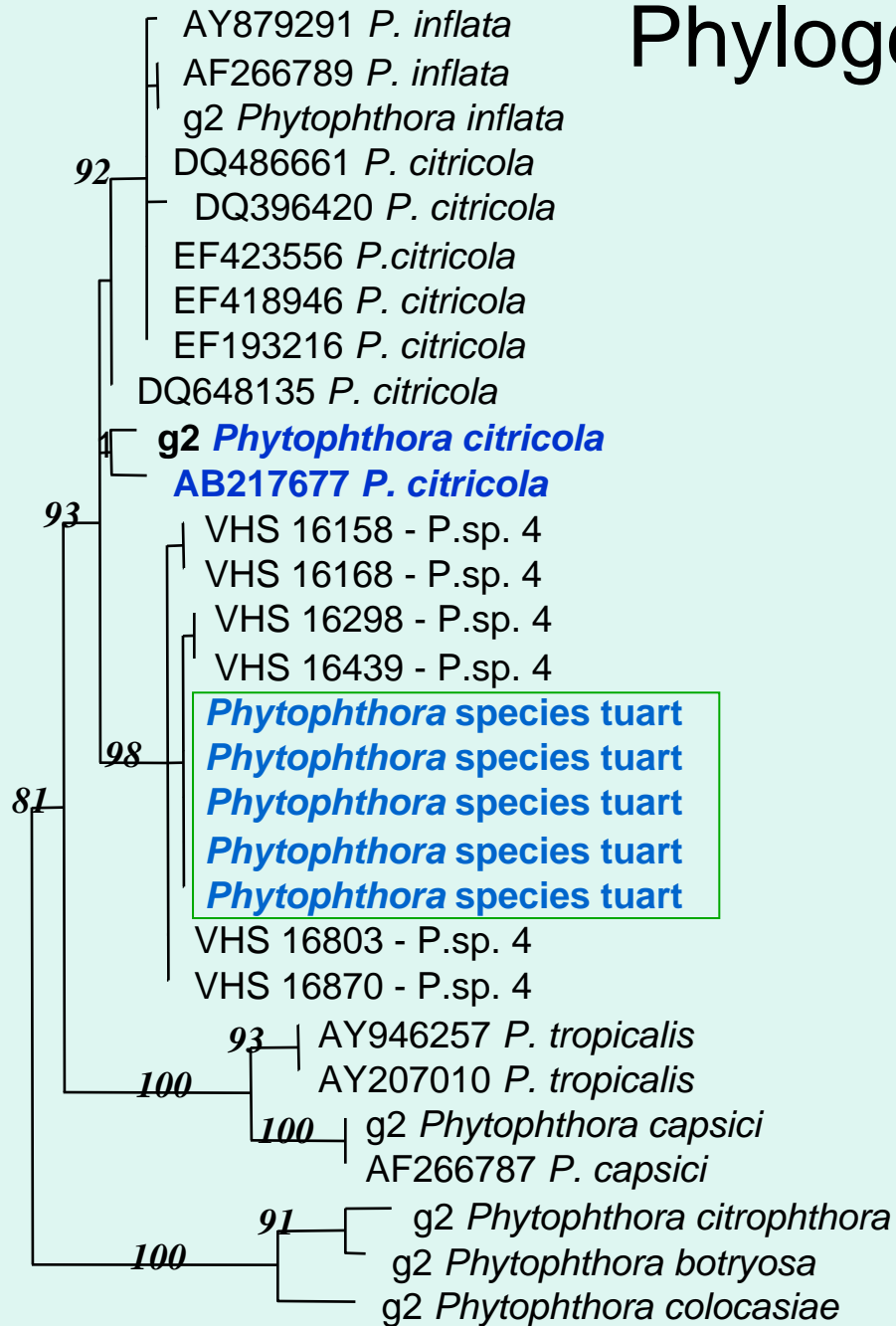
© 2007 Google™



Phytophthora isolated from 5 of 32 sites sampled
From 4 declining sites and 1 healthy site



Phylogeny and morphology

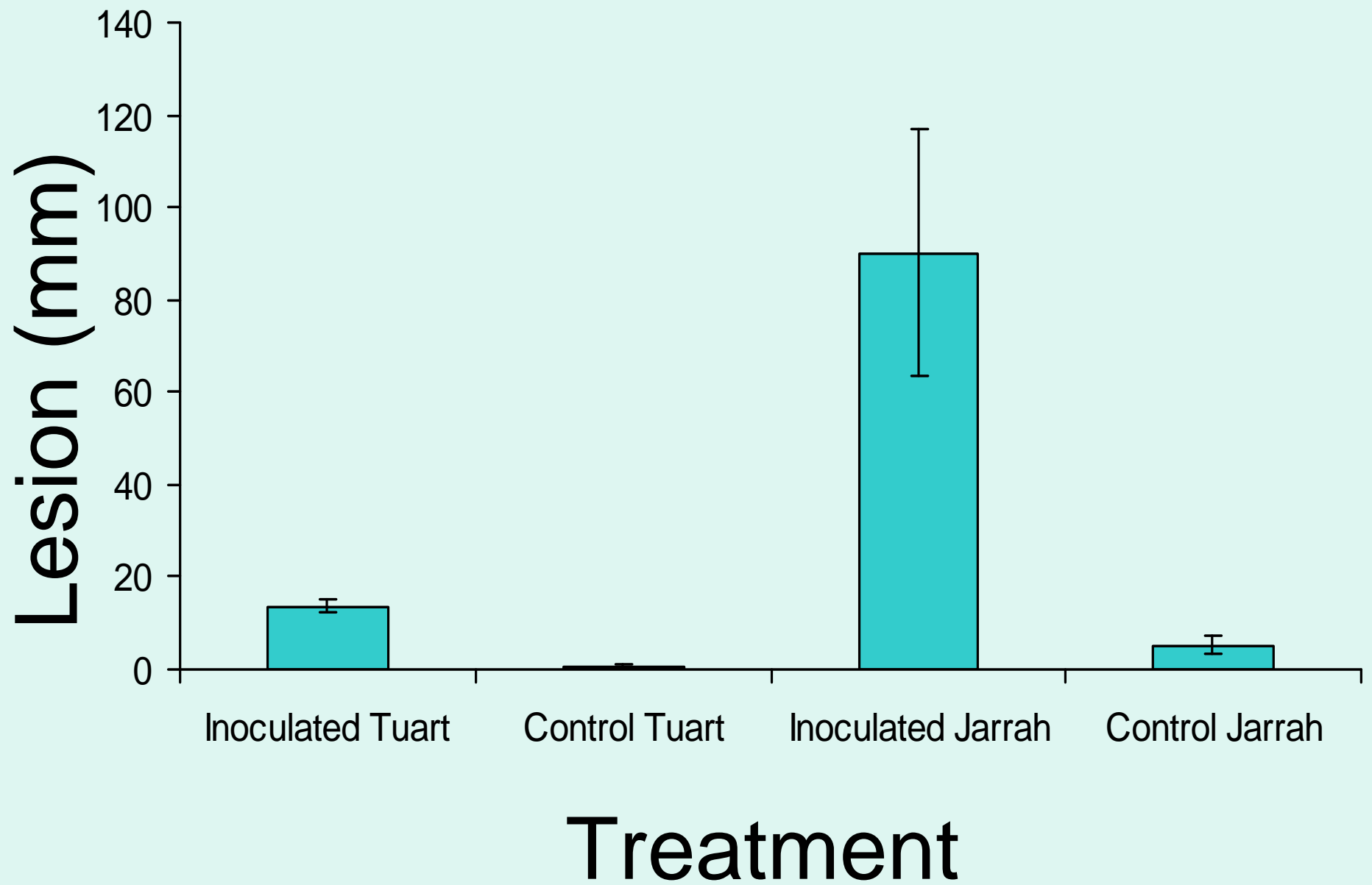


Current Work



- Pathogenicity trial (soil inoculation)
- Describe the new species





Invitation to Participate in Road Testing a New Treatment to Improve the Health of Tuart Trees



Figure 1. An example of magnificent, healthy tuart (left) and classic, decline symptoms (right)

Research by Murdoch University indicates that combining the injection of phosphite (fungicide) with the insertion of nutrient plugs into the trunk of tuart trees can improve tree health.

We would like to extend the invitation to take part in a widespread trial of this treatment. The treatment is safe and does not pose a risk to your trees. During this field day, you will learn more about the trial and see hands-on demonstrations of how to apply the treatment. It's easy! You will also learn more about the causes and options to manage tuart decline

If you have numerous sick tuart trees on your property and you are interested in helping the project then please contact Green Skills on 9360 6667.

***Saturday 17th November
10am-12pm***

*Lake Clifton Community Centre, Tuart Grove Avenue
Lunch provided Cost: FREE*

**Registrations by the 10th November are essential.
Call Green Skills on 9360 6667**

Brought to you by Alcoa,
Green Skills Inc, Murdoch University,
and the City of Mandurah



Phytophthora species and role in tree declines

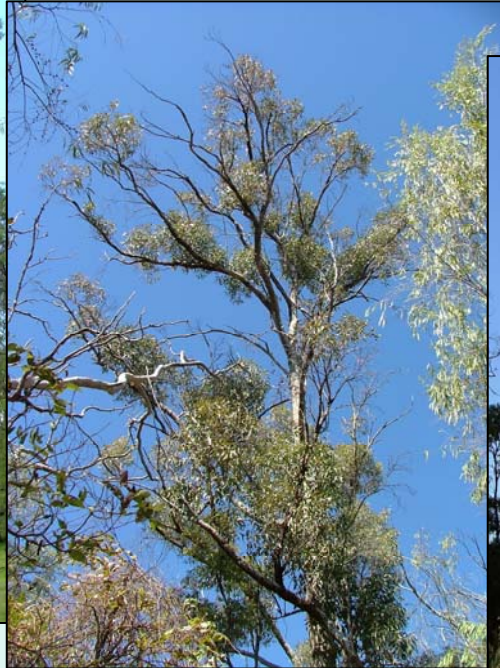
- Many new *Phytophthora* species being linked to tree declines worldwide
- Strict Quarantine critical



Conclusion



Loss of fine roots
were identified



Phosphite was applied -
improved crown condition



A new *Phytophthora*
species isolated