Oral Presentation

CANKER DISEASE IN *CORYMBIA CALOPHYLLA* (MARRI) IN THE SOUTH WEST OF WESTERN AUSTRALIA

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INTRODUCTION

Cankering of marri in the southern forests of Western Australia is causing concern as it is increasing considerably in severity and geographic range. The contribution of canker fungi to stem, branch and tree death has not been studied in detail, and the causal agent(s) is yet to be determined (1). This project examined disease incidence and associated pathogens.

MATERIALS AND METHODS

Survey of disease incidence Three regions across south west WA were selected with two transects set up per region, one in a remnant stand of trees and one in adjacent state forest. Fifty trees per transect were assessed for canker presence.

Isolation of fungal pathogens Standard isolation techniques were used to isolate potential pathogens from marri wood tissue.

Pathogenicity testing Side branches of even aged marri saplings were underbark inoculated with isolated fungal pathogens. Lesions were measured after a ten week period.

Population genetics of suspected pathogens was carried out by sequencing ITS regions and examining intraspecific variation with the use of randomly amplified microsattelite sequences.

RESULTS

Cankers were present at all sites, with lesions occurring on trunks, branches and twigs of trees of all age classes (Fig. 1). Cankers had led to tree death in three of the six transects. There were significantly more cankered trees at the remnant sites than in state forest (47.3% and 16.1% respectively, $p<0.05$).

Figure 2 Severe canker of marri (State forest).

Thirty nine fungal species were isolated in total, the majority being endophytes or opportunistic pathogens.

Inoculations of marri with *Endothiella eucalypti* and *Quambalaria pitereka* produced significant lesions (Fig. 2), with those of the later most similar to symptoms observed in nature. *Q. pitereka* was subsequently examined further.

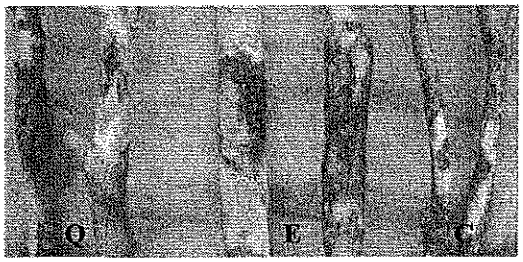

Figure 2 Lesions on marri after inoculation with *Q. pitereka* (Q), *E. eucalypti* (E) and controls (C)

Q. pitereka isolates showed a large amount of phenotypic and genotypic variation (Fig.3).

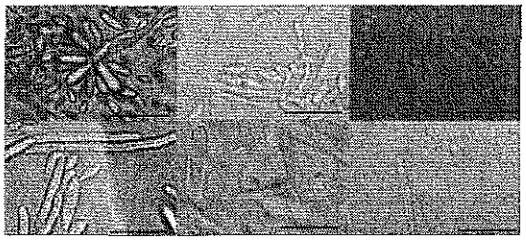

Figure 3 Variation in *Q. pitereka* conidial morphology (Bar =10μm)

DISCUSSION

Cankering of marri is severe and of concern, and potentially caused by *Q. eucalypti*. There is a pressing need for further research into the eitiology and epidemiology of the pathogen.

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REFERENCES

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