

## 112. *Phytophthora* dieback in banksias: screening for resistance.

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Methods are being developed for routine screening of *Banksia* species for resistance to *Phytophthora* infection. *Phytophthora* species were isolated from soil under dying *Banksia* plants in the Adelaide region. Assays using excised shoots and roots have been conducted using two isolates of *P. cinnamomi* and one of *P. citricola*.

The excised shoot assay involves placing 5–6 cm shoot segments upright in agar medium colonised by the fungus and measuring the extent of necrosis after 10 days. Mature plants of 16 *Banksia* spp. were evaluated and species known to be susceptible and resistant in the field could be distinguished by the extent of shoot necrosis. Environmental conditions in which plants were grown appeared to influence the response to inoculation, however, and further studies are required to develop this as a screening technique.

For the excised root assay, roots of 10–14 cm were excised from glasshouse grown seedlings and were inoculated with a plug of mycelium at the cut end. The extent of colonisation was assessed after 4, 8 and 12 days by plating segments onto selective medium. Assessments made 8 days after inoculation of roots gave the best correlation with the excised shoot assay.

**Key Words:** fungus, resistance screening, *Banksia*

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