

Age-related susceptibility of *Eucalyptus* species to *Phytophthora boodjera* prov. nom

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Since 2011 damping-off and mortality of *Eucalyptus* seedlings in Western Australian (WA) nurseries has been observed. The casual agent of this disease was identified as *Phytophthora boodjera* prov. nom based on a combination of morphology and a multi-gene phylogeny.

This study evaluated the age-related susceptibility of five species of *Eucalyptus* (*E. polybractea*, *E. kochii* subsp. *plenissima*, *E. kochii* subsp. *borealis*, *E. loxophleba* subsp. *lissophloia*, and two seedlots of *E. loxophleba* subsp. *gratiae*) to six isolates of *P. boodjera* and three isolates of *P. arenaria* in sterilised washed river sand-infestation pot trials. *P. cinnamomi* was included for comparison. *Eucalyptus* spp. were inoculated with all *Phytophthora* isolates at 0, 2, 4, 12 and 88 weeks post-germination. The following measurements were included in data sets where applicable: number of seedlings germinated, height of seedlings, root length and dry root weight.

Pre-emergent mortality was almost 100%. Post-emergent mortality was 50-100% depending on isolate. Mortality was also high for 1-month old seedlings (46 to 68%) and root length of surviving seedlings was severely reduced. Death from root infection was not observed for seedlings inoculated at 12 and 88 weeks, but this resulted in root necrosis and reduced root dry weight compared to non-inoculated controls. *P. boodjera* is a pre- and post-emergent pathogen of mallee eucalypts. These eucalypts are susceptible to *P. boodjera* at all life stages tested, but the mortality rates declined with seedling age. The events leading to its recent appearance in the nurseries remain unknown and further investigations are underway to determine if this is an introduced or endemic pathogen.