Incidence of Blister Bark Disease of Casuarina across Taxa and Locations in South India

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Abstract

Blister bark or wilt disease caused by the fungus *Trichosporium vesiculosum* Butler is a threat to plantations and breeding populations of *Casuarina equisetifolia*. So far there has been no effective control measure reported for this disease and the infected tree invariably dies. The disease has not been reported in other species of *Casuairna* and large variation in disease incidence exists within *C. equisetifolia*. In the present study, a species-provenance trial involving *C. equisetifolia, C. junghuhniana, C. cunninghamiana and C. cristata,* two progeny trials each of *C. equisetifolia* and *C. junghuhniana* were surveyed for disease incidence. The extent of disease occurrence varied among species, provenances and families. Only *C. equisetifolia* was found to be affected by the disease and the other three species remained disease-free. Within *C. equisetifolia*, trees of Kenyan landrace remained unaffected while the Malaysian provenance showed 59% of disease incidence. Provenances from Papua New Guinea and Australia provenance were also found be least affected by the disease. Among the families of *C. equisetifolia,* disease incidence ranged from 0-80% in Karur, Tamil Nadu while the disease was not observed in the trial at Tirupati, Andhra Pradesh involving the same set of families. In the two progeny trials of *C. junghuhniana*, only the *C. equisetifolia* families included for comparison prupose were affected by the disease. These observations indicate that the within- and between-species variation for disease susceptibility can be utilized in selection and breeding programmes to develop seedlots and clones with disease resistance combined with other economically important traits for enhancing plantation productivity.