Evaluation of the Biological Control Potential of Bacteria Isolated From a Soil Suppressive to Phytophthora Cinnamomi.

AM Stirling, AC Hayward and KG Pegg

Abstract
Roots from 15-year old avocado trees growing in a soil suppressive to Phytophthora cinnamomi were collected from Maleny, Queensland. Of 164 bacteria isolated from the rhizosphere, three fluorescent pseudomonads, nine actinomycetes and a Serratia sp. showed in vitro antagonistic activity against P. cinnamomi. The fluorescent pseudomonads also showed in vitro antifungal activity against a wide range of other fungi. When selected bacteria were grown individually in liquid culture with P. cinnamomi as the main carbon source, mycelial degradation occurred. Leachates prepared from the litter and rhizosphere soil from Maleny also caused lysis of mycelium of P. cinnamomi but individual bacteria added to filter-sterilised leachate did not. In glasshouse experiments, selected bacterial isolates failed to protect roots of Penea indica and lupin from attack by P. cinnamomi. Pseudomonas fluorescens isolate M24 gave significant protection of roots of Jacaranda acutifolia from infection by P. cinnamomi when the fungal inoculum level was 0.001 6 g colonised branlsand per g dry weight of potting mix but not when the inoculum level was 0.004 g.

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