

Typing of *Ralstonia solanacearum* isolated from tomato by antibiotic susceptibility, plasmid profiling and PCR-based techniques of RAPD and ERIC

ABSTRACT

The epidemiological characteristics of *Ralstonia solanacearum* isolated from tomato plants in Sarawak and Selangor were studied. The epidemiological analysis of the strains was carried out through antibiotic resistant pattern, plasmid profiles, randomly amplified polymorphic DNA (RAPD) and enterobacterial repetitive intergenic consensus (ERIC) methods. Six strains were susceptible to all antibiotics tested, whereas the 10 strains that were resistant to one or more antibiotics were grouped into six antibiotic resistance patterns. Small single plasmid of 7.2 Mda and 9.2 Mda were detected among the nine plasmid containing strains, enabling them to be grouped into only two plasmid patterns. In the polymerase chain reaction, based methods using RAPD and ERIC, two strains were untypable by RAPD, whereas all were typable by ERIC. In this study, a wide diversity of *R. solanacearum* strains was examined. ERIC analysis demonstrated the clonal relationship between isolates from tomato plants in Sarawak and Selangor. The existence of similar *R. solanacearum* strains in tomato plants from two very distant locations should be considered if tomato strain fingerprint results were to be used to help trace the vehicles for transmission.

Keyword: *Ralstonia solanacearum*; Antibiotic susceptibility; Plasmid profiles; RAPD-PCR; ERIC-PCR