

Genetic diversity of *Xanthomonas oryzae* pv. *oryzae* strains from rice fields in Malaysia.

ABSTRACT

Bacterial leaf blight caused by *Xanthomonas oryzae* pv *oryzae* (Xoo) is one of the most important bacterial diseases of rice, first detected in Japan in 1884. Repetitive extragenic palindromic (REP) and enterobacterial repetitive intergenic consensus (ERIC) assays were used to differentiate the phylogenetic relationships among 30 Xoo strains collected from rice fields in the states of Penang, Kedah, Selangor and Melaka (Peninsular Malaysia), during the period 2008-2010. Analysis of the 30 strains with REP and ERIC primers yielded five major amplification bands ranging from 200 to 800 bp in size. Fingerprints determined for each strain contained in total a maximum of 16 reproducible bands and a minimum of 9, ranging from 100 to 2,800 bp. The maximum number of score bands was observed in strains from Melaka and the minimum in strains from Penang and Kedah. Cluster analysis of the results of Rep PCRs yielded two major clusters and five sub clusters. Similarity between the two main clusters was 60% and 75% between five subclusters. This indicates that although there is a phylogenetic relation among strains of Xoo from rice crops of Peninsular Malaysia, nevertheless strains from different geographic regions are phylogenetically diverse.

Keyword: Rice; Bacterial diseases; *Xanthomonas oryzae*; Repetitive extragenic palindromic; REP.