

Category	: International Rice Research Conference
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Keyword 1	: Biotic stress tolerance
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Title of Entry	: Molecular techniques for pathotyping of Pakistani isolates of <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> for evaluation and selection of bacterial leaf blight-resistant Basmati rice
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> (Xoo), causative agent of bacterial leaf blight (BLB) of rice, which is serious constraint to world second largest staple food as it limits the yield and reduce the grain quality in all rice growing areas. Study has been conducted for molecular characterization and screening of Pakistani strains of Xoo against different varieties of rice. Molecular detection of the pathogen was carried out using different sets of species and pathovar specific primers. The conformational primers were studied by using online software for in silico PCR against three reference strains of Xoo i.e. PXO 99A, MAFF 311018, KACC 10331. LAMP PCR was carried out to study the lineage of pathogenic isolates using Asian Lineage primers. LAMP primers (PXO_00080) were used to study the genetic relatedness of newly isolated Xoo strains with reference Xoo strain of Philippine origin i.e. PXO_99A. Different isolates of the pathogen were confirmed in vivo by pathogenicity tests using clip inoculation method under net house conditions. Screening of different isolates against different varieties of rice was carried out to determine the most effective R gene or combination of R genes against Xoo and to identify the most virulent strain. The results of varietal screening helped to divide isolates in different groups of pathotypes. The data obtained from this study will be used to suggest better controlling strategies of Xoo in local environment and to develop better performing rice varieties resistant against BLB.

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