

Identification of Pathogenicity of *Pyricularia oryzae* and Resistance of Rice Varieties in Yunnan Province

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The Japanese differential varieties were used to identify 278 strains of *Pyricularia oryzae* from 22 counties of the indica rice region, the japonica rice region, and the mixed region in Yunnan and from the Kunming identification nursery during the period 1983-1986. These strains were divided into 52 physiological races, with various race composites. The composites from the 3 regions were different. Fundamentally, none of the resistance genes, *pi-k^s*, *pi-a*, *pi-i*, *pi-k*, *pi-ta*, and *pi-t* from these regions were found to be effective, based on the analysis of the resistance to the strains. Genes *pi-z*, *pi-ta²*, *pi-z^t*, *pi-b* can be used in the japonica rice and indica-japonica regions. Strains from the indica rice region already displayed a high level of infectivity to genes *pi-z^t* and *pi-b*. A total number of 599 Yunnan and Japanese varieties was identified at the Kunming identification nursery. Yunnan upland rice exhibits a high level of resistance. The infectivity of the strains from the Kunming identification nursery to various resistance genes was highly positively correlated with the degree of infection of the rice varieties that harbour various resistance genes, with $r = 0.941$ for leaf blast and $r = 0.884$ for panicle blast. Owing to the complexity of the rice-growing regions and the large number of rice types and varieties, there are numerous *P. oryzae* strains in Yunnan. A system ought to be developed in future for the identification of rice blast resistance in Yunnan in order to analyze precisely the pathogenicity of *P. oryzae* and resistance of rice varieties in this province.