

Research Article**Phytopathometry of Rice Leaf Blast for the Evaluation of Slow Blasting Resistance Genotypes**

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Abstract

Blast of rice (*Oryza sativa* L.) caused by *Magnaporthe oryzae* is a devastating disease that restrain significant yield under field conditions. Seedling stage is the most susceptible stage for leaf blast incidence. Most effective and economical method of minimizing crop loss due to rice blast is use of resistant cultivars. Two-year experimental field studies were conducted in Coimbatore and Gudalur to study the effects of apparent infection rate, AUDPC, and slow blasting components on genotypes against rice blast disease progression. In the present study, genotypes namely Tetep, IR 64, Tadukan and Rasiwere resistant under field conditions. Seven genotypes namely Usen, C101 LAC, C101 A51, RIL 10, Zenith, Dular and Kanto 51 were found moderately resistant. However, two genotypes CO 39 and HR 12 were consistently susceptible in both locations. The estimation of AUDPC and apparent infection rate was prepared using all points method. Results revealed that PDI and AUDPC were greater in susceptible genotypes as compared to resistant genotypes. AUDPC decreased with increase in resistance of genotypes. Apparent infection rate (r) was greatest in the highly susceptible genotypes CO 39 and HR 12, and least in resistant genotypes in both plantings. The correlation coefficients between PDI with AUDPC, r, and slow blasting components were significant. The direct and indirect effects of parameters on PDI were significantly recorded.

Key words: AUDPC, *Magnaporthe oryzae*, rice blast, slow blasting components

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