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Screening of rice varieties for Bacterial Leaf Blight under different inoculum concentrations

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Bacterial Leaf Blight (BLB) is one of the most devastating diseases in rice caused by *Xanthomonas oryzae* pv. *oryzae*. This is a growing and challenging concern in South Asian countries including Sri Lanka. BLB reduces grain production to a greater extent, by affecting panicle formation and grain filling thus resulting in a huge yield loss. The present study was carried out to screen 14 rice varieties for Bacterial Leaf Blight. Thirteen varieties received from International Rice Research Institute and one local variety; Bg94/1 were sown in 3m x 3m plots in a Randomized Complete Block Design with two replicates at Rice Research Station, Labuduwa, Galle. Rice plants at maximum tillering stage were inoculated using clipping method of artificial inoculation using 3 concentrations [undiluted and diluted; (1:1 and 1:2)] of inoculums and distilled water as a control. After 21 days, disease length of cut leaves and full length of respective healthy leaves were recorded and infection percentage was calculated. A two way ANOVA test was used to observe whether there is a significant effect of the concentration of the inoculum and the type of rice variety on the infection percentage. Out of the 14 varieties tested IR018, was graded as resistant; IR308, IR310, IR318, IR322, IR324 were found moderately resistant, while, IR043, IR050, IR306, IR316, IR319, IR321 were graded as susceptible. Further, IR301 and Bg94/1 were graded as highly susceptible at the highest inoculum concentration. Importantly, the results showed that the concentration of inoculum has significant effect ($p \leq 0.05$) on diseases development. Therefore the results of the study provide useful information for breeders to develop BLB resistant varieties.

Key words: *Bacterial Leaf Blight, inoculation, lesion length, resistance, Xanthomonas*

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