## Abstract No: 95

Life Sciences

## Pyricularia oryzae ISOLATES REGARDLESS OF THEIR ORIGIN FROM DIFFERENT SYMPTOMATIC ORGANS CAUSED NECK BLAST IN INOCULATED RICE PLANTS

## D.M.H.R. Dissanayaka<sup>1,2</sup>, W.A.M. Daundasekera<sup>1, 2</sup> and H.A.C.K. Ariyarathna<sup>1, 2\*</sup>

<sup>1</sup>Department of Botany, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka <sup>2</sup>Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka <sup>\*</sup>chandimaariyarathna@pdn.ac.lk

Rice blast disease caused by *Pyricularia oryzae* is attributed to 30% annual yield loss. Although the pathogen infects the whole plant, neck blast is the most destructive. During a recent islandwide blast outbreak, the fields were completely infected with neck blast, and there were only a few or no leaf blast symptoms. Therefore, this study aimed to determine the nature of symptom development by P. oryzae on the leaf, leaf collar, panicle, neck and rachis. Disease samples were collected from infected fields at Waththegama (Kandy District). Pyricularia oryzae was isolated from typical blast symptoms on a leaf, leaf collar, panicle, neck and rachis. Characteristic conidial morphology was used to confirm the identity of the pathogen following sporulation induction treatments. Suspensions of the mycelium of each isolate were evenly sprayed on aerial parts of rice plants cultivar BG 1/94 in triplicate. Two and half months-old rice plants raised in pots were used for inoculation. The plants were kept inside humidity chambers at ambient conditions until the development of the disease. The rice plants inoculated with different isolates showed neck blast symptoms, but none of the other organs was infected. The outcome of the study indicated possible infection by P. oryzae isolated from different organs. Furthermore, the results showed possible associations between disease development, plant developmental stage, environmental conditions or others. The observation affirms the importance of robust screening programs at different host development stages for effective varietal screening. Since sporulation of blast fungus is limited to artificial media, spraying with mycelia can be recommended as a simple and efficient method for pathogenicity testing for breeding programs.

Financial assistance from the National Research Council, Investigator Driven Grant (18-019) is acknowledged.

Keywords: Blast disease, Inoculation, Rice, Resistance, Screening