

Sheath brown rot disease of rice caused by *Pseudomonas fuscovaginae* in the Peninsular Malaysia

ABSTRACT

Relative to the established and well known rice diseases, sheath brown rot caused by *Pseudomonas fuscovaginae* can be considered new but getting widespread and serious all over the world. Our research was aimed to monitor and quantify the incidence and importance of the disease in Malaysia. A series of field monitoring and sampling were conducted to quantify the incidence and severity of the disease. Laboratory analysis of the collected diseased plant was done to identify the causal organism. Disease resistance screening of selected rice cultivars were also conducted to overcome the problem. The disease was found to become more important, prevalent and widely spread throughout rice growing areas in Peninsular Malaysia. Infected plants in the field became yellowish, lower leaf sheaths turned light or dark brown, while grains produced by an infected plant were discoloured, malformed and empty. The highest disease incidence was recorded in the state of Pahang (62%) and Selangor (62%), while the most severe infection was recorded in Pahang (55%) and Terengganu (61%). The evaluations of varietal resistance evaluation showed that the pathogen naturally infected all tested rice varieties at different levels of infection. Several rice varieties i.e. MR240, MR243, MR244, MR245, MR246, MR248 and MR249, classified as moderately resistant to the disease, could be recommended for planting in the next planting season.

Keyword: Rice; *Pseudomonas fuscovaginae*; Bacterial disease; Sheath brown rot; Resistant varieties