A STUDY OF RICE BROWN SPOT DISEASE OCCURRENCE IN NORTHERN REGION PENINSULAR MALAYSIA

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Final Year Project Report Submitted in Partial Fulfilment of the Requirement for the Bachelor of Science (Hons.) in Plantation Technology and Management Faculty of Plantation and Agrotechnology Universiti Teknologi MARA

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DECLARATION

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ABSTRACT

A STUDY OF RICE BROWN SPOT DISEASE OCCURRENCE IN NORTHERN REGION PENINSULAR MALAYSIA

Brown spot (*Bipolaris oryzae*) disease is one of the most important diseases that cause substantial quantitative and qualitative losses in rice yield in northern region Peninsular Malaysia. The present study that was carried out in order to identify the disease intensity and characteristics of its causal pathogen in the rice fields at Perak, Kedah, and Penang. The survey of the rice brown spot disease incidence was conducted in 3 fields in northern region Peninsular Malaysia during ripening stage which consisted of 3 states such as Felcra Berhad Seberang Perak (Perak), Kampung Bonggol Berangan (Kedah) and Guar Kepayang (Penang). The results that obtained from the survey showed that the disease incidence and severity were different from low to high on the different rice fields which was depending on different rice variety and agro-ecological. The disease incidence of rice brown spot in 3 different states varied from 50.46% to 55.27%. The highest mean of disease incidence was recorded in Kampung Bonggol Berangan (Kedah) which was 55.27% and the lowest was recorded in Guar Kepayang (Penang) which was 50.46%. Moreover, the brown spot disease severity revealed the same trend as the disease incidence in 3 different states. The highest mean of disease severity was recorded in Kampung Bonggol Berangan (Kedah) which was 36.30% while the lowest disease severity was recorded in Guar Kepayang (Penang) which was 25.63%. The brown spot disease pathogen was isolated to identify its characteristics on Potato Dextrose Agar (PDA) medium after 7 days incubation period. After 7 days, the fungus of the rice brown spot disease appeared was black in colour, cottony texture and irregular margin. The result for conidia observation was done by using the compound microscope which to observe the microscopic characteristics of the fungus.

Keywords: *Bipolaris oryzae*, brown spot disease, disease intensity, survey