EFFECTS OF NUTRIENT MANAGEMENT AND WEEDS ON INCIDENCE OF FUNGAL DISEASES IN RICE

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Input indenization and use of alternative inputs have been a trend in modern day agriculture over the conventional. The major bottleneck of these systems in tropics are the diseases, and in most of the instances fungal diseases cause substantial yield losses. This study was designed to compare fungal disease incidences among judicious nutrient management systems. This study was conducted in a strategic nutrient management system of organic, integrated and conventional input systems established in the Faculty of Agriculture, Rajarata University of Sri Lanka, during *Yala* 2020 to *Maha* 2020/2021. Data on disease incidence (DI) were collected for both seasons starting from 48 days after sowing (DAS) till 84 DAS. Additionally, the DI on grasses, sedges and rice were also calculated. Results revealed brown spot, narrow brown leaf spot, leaf scald, and rice blast incidences were substantial in *Maha* 2020/2021season and those were negligible in *Yala* 2020 season. The DIs were significantly higher ($p<0.05$) in organic and conventional input systems compared to the integrated system. The DIs of brown spot and leaf scald were only appeared in dry season. The highest DI was recorded in the wet season than in the dry season. The incidence of brown spot was higher on sedges than in grasses and was vice versa for narrow brown leaf spot disease. Leaf scald incidence showed a significant positive correlation with the nitrogen status of the rice crop. DIs were lower in integrated system when compared with nutrient-rich conventional and nutrient-deficient organic systems, while weeds were reported as alternative hosts. In conclusion, judicious nutrient management leads to low disease incidences. Hence it is an ecologically sound approach to lower the DI.

Keywords: Brown spot, Narrow brown leaf spot, Nutrient management systems, Weed management.