

RICE BLAST DISEASE OUTBREAK IN 2020/2021: CROSS-SECTIONAL ANALYSIS

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Annually, over 30% of rice harvest is lost due to blast disease caused by *Magnaporthe oryzae* worldwide. In 2020, the “Maha” season reported a blast outbreak in the country. This analysis aimed to assess the damage due to the blast outbreak in terms of disease incidence and severity. Infected fields were studied in six districts: Kilinochchi, Anuradhapura, Kandy, Ampara, Gampaha, and Monaragala. Two fields were studied from each district using three 1 m² randomly selected quadrats. Damage due to the disease was estimated based on standard protocols and farmers interviews. During the interviews, farmers claimed that the disease condition coincided with wet weather. They explained that from the first symptom, which was “*sudu karal*” or “whiteheads” that randomly cropped up among healthy bushes, the entire fields appeared “burnt” within 24 to 48 h. Due to fast disease development, the curative application of fungicides was neither practical nor successful. Cultivars grown in the sites: BG 367, BG 300, BG 359, and BG 1/94 were susceptible to panicle blast, and the yield loss can be up to 100%. Wherever the disease severity was low between zero to four scale, disease incidence was also low at 25%. However, the same cultivar in severely infected fields on a six to nine scale showed a high disease incidence of 40% to 80%. Furthermore, fields adjacent to severely infected fields, where the same cultivar was grown but with three to a seven-day difference in growth stage, did escape the disease. Therefore, other than the susceptibility of the cultivar, prevailing weather conditions and the crop growth stage or other factors can critically affect disease incidence and severity. Thus, while the results highlight the importance of crop calendar and good agricultural practices (GAPs), further studies on the climate factors and the development window that triggers the disease can help accurate disease forecasting.

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