

The Potence of Metarhizium rileyi and Pseudomonas fluorescens as Control Agents for Cercospora oryzae in Rice Plants (Oryza sativa)

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ABSTRACT

The decline in rice crop productivity is caused by several factors, including disease outbreaks caused by pathogens, one of which is the fungus Cercospora oryzae. An environmentally friendly control method that can be used to manage this disease is the use of biological control agents such as Metarhizium rileyi and Pseudomonas fluorescens. This study aims to analyze the ability of the fungus Metarhizium rileyi and the bacterium Pseudomonas fluorescens, as well as a combination of the two, to control the pathogen Cercospora oryzae in vivo. This study employed a non-factorial completely randomized design (CRD) with 4 treatments and 7 replications, where each treatment included Control or without application of biological agents; Metarhizium rileyi; Pseudomonas fluorescens; Combination of Metarhizium rileyi and Pseudomonas fluorescens. The observation parameters included the synergistic effects of the two biological agents, disease incidence, severity of infestation, and plant height. Laboratory results showed that there was no synergy between the two, but that they were able to coexist. Based on the research results, the Metarhizium treatment and the combination of biological agents did not show significant differences compared to the control, whereas Pseudomonas fluorescens had a significant effect on the observed variable of infection intensity. However, for the observed variables of disease incidence, plant height, and number of tillers, no significant effect was observed.

Keyword : *Cercospora oryzae ; Metarhizium rileyi ; Pseudomonas fluorescens ; Synergy ; Paddy*