

Effect of Propagation Media on the Growth and Shelf Life of the Fungus

***Trichoderma* sp.**

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ABSTRACT

Trichoderma sp. is an antagonistic fungus widely used as a biological control agent in plant disease management due to its environmentally friendly nature. However, the success of its field application is strongly influenced by inoculum quality, particularly growth performance and shelf life, which are determined by the propagation media. This study aimed to determine the effect of different propagation media on the growth and shelf life of *Trichoderma* sp. The research was conducted from June to August 2025 at the Plant Protection Laboratory, Politeknik Negeri Jember, using a non-factorial Completely Randomized Design (CRD). The treatments consisted of three types of propagation media, namely corn rice, rice bran, and corn bran, each with six replications. Observed parameters included incubation period, colony diameter, growth rate, conidial density, as well as macroscopic and microscopic morphological characteristics. Data were analyzed using analysis of variance followed by the Least Significant Difference (LSD) test at a 5% significance level. The results showed that the propagation media had a significant effect on the incubation period and growth rate at 14, 42, and 56 days after incubation (DAI), a highly significant effect on the growth rate at 28 DAI and conidial density at 14, 28, 42, and 56 DAI, and not significantly different on colony diameter. Rice bran medium showed the best performance in accelerating the early growth of *Trichoderma* sp., while corn bran medium was the most effective in maintaining conidial density during the storage period.

Keywords: Growth, propagation media, shelf life, *Trichoderma* sp.