

APPLICATION of *Trichoderma sp.* as a BIOFUNGICIDE to CONTROL FALSE SMUT DISEASE CAUSED by (*Ustilaginoidea virens*) in RICE PLANTS

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ABSTRACT

Rice plants are crops that are food security in Indonesia. In cultivating rice plants are not spared from various obstacles in the field, one of which is false smut. The purpose of this study is to determine the ability of *Trichoderma sp.* to control false smut disease in rice plants. This research was carried out from June to October 2025 at the Plant Protection Laboratory of the Jember State Polytechnic and cultivation land in Kebun Agung Village, Kaliwates District, Jember Regency, East Java. The design used in the laboratory test was a non-factorial Complete Random Design (RAL) with 4 levels of treatment and 5 replications so that there were 20 experimental units. control, 10^8 conidia/ml, 10^9 conidia/ml, and 10^{10} conidia/ml. In the field test by comparing between 2 treatment plots on different rice crop fields, where the first plot was sprayed with chemical pesticide treatment and the second plot was sprayed with biological agents. Observation variables include: Microscopic observation of *Ustilaginoidea virens* mushroom, inhibition test, plant height, attack intensity, disease incidence, and weight of dry grain of rice fields per sample. The results of this study show that the results of the biological agent treatment inhibitory test of 10^{10} conidia/ml show the best inhibition in suppressing the growth of *Ustilaginoidea virens* Mushroom. Observations of crop height, attack intensity, disease incidence and dry grain weight per sample showed no significant difference between biological agency treatment and chemical pesticides.

Keywords: *Inhibition Test, False Smut, Paddy, Trichoderma sp*