

## ABSTRACT

*S. oryzae* is a primary pest that attacks whole seeds. These pests damage rice, grains, and beans in storage warehouses. The damage caused by this pest can benefit other insects that are unable to attack whole seeds, namely insects that are classified as secondary pests such as *T. castaneum*. Biological control by using natural enemies of insect pest species such as parasitoids, predators, and insect pathogens. Utilization of insect pathogens such as entomopathogenic fungi as bioinsecticides. *M. anisopliae* is a type of bioinsecticide that is able to infect insects by entering the body.

The data from testing the effectiveness of various levels of treatment using *M. anisopliae* suspension were used to determine the effectiveness of the level of treatment using *M. anisopliae* suspension against *S. oryzae* and *T. castaneum* pests. This research was carried out at the Laboratory of Plant Pests and Diseases, Malikussaleh University, Reuleut, North Aceh from September-November 2024. This study aims to determine the effectiveness of the level of treatment using *M. anisopliae* suspension against *S. oryzae* and *T. castaneum* pests. This study uses 6 stages, namely: Breeding of *S. oryzae* and *T. castaneum*, Manufacture of PDA media, Provision of *M. anisopliae* mushrooms, Manufacture of *M. anisopliae* suspension level, Application of *M. anisopliae* mushrooms, and Data analysis using a factorial Complete Random Design (RAL). Different levels of suspension have an influence on the pathogenicity of the entomopathogenic fungus *M. anisopliae* in the pests *S. oryzae* and *T. castaneum*.

The results of the study showed the results of testing the efficacy of *M. anisopliae* mushrooms that had been carried out on the observation of mortality of imago causing infection and mortality in imago *T. castaneum* and imago *S. oryzae*. In this study, the mortality results in the imago of *T. castaneum* occurred on the fifth day with a dilution of  $10^{-1}$  of 88.33%, while in the imago of *S. oryzae* occurred on the seventh day of 83.33%. The lethal period at  $10^{-1}$  dilution is shorter than at  $10^{-7}$  dilution at both imagos.

**Keywords:** Suspension, Efficacy, Entomopathogens *Metarhizium anisopliae*, *Tribolium castaneum*, *Sitophilus oryzae*