ABSTRACK

Ida Fauziah. 24020218140051. Antagonism Test of *Trichoderma sp*. **against** *Fusarium oxysporum* **Pathogenic Fungus *in vitro*. Supervised by Sri Pujiyanto and Susiana Purwantisari.**

Trichoderma sp. is an antagonistic fungus that lives in fertile soil and has the ability to control the pathogenic fungus *Fusarium oxysporum*. *Trichoderma sp*. works by penetrating the cell wall of the pathogen and entering the cell to take nutrients and rolling and penetration occur until lysis occurs in the pathogenic fungus and then the pathogenic fungus dies. This study aims to determine the percentage of inhibition of *Trichoderma sp*. and determine the macroscopic and microscopic morphology of *Trichoderma sp*. and *Fusarium oxysporum* used for antagonism tests. Antagonism testing was carried out with 3 replicates using the dual culture method and fungal observations were made using a binocular microscope and optilab viewer 4. This study succeeded in obtaining the inhibition of *Trichoderma sp*. with the highest inhibition at a percentage of 50.94% and the lowest inhibition percentage of 45.03%. This shows that *Trichoderma sp*. is able to inhibit the growth of fungal pathogen *Fusarium oxysporum*. This study succeeded in finding the macroscopic morphology of *Trichoderma sp*. colonies including having a colony diameter of 9 cm on the seventh day of observation, greenish-white colonies, and cotton-like texture. Microscopic morphology found in *Trichoderma sp*. namely there are conidiophores, septa on conidiophores, and oval-shaped conidia at 400x microscope magnification. The macroscopic morphology found in *Fusarium oxysporum* colonies is that it has a colony diameter of 9 cm on the seventh day, the surface of the colony is purplish brown and has a cotton-like texture. The microscopic morphology of *Fusarium oxysporum* observed on a microscope with a magnification of 1000x was that the hyphae were found to be skeletal.

Keywords: *Trichoderma sp*., antagonism, *Fusarium oxysporum*