

**EFFECTIVENESS OF BIOLOGICAL AGENTS *Aspergillus niger*
AGAINST LEAF SPOT DISEASE (*Cercospora arachidicola*)
IN VITRO**

Supervised by: Iqbal Erdiansyah, SP. MP

Qurroyah Zaini

Study Program Production Technology of Food Crops
Department of Agricultural Production

ABSTRACT

Aspergillus niger is another species of nematophagi whose existence is very widely available in nature commonly found in various habitats and soil types, both tropical and subtropical. *Aspergillus niger* is an antagonistic fungus that functions as a biopesticide as well as biofertilizer because it has certain antibiotic-like substances or secondary metabolites to inhibit the growth of pathogens. This study aims to examine the effect of the concentration of biological agents *Aspergillus niger* in inhibiting the growth of leaf spot disease *Cercospora arachidicola* in vitro. This research was carried out from September 2022 to December 2022 at the Plant Protection Laboratory of Jember State Polytechnic using a non-factorial Complete Randomized Design (RAL). Treatments include: A0: 0% (aquades), A1: 10% (10 g/100 ml), A2: 15% (15 g/100 ml), A3: 20% (20 g/100 ml), A4: 25% (25 g/100 ml), A5: 30% (30 g/100 ml). Each treatment was repeated 3 times. The data was analyzed using ANOVA, if the difference is real, then continued with the 5% BNT Test. The results showed that the A0 treatment (0%) gave significantly different results in each treatment. While in each treatment between A1 (10%), A2 (15%), A3 (20%), A4 (25%), and A5 (30%) showed different results were not real.

Keywords: Effectiveness, Aspergillus niger, Cercospora arachidicola