**The Effect of Bioinsecticide Extract Applications Mixture of Papaya Leaves (*Carica papaya*) and Wedusan Leaves (*Ageratum coyzoides*) on Arthropod Diversity in Rice Plants (*Oryza sativa* L.)**

Supervised by Dr. Ir. Mochamad Syarief, MP.

**Risqy Septiandini Putri**
Study Program of Food Crop Production Technology
Departement of Agricultural Production, Jember State Polytechnic
Mastrip Street Po. Box 164, Jember 68101

## ABSTRACT

*The demand of rice every year in Indonesia has increased along with the population growth. However, this condition is not supported by the rice production due to plant pest attacks and the use of synthetic insecticides which has resulted killing of natural enemies. Therefore, we need the alternative solution to increase the rice productivity by using Bioinsecticide Extract; that is a mixture of papaya leaves (Carica Papaya) and wedusan leaves (Ageratum Conyzoides). This research is to determine the components of bioactive bioinsecticide, toxicity of $LC_{95}$, and the effect of bioinsecticide extract of a mixture of papaya leaves and wedusan leaves on arthropod diversity and rice crop yields. This research was conducted in August-November 2022 in the plant protection laboratory and in rice cultivation land Balung Lor village, Balung District, Jember Regency. This research consists of 2 stages. The first stage is the GCMS test as well as the mortality and toxicity test. Mortality and toxicity test used 6 treatment domains namely concentration of 0%, 5%, 10%, 15%, 20%, 25% and continues with analysis using Probit PoloPlus Vrt 1.0. The second stage of this research is field testing by comparing bioinsecticide treatment with 11% concentration and 2ml/1 fipronil treatment. Arthropod sampling with Yellow Pan Trap, Sticky Trap, Pitfall Trap and Sweep Net. The result shows that the GCMS test detected 38 compounds with high concentration, that is Coumarin 20,43%. And the result of the bioinsecticide toxicity is 11%. The application of bioinsecticide had a significant effect on the diversity of arthropods and the yield of paddy dry grain weight (GKS) had no significant effect on the treatment of bioinsecticide and fipronil insecticide.*

***Keywords:*** *Arthropods, Bioinsecticide, Extract, Fipronil, Papaya Leaves, Wedusan Leaves*