

**EFFECT OF LIQUID SMOKE INSECTICIDE APPLICATION  
OF COCONUT SHELL ON ARTHROPOD DIVERSITY  
IN RICE PLANTS (*Oryza sativa* L.)**

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**ABSTRACT**

*The diversity and abundance of arthropods have an influence on the quality and quantity of cultivated plant products. In a natural ecosystem the existence of insect pests is no longer detrimental because of the stability between the abundance of pests and their natural enemies. One of the factors that influence is the type of insecticide. Coconut shell liquid smoke is a selective and environmentally friendly insecticide. This study aims to examine the diversity and abundance of arthropods include shannon-wiener Index, dominance index, and dry rice paddy weight. This study was conducted in June-September 2021 at The Plant Protection Laboratory of the Jember State Polytechnic and in the area of Balung Lor Village, Balung District, Jember regency, East Java. This research method compares the effect of liquid smoke insecticide coconut shell and alfametrin on several parameters of the study using non-parametric analysis. The results showed that the number of herbivores 359 individuals, predators 401 individuals, and pollinators 7 individuals. In Alfametrin insecticide number of herbivores 266 individuals, predators 334 individuals, and pollinators 4 individuals. Diversity Index Shannon-Wiener liquid smoke insecticide coconut shell 2.06 and synthetic insecticide 1.86 means indicating the category of medium. The dominance index of liquid smoke insecticide coconut shell 0.16 and alfametrin 0.18 means that no species dominates. As well as for rice crops insecticide liquid smoke coconut shell 45.98 g and alfametrin 43.24 g.*

**Keywords** : *Alfamethrin, Coconut shell Liquid Smoke, Crop yield, Arthropod Diversity, Rice Plants.*