

***Application of Tobacco Stem Bioinsecticide Against Mortality
Caterpillar Pests (*Spodoptera litura*) Soybean Plants***
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ABSTRACT

*Soybean (*Glycine max*) is one of Indonesia's important commodities whose production continues to be increased to meet the national demand. One of the main problems of soybean cultivation is the attack of armyworms which can reduce production yields by 80%. Armyworm pest control using synthetic chemical insecticides can certainly harm the environment, so it is necessary to find insecticides that are more environmentally friendly. Based on this problem, an innovation, namely liquid smoke bioinsecticide made from tobacco stem waste, was found. This study aimed to determine the effect of the application of tobacco stem liquid smoke bioinsecticides on armyworms in soybean plants. This study used two types of testing namely mortality test and field test. The first test was the mortality test was carried out at the Plant Protection Lab of Jember State Polytechnic using a completely randomized design (CRD) with 4 treatments and 5 replications to obtain the concentration of insecticides to be applied in the field test. The mortality test then obtained a concentration of tobacco stem liquid smoke bioinsecticide of 45% for field application. The field test used a non-parametric test that compares two research plots between the bioinsecticide plot (liquid smoke of tobacco stems) and the synthetic chemical insecticide plot (deltamethrin). The experiment was carried out in Bintoro Village, Patrang District, Jember Regency from April 2022 to July 2022. The results showed that the damage intensity on the tobacco stem liquid smoke bioinsecticide was 13,64%, which was significantly lower than the deltamethrin insecticide, which was 15,80%. In general, tobacco stem liquid smoke bioinsecticides did not show significant differences compared to deltamethrin insecticides in pest population parameters and soybean yields.*

Keywords: *Armyworm, bioinsecticide, soybean*