

THE EFFECT OF A BOTANICAL INSECTICIDE FROM KENIKIR LEAVES ON THE MORTALITY OF ARMYWORM (*Spodoptera litura* F) IN TOBACCO PLANTS

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ABSTRACT

Tobacco (*Nicotiana tabacum* L.) is an important plantation commodity with high economic value. However, its productivity is often reduced by the attack of armyworm (*Spodoptera litura* F.), which can cause severe leaf damage and yield losses of up to 80%. Pest control still relies heavily on synthetic insecticides that may have negative impacts on the environment and human health. Therefore, environmentally friendly alternatives are needed, such as botanical insecticides derived from coffee fruit skin liquid smoke. This study aimed to evaluate the effectiveness of coffee fruit skin liquid smoke on the mortality of *Spodoptera litura* on tobacco plants. The research was conducted in August 2025 at the Plant Protection Laboratory of Politeknik Negeri Jember using a non-factorial Randomized Block Design (RBD) with five treatments: control (P0), 10 % (P1), 20% (P2), 30% (P3), and 40% (P4) liquid smoke concentrations, each with five replications. The observed parameters included larval mortality, LT50 values, feeding behavior, and physical changes. The experimental data were analyzed using anova and continued with a further LSD test at 5% level, while to determine LT50 using probit analysis. The results showed that the liquid smoke insecticide of coffee berry skin had a very significant effect on the mortality of armyworm pests with the fastest LT50 value at 168 hours at a concentration of 40% liquid smoke of coffee berry skin.

Keywords: liquid smoke, coffee fruit skin, armyworm, insecticide, tobacco.