

**THE EFFECTIVENESS OF A MIXTURE OF SOURSOP LEAF EXTRACT  
AND KENIKIR LEAF AGAINST THE MORTALITY OF FALL  
ARMYWORM PESTS (*Spodoptera frugiperda*) IN VITRO**

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**ABSTRACT**

*Spodoptera frugiperda* or known as fall armyworm (FAW), is a pest that attacks food crops such as corn, rice, soybeans, etc. Farmers mostly use synthetic pesticides for control, that cause obnoxious impacts on the environment. Therefore, it is necessary to carry out pest control that is eco-friendly. In this study aims to determine the effectiveness of biopesticides made from the leaf extract of soursop plants and leaves of kenikir plants on the mortality of *Spodoptera frugiperda* pests in vitro. This research was held from early August to early September 2023, at the Laboratory of Plant Protection in Jember State Polytechnic. This research was done in 2 stages, the first in the Plant Protection Laboratory and the second stage in the Bioscience Laboratory by looking for effective compounds and active ingredients from the mixture of the two natural pesticides. Research activities in the laboratory are by making biopesticides, conducting GC-MS tests, mortality, and LC50 and LC95 toxicity tests. From the GC-MS test results, there is the highest compound, namely Octahydro Naphthalene-1,8A-Diol \$\$ of 23.04%. The results of the study found that the treatment of vegetable pesticides was significantly different in the variables of gc-ms test, mortality test, and toxicity test. And the results of biopestida treatment against the mortality of armyworm pests using RAL are; 6 treatments, where in 1 treatment using 5 armyworm pests and repeated 3 times, so that there are a total of 18 treatment units. The lowest number of deaths was at the 1st concentration (0% -water) of 3 dead pests, while the highest mortality was in the 4th and 6th concentrations (15% and 25% -vegetable pesticides) of each concentration of dead pests as many as 15 armyworm pests.

**Keywords: gc-ms, mortality, bioinsecticides, toxicity.**