

**The Effect of *SlNPV* (*Spodoptera litura* Nuclear Polyhedrosis Virus) on Non-Target Insect *Menochilus sexmaculatus* Fab. and *Bemisia tabaci* in Vegetable Soybean**

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**ABSTRACT**

*The high productivity of vegetable soybean (Edamame) supported by proper pest control. Controlling pest by farmers usually uses synthetic pesticides doesn't notice the concentration and dose accuracy, thus triggering pests resistance and resurgence and killing predator. So, it's necessary doing safe pest control using a selective bioinsecticide, namely SlNPV (Spodoptera litura Nuclear Polyhedrosis Virus) which is specific and selective in S. litura as the target host. The research purpose was to examine the SlNPV's effect for M. sexmaculatus and B. tabaci on edamame plants. The research started in July-October 2020 at Politeknik Negeri Jember Plant Protection Laboratory and research area in Balung Lor Village, Balung District, Jember. The first stage was a laboratory test to determine the SlNPV's effective concentration on the M. sexmaculatus's mortality. The second was implemented in the field on 50 sample plants by comparing the populations of M. sexmaculatus and B. tabaci between before and after the SlNPV application and analyzing yields. The results are: 1) the SlNPV's effective concentration working on the corrected mortality of M. sexmaculatus was <30% that it's non-toxic for predator; 2) the SlNPV's application to edamame plants didn't cause mortality pressure for M. sexmaculatus; 3) the correlation between the population of M. sexmaculatus and B. tabaci before SlNPV application was 1,86%, while the correlation after application was 6.89%; and 4) the SlNPV's application on edamame plants affected yields with a percentage of pithy pods reaching 62.87% and the wet pods potential yield of 10,034 tonnes of wet pods per hectare.*

**Keywords:** *Bemesia tabaci*, Edamame, *Menochilus sexmaculatus*, SlNPV