

**TOXICITY OF MICROENCAPSULATED *Jatropha curcas* SEEDS
EXTRACT ON ONION ARMYWORM (*Spodoptera exigua*)**

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ABSTRACT

Onions were a high-value economic commodity in Indonesia. Onion productivity was affected by a pest, *Spodoptera exigua*. This study aimed to test the efficacy of botanical insecticides made of *Jatropha curcas* seeds extract in microencapsulation formulation to increase its toxicity. The research was conducted using a one-factor, Completely Randomized Design (CRD) method with negative control (aquades), positive control (profenofos), and four treatments 1%, 2%, 4%, and 8% concentration of microencapsulated *J. curcas* seed extract then repeated three times. Parameters observed included larval mortality, lethal concentration (LC95), Lethal time (LT95), larval feeding capacity, and the effectiveness of treatments. Observation data were analyzed using Analysis of Variance (ANOVA) at the $\alpha = 5\%$ level, the LC95 and LT95 were analyzed using Probit Analysis. If there was a significant effect of the treatment tried, it was continued with the Least Significant Difference Test (LSD) ($\alpha = 5\%$) and the control was analyzed using orthogonal contrast ($\alpha = 5\%$). The 8% *Jatropha curcas* Seed Extract Microencapsulation treatment was the treatment with the highest mortality rate (96,67%) with the ability to inhibit feeding capacity by 2.4% and the effectiveness to killed 91.67% larvae, LC95 value of 12.41%, and LT95 value of 1.81 day.

Keywords: *Botanical insecticide, Jatropha curcas extract, microencapsulation.*