

**THE TOXIC EFFECT OF LEMONGRASS (*Cymbopogon citratus*)
AND GARLIC (*Allium sativum*) MIXTURE SOLUTION ON *Plutella*
*xylostella***

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ABSTRACT

THE TOXIC EFFECT OF LEMONGRASS (*Cymbopogon citratus*) AND GARLIC (*Allium sativum*) MIXTURE SOLUTION ON *Plutella xylostella*

Crucifers plant have faced a major destruction and economic loss due to the severe infestation of *Plutella xylostella*. Furthermore, *Plutella xylostella* had become resistance towards many chemical pesticides, prompting many researches towards environmental-friendly biopesticides. Thus, this research was embarked to evaluate the toxic effect and the anti-feedant effect of garlic and lemongrass solution on *Plutella xylostella*. The garlic and lemongrass solutions were mixed at three different ratios treatment; G1:L1, G1:L2, G2:L1, and two control treatments Malathion (positive control) and water (negative control) using leaf dip method for 48 hours onto first instar larvae. Among the treatments tested, Malathion shown the highest mortality rate (92.5 %) followed by G2:L1 (75.0 %), G1:L2 (65.0 %) and G1:L1 (62.5 %). Garlic and lemongrass were shown to be less effective than Malathion in toxicity towards *Plutella xylostella*. For anti-feedant effect, feeding area for G2:L1 (0.555 cm²), G1:L2 (0.400 cm²) and G1:L1 (0.660 cm²) also reported to be less effective than Malathion (0.310 cm²) treatments. Lemongrass solution also shown phytotoxicity towards mustard leaves. Therefore, it can be concluded that although garlic and lemongrass mixture solutions are less effective compare to chemical pesticide, it can still give influence *Plutella xylostella* mortality and feeding behaviour.