

Effects of Extracts from *Persicaria vulgaris* on Larval Development and Mortality in Diamondback Moth, *Plutella xylostella* and Yellow Mealworm, *Tenebrio molitor*

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In the course of search for the biopesticide from natural sources, *Persicaria vulgaris* was selected among 100 wild plant species.

Mortality and larval development of the Diamondback Moth, *Plutella xylostella* and Yellow Mealworm, *Tenebrio molitor* were examined with total methanol extracts of *Persicaria vulgaris*. High larval mortality (50~60% during 3 days) on the 1 mg/ml concentration of methanol extract of *Plutella xylostella* and weight loss (35% versus control) on *Tenebrio molitor* were observed. Methanol extracts were partitioned with n-hexane, chloroform, ethylacetate, H₂O successively to investigate inhibitory effects on mortality and larval development, ethylacetate extract showed the highest activities. Larval mortality of ethylacetate extract showed high mortality activity (80% during 3 days) on *Plutella xylostella* and larval weight loss occurred during 2nd instar (0.3~0.4 g/10 larvae) than other stages of *T. molitor*. In case of last instar of *T. molitor* were very few number of exuvium than those of other stages. At the 1 mg/ml concentration of ethylacetate extract of *Persicaria vulgaris*, larval weight gain was reduced by ~35% and the number of exuvium on *Tenebrio molitor* was reduced (50% versus control). Most of larval mortality occurred during 3 days after treatment on *Plutella xylostella*, apparently due to dietary effects and antifeeding effects on *Tenebrio molitor* against ethylacetate extract of *Persicaria vulgaris*.