Thesis Title Biological Activity Effects of *Pluchea indica* Less. and *Wedelia biflora* D.C. Extracts Against *Plutella xylostella* Linn. (Yponomeutidae : Lepidoptera)

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ABSTRACT

Effects on toxicity, anti-feedant and growth regulator of *Pluchea indica* Less. and *Wedelia biflora* D.C. extracts against the diamondback moth, *Plutella xylostella* Linn. (Yponomeutidae : Lepidoptera) were studied under laboratory conditions.

The rates of mortality of diamondback moth larvae varied with different plant crude extracts and their concentrations. The LC_{50} values of the fractions showed that the toxicities of the crude extracts from the chloroform fraction were higher than other fractions. The LC_{50} values of chloroform fractions of *Pluchea* on the second, third and fourth instar larvae of diamondback moth were 1.33, 1.88 and 4.64%, respectively, and of *Wedelia* were 0.98, 2.92 and 7.13%, respectively. The results indicated that the second instar larvae of diamondback moth was more susceptible to the chloroform fraction than the third and fourth stages, and also differred significantly

between the larval stage mortalities at 95% confidence when they were treated against the chloroform fractions of both plants.

The anti-feedant activity effects on the second, third and fourth instar larvae of diamondback moth was found in the chloroform fraction at 2% concentrations, showing 24 and 48 hours consumption indices of 0.00 and 10.18 in *Pluchea* and of 0.00 in *Wedelia* through out the tested peroid, respectively. The crude extracts were not ovicidal, but they prolonged the molting process of larval period estimately about one day and showed low survival percentage after being observed for seven days after hatching.

Observations on behavioral and physiological changes indicated that the leaf which was coated with crude extracts was able to reduce larval feeding, and the dead larvae had the appearance of black cuticle and subcuticle. The survived larvae pupated incompletely form.