REARING OF THE DIAMONDBACK MOTH, *Plutellla xylostella* (L.), ON ARTIFICIAL DIET.

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Diamondback moth, *Plutella xylostella* (L.) is a major pest in Crusiferaceae and it develops resistance to insecticides easily. Use of parasitoids is an alternative control method, but requires frequent releases to the fields. Mass rearing of *P. xylostella* in the laboratory using artificial diets is necessary to have continuous supply of parasitoids. Five semi-synthetic diets (D_1, D_2, D_3, D_4 and D_5) were formulated by modifying the Biever's diet and compared with cabbage leaves as the control. Experiment was conducted in the laboratory of Plant Quarantine Unit, Gannoruwa, Peradeniya using 1-2 days old *P. xylostella* larvae.

Results indicated that all treatments had less survival than the control, but D_2 had significantly higher survival than others and comparable to the control. Larval period was extended in artificial diets though the length in the D_2 diet was 12-13 days and comparable to control (10-12 days). Weight of the pupae was significantly higher in the larvae fed on control (4.06 mg) and D_2 (4.02 mg) diet and the length of life cycle from larva to adult was 18-19 days in both treatments. Male: Female ratio was higher and average eggs per female were low in *P. xylostella* reared in artificial diets.

Overall results indicated that the D_2, D_4 and D_5 diets are better than others while D_2 is comparable to the control. However, further improvement of these diets is necessary to increase survival and reduce the length of the life cycle.

Key words: Artificial diet, Mass rearing, *Plutella xylostela*