

**LOW COST ARTIFICIAL DIET FOR DIAMONDBACK MOTH  
(*Plutella xylostella* L.)**

**A.G.P.K. Premachandra<sup>1</sup>, M.T.M.D.R. Perera<sup>2</sup> and N. Senanayake<sup>1</sup>**

<sup>1</sup>*Dept. of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka,  
Puliyankulama, Anuradhapura, Sri Lanka.*

<sup>2</sup>*Dept. of Agriculture, Plant Quarantine Unit, Gannoruwa, Peradeniya, Sri Lanka.*

Mass rearing of the diamondback moth, *Plutella xylostella* (L.) in the laboratory using artificial diet is necessary to have continuous supply of parasitoids. Three experiments were conducted in the laboratory of Plant Quarantine Unit, Gannoruwa, Peradeniya, using 1-2 days old *P. xylostella* larvae. Bievers diet and eight artificial diets (D<sub>1</sub> –D<sub>8</sub>) were formulated by modifying the Biever's diets and compared with cabbage leaves as the control.

The results indicated that all treatments had less percentage survival of larvae than the control. D<sub>4</sub> had significantly higher survival than other diets and comparable to the control. Larval and pupal periods were extended in all diets, but D<sub>4</sub> had significantly lower larval and pupal periods. Larvae fed on D<sub>4</sub> diet had significantly lower mean lifespan. Eggs laid per female was low in *P. xylostella* larvae reared in artificial diets though it was higher in treatment D<sub>4</sub> and comparable to the control. Male:female ratio of moths emerged from larvae fed on all diets except D<sub>1</sub>, D<sub>3</sub> and D<sub>7</sub> was 1:1. Overall results indicated that D<sub>3</sub>, D<sub>4</sub>, and D<sub>7</sub> diets were better than others while D<sub>4</sub> was comparable to the control. Further improvement of these diets is necessary to have higher survival and to reduce the length of the life cycle.

**Key words:** Artificial diet, Beavers diet, Mass rearing, *Plutella xylostella* L.