The host-plant mediated effect of larval feeding on the life-history parameters of *Plutella xylostella*  

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Host plant resistance is one of the most effective and sustainable strategies in pest management programs against diamondback moth, *Plutella xylostella* (L.) (Lepidoptera: Plutellidae). In this regard, the effect of host-plant type on life-history parameters, such as survival and developmental period of *P. xylostella* was determined under the constant environmental condition (25 ± 2°C, 70 ± 5 % RH and L:D 16:8 h). The experiment was carried out with five host plants, including *Brassica pekinensis* (Chinese cabbage) cv. Hero, *B. oleracea var. botrytis* (cauliﬂower) cv. Royal, *B. oleracea var. capitata* (common cabbage) cv. Globo Master and cv. Ascara, and *B. napus* (rape) cv. SLMO46. Batches of 10 neonate *P. xylostella* larvae were placed on leaf discs within individual Petri dishes (6 cm dia.) containing a moistened ﬁlter paper. To prevent starvation of larvae, the leaf discs were replaced every 24 h. Pupae were transferred to Petri dishes and kept until eclosion. Life stage and mortality were recorded every 24 h until all the insects had either died or emerged as adults. Each treatment (plant) was replicated 17 times (in total, 170 host larvae for each plant). The results showed that there were signiﬁcant differences between host plants for life-history parameters measured. The highest and lowest developmental time (from neonate larva to eclosion) of the host occurred on Ascara (17.3 days) and Hero (10.5 days), respectively. The most survival (from neonate larva to eclosion) of the host were observed on Hero (72%), whereas survival and least survival happened on Ascara (16%) and SLMO46 (20%). The mean pupal weight of the hosts fed on Royal (4.3 mg) were signiﬁcantly greater than that on Royal (3.8 mg) and Ascara (3.7 mg), which in turn were signiﬁcantly greater than that on SLMO46 (2.9 mg). These results indicated that Hero was the most susceptible host plant to attack by *P. xylostella*, whereas Ascara and SLMO46 were partially resistant compared to other host plants. These ﬁndings emphasize on using the partially-resistant varieties such as *Ascara* and SLMO46 in pest management programs against diamondback moth.