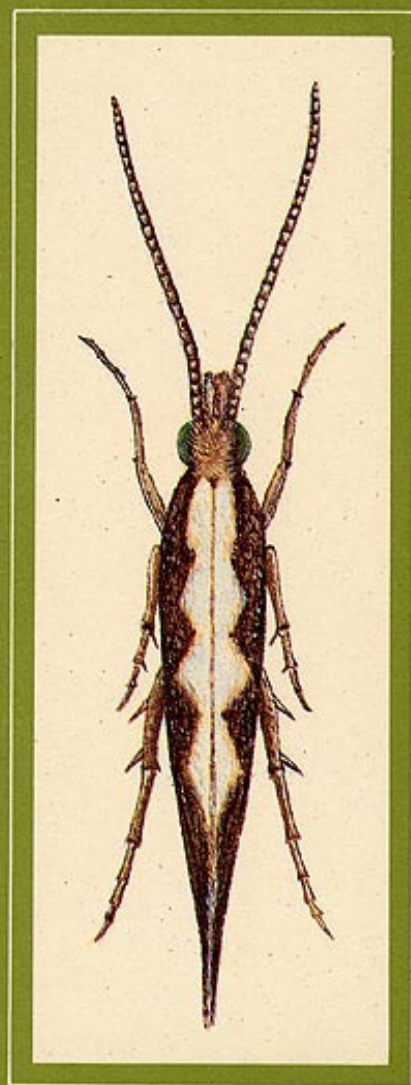


Diamondback Moth Management

Proceedings of the First
International Workshop



Asian Vegetable Research and Development Center

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Proceedings of the First International Workshop

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Foreword

Cruciferous vegetables are economically important throughout the world. In Asia, they are grown by small landholders around urban centers, in highlands, and in specialized production areas. Often farmers use input-intensive agronomic practices because the sale of these vegetables provide an important source of ready cash income. In recent years, however, crucifer production has been seriously affected by a steady increase in insect pests, especially the diamondback moth, *Plutella xylostella*. The larvae of this insect feed on the foliage of cruciferous plants from the seedling stage to harvest and greatly reduce both yield and quality of the produce. This pest is especially serious in southeast Asia.

To control diamondback moth, farmers in southeast Asia use large quantities of insecticides, often spraying “cocktails” of chemicals. This coupled with rapid turnover of generations in the tropical climate has resulted in the development of resistance to practically all categories of chemical insecticides. At the same time other insects, such as *Spodoptera* spp and *Crocicidolomia binotalis* – which were once minor pests of crucifers – have become major problems as a result of destruction of their natural enemies due to indiscriminate insecticide use.

To resolve the diamondback moth problem, researchers are working on alternative control methods such as the use of sex pheromones, juvenile hormones, microbial agents, predators and parasites, and insecticides with novel modes of action. The results of this research, however, are not easily available to others. In some cases, the potential utility is not realized because extension workers are rarely consulted about on-farm problems.

Since Chinese cabbage, *Brassica campestris* ssp *pekinensis* – an important host of diamondback moth – is one of AVRDC’s principal crops, we convened an international workshop to discuss the diamondback moth problem. The meeting, which was held from

11 to 15 March 1985 in Tainan, Taiwan, had the following objectives: (1) To facilitate an exchange of information between researchers from universities, government laboratories, and industry; (2) To review all known scientific information from various disciplines pertaining to diamondback moth management; (3) To determine priorities for future research and development; and (4) To establish a communication network for the exchange of information, predators, parasites, and insect pathogens.

The proceedings contain 35 papers that were presented and five that were specially commissioned (Nos. 7, 8, 9, 10, and 22). The information printed in this volume thus covers practically all aspects of diamondback moth management and control. For the sake of convenience and clarity, the papers are grouped into the following topics: biology and ecology, sex pheromone, cultural control, biological control, chemical control, insecticide resistance, and integrated control.

The successful holding of the international workshop and publication of the proceedings were brought about through the efforts of many institutions, organizations, and individuals. We are especially grateful to the Council of Agriculture of our host government, for its generous donations which enabled us to cover the expenses of participants from non-profit organizations and the printing of the proceedings. We are also grateful to the following agrochemical corporations for their financial support for organization of the workshop: Sumitomo Chemical Company, American Cyanamid Company, Dow Chemical Pacific Ltd., Duphar B.V., Sandoz Ltd., Teh Hua Chemical and Pharmaceutical Company Ltd., Chung Teh Company Ltd., Ji Kang Company Ltd., Nissan Chemical Company, International Engineers (Taiwan) Corp., Roussel Uclaf, and MSD-AGVET. Without their generous support, the workshop would not have been successful.

Shanhua
26 May 1986



Paul M. H. Sun
Acting Director General