THE MANAGEMENT OF DIAMONDBACK MOTH AND OTHER CRUCIFER PESTS

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29 October – 1 November, 1996.

Malaysian Agricultural Research and Development Institute (MARDI)
Malaysian Plant Protection Society (MAPPS)
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FOREWORD

Cruciferous vegetables are economically important crops for the Asian populace as they form an essential part of the diet. On a worldwide basis, the extent of cultivation of these vegetables is about 2.2 million ha with fifty percent of the production coming from Asia. However, despite the advancement in pest control technologies, pests such as the ubiquitous diamondback moth (DBM), still pose a major constraint for cruciferous vegetable production in many countries. In recent years, DBM has become the most destructive insect of cruciferous plants throughout the world with annual costs for managing it estimated to be in the region of US$1 billion. This pest now occurs wherever crucifers are grown and is believed to be the most universally distributed of all Lepidoptera. Despite the numerous attempts made to control this pest, outbreaks and poor control, etc. are still being reported in many countries. Of pertinence here is the increasing resistance development of this pest against intensively-used pesticides and the microbial agent, Bacillus thuringiensis. Associated with indiscriminate applications of pesticides is the greater concern of governments towards the health of users and the safety of the produce and the environment.

Crucifer pests, in particular the diamondback moth, have been the key subjects of two widely attended international workshops held in Taiwan. The organization of the third workshop was, therefore, a timely one and an anticipated development. This third workshop provided a useful platform to deliberate the recent advances made in the management of the DBM and other associated pests of crucifers. Of particular significance was the sharing of information between more than 160 participants from over 20 countries and the underscoring of approaches that minimize the use of ‘hard’ pesticides and increase the use of biologically-based technologies. This proceedings, which will complement the two earlier ones, thus offers a unique collection of experiences on worldwide endeavours to manage the DBM and other crucifer insect pest problems.

MARDI is pleased to have joined hands with the Malaysian Plant Protection Society (MAPPS), Centre for Agriculture and Biosciences International (CABI)–Asia Regional Office, Department of Agriculture, Malaysia and the Silwood Centre for Pest Management, United Kingdom in successfully organising this workshop. I take this opportunity to thank the Honorable Minister of Agriculture, Malaysia once again for his gracious presence in officiating the opening of the workshop. I also express my gratitude to the various sponsors for their financial support and to all speakers, poster presenters and participants for their participation. Last but not least, my special thanks go to the Editorial Committee and all others involved in the publication of this proceedings for their enduring and tireless efforts.

Dr. Saharan Hj. Anang
Deputy Director General MARDI/
Chairman, Organising Committee
Third International Workshop on the Management of the Diamondback Moth and Other Crucifer Pests
PREFACE

This proceedings consist of papers presented at the Third International Workshop on the Management of Diamondback Moth and the Other Crucifer Pests which was held in Kuala Lumpur, Malaysia from the 29th October to 1 November 1996. It also includes a special summary highlighting the important points discussed during the workshop.

The workshop papers have been compiled and presented in a standard journal format. As with many other proceedings of this nature, most of the papers received minimal amount of reviewing and editing which have invariably led to variations in standard and style of presentation. However, it is hoped that major factual and typographical errors have been minimized. For some papers involving a major effort of editing, every attempt has been made to retain the original meaning and views of the authors. All claims of commercial products and processes as well as views expressed do not imply endorsement by the editors or the organisers.

Based on the papers presented during the workshop, the proceedings is divided into thematic sections that include lead papers, oral presentations and poster presentations. The oral presentations have been for convenience divided into six major subsections, viz., status of the diamondback moth and other pests of crucifers and their biocontrol, biologically-based technologies, decision tools, chemical control, pesticide resistance mechanisms and resistance management strategies and finally, experiences on the development and implementation of integrated pest management programmes in various countries. In addition, keywords and subject index have been included to facilitate easy reference by the user.

We take this opportunity to thank the Director General of MARDI, the President of the Malaysian Plant Protection Society and the Organising Committee of the workshop headed by Dr. Saharan Hj. Anang for their relentless support and encouragement. A special word of thanks is in order for all authors of papers for their cooperation and the MARDI Publication Unit, viz. Hjh. Rohani Mahmood, Marina Fatimah Baptist, Siti Fatimah Karim, Azidah Mohd. Yusof, Hamidah Hassan and Zulkhairy Aminuddin for their efforts and cooperation in the formatting and printing of this proceedings. Last, but not least, we acknowledge and accept responsibility for any errors that have not been corrected due to our human fallibility.

Editors