

# *Plant Protection in Horticulture*

P. Parvatha Reddy

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# Plant Protection in Horticulture

Volume 1

Insect, Mite and Vertebrate Pests and their  
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# Plant Protection in Horticulture

*Volume 1*

## Insect, Mite and Vertebrate Pests and their Management

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*Affectionately dedicated to  
My colleagues*

*K. Srinivasan*

*P.N. Krishna Murthy*

*A. Verghese*

*N.K. Krishna Kumar*

## **PREFACE**

Horticulture in India is fast emerging as a major commercial venture, because of higher remuneration per unit area and the realization that consumption of fruits and vegetables is essential for health and nutrition. In the last one decade, export potential of horticultural crops has significantly increased attracting even multinationals into floriculture, processing and value added products.

During 2005-06 coverage of area under various horticultural crops in the country was 19.237 million hectares (which is about 13.08% of the total cultivated area) with production of 185.207 million MT. The horticulture sector contributed around 28% of GDP in agriculture. India is the largest producer in the world of cashew nuts, coconuts, tea, ginger, turmeric and black pepper. India is the second largest producer of fruits and vegetables (after China) with a production of 58.74 and 109.05 million MT and contributes 10.9 and 11.9% share in global fruit and vegetable production, respectively. India is the second largest producer of flowers after China. About 126,000 hectare of area is under floriculture, producing 694,000 million tonnes of loose flowers annually (2005-2006). The production of cut flowers has increased to 2,762 million numbers. India is still a marginal player in the world floriculture trade indicating strong potential that can be exploited in this sector. India is the third largest producer of coconut, fourth largest producer and consumer of rubber and sixth largest producer of coffee in the world.

Productivity of horticultural crops in India is relatively low compared to other countries. Of the several factors responsible for lower productivity of horticultural crops, pests (insect, mite and vertebrate pests) are considered as important limiting factors. Some pest problems are of national importance which causes significant losses to horticultural crops. The annual losses due to pests to all the crops in India was estimated at Rs.60,000 million in 1983, which at today's prices could exceed Rs. 200,000 million.

The information on pests (insect, mite and vertebrate pests) in horticultural crops (fruits, vegetables, plantation, spice, tuber, ornamental, medicinal and aromatic crops) is very much scattered. There is no book at present which comprehensively and exclusively deals with the above aspects on horticultural crops. The present book deals with integrated pest management in horticultural crops in detail using regulatory, physical, cultural, chemical, biological, host plant resistance and integrated methods. The book is extensively illustrated with excellent quality photographs enhancing the quality of publication. The book is written in lucid style, easy to understand language along with adoptable recommendations involving eco-friendly components of IPM.

In view of greater emphasis being given by the Government of India to horticulture by establishing horticulture mission and exclusive State Horticultural Universities, there is an urgent need for good text books to teach courses on different disciplines of horticulture. In this context the present book is of immense help to all those concerned with horticultural crops.

This book is a practical guide to practicing farmers of horticultural crops. Further, it is a useful reference to policy makers, research and extension workers and students. The material can also be used for teaching undergraduate and post-graduate courses. Suggestions to improve the contents of the book are most welcome (E-mail: reddy\_parvatha@yahoo.com).

I profusely thank Dr. K. Srinivasan, Chief Agricultural Economist, TAFE, Chennai; Dr. A. Verghese, Dr. N.K. Krishna Kumar and Shri. P.N. Krishna Murthy, Division of Entomology and Nematology, Indian Institute of Horticultural Research Centre, Bangalore; and Dr. V.J. Shivankar and Dr. C.N. Rao, National Research for Citrus, Nagpur; who have kindly made available many of the photographs included in this book. The publisher, Scientific Publishers (India), Jodhpur, deserves commendation for their professional contribution.

Bangalore

August 15, 2009

**P. Parvatha Reddy**

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