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INTEGRATED PLANT DISEASE MANAGEMENT

Editors
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and
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FOREWORD

After India’s attaining the self-sufficiency in food production, the emphasis is now on horticultural and forest crops keeping in view the perspective of the growers and consumers’ preference to exploit the opportunities in the global market today. One of the most important considerations in the world today is, increasing the production of nutritious food and providing fibre, feed, fuel, timber, etc. Consequently, in recent years, public interest in horticultural and forest crops and naturally, occurring diseases has greatly increased. Emergence of recent epiphytotics, such as: Marssonina blotch of apple and Ganoderma root rot of shisham in north India, has become a matter of concern for all of us.

Accordingly, the Indian Phytopathological Society, North Zone Chapter had organized a symposium, “Challenging Problems in Horticultural and Forest Pathology” on November 14 - 15, 2003 at Dr. Y.S. Parmar University of Horticulture and Forestry, Solan (H.P.). The research papers presented therein have been compiled in this book covering diseases of important fruits, vegetables, ornamentals, cereals, pulses, oilseeds, forest, medicinal plants etc. It has useful and valuable informations pertaining to integrated disease management practices of important horticultural, agricultural and forestry crops.

The editors, Dr. R.C. Sharma and Dr. J.N. Sharma, deserve sincere appreciation for their dedicated efforts in bringing out this excellent publication. This book, I am sure, would benefit not only the researchers and students but also others interested in managing plant diseases.

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**PREFACE**

Man has been aptly recognized as the guest of plants. The losses caused by plant diseases have affected the mankind all through different eras of civilization. The advancement of mankind depends upon the developments in the science and technology. But the human greed for better food, feed, fibre, fuel, timber etc. has resulted in the over-exploitation of natural resources – leading to imbalance in the ecosystem. Excessive monoculture and faulty practices have resulted in the emergence of various plant diseases. Their destructive impact has led to the development of various strategies to protect the plants from them.

The concept of disease management does not aim at the complete control of diseases but, to manage them at the economic threshold level. Integrated disease management requires detailed knowledge, understanding and integration of all aspects of crop production including, information on economics, environment, pathogen biology, genetics, epidemiology etc. All these parameters and other input data direct the management decisions. Minimal use of pesticides is desirable from economic view point, resistance development, environment and health hazard considerations. It is in this context that, different inputs of integrated disease management, such as: cultural practices, sanitation, eradication, organic amendments, plant growth promoting microorganisms, resistant varieties, botanicals and biocontrol agents become important.

The book, “Integrated Plant Disease Management” is based on the research papers presented in the symposium, “Challenging Problems in Horticultural and Forest Pathology” held on November 14 - 15, 2003 at Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan. The symposium was organised by North Zone Chapter of Indian Phytopathological Society in its sixteenth annual meeting. About 140 delegates attended this symposium and discussed various issues related to integrated disease management. This volume contains 55 chapters under different sections viz., fruit crops; vegetable crops; ornamental crops; cereals, pulses and oilseed crops; forest and medicinal plants; and mushrooms. This book provides an insight into the major pathological problems and integrated disease management in different crops, and horticultural crops in particular. The book will be useful to plant pathologists, horticulturists,
microbiologists, breeders, nematologists, mushroom scientists and students.

On behalf of Indian Phytopathological Society (North Zone Chapter), we thank all the authors for their scientific contributions. We are thankful to Dr. S.S. Negi, Vice-Chancellor and other authorities of the university for allowing the symposium to be held in the campus and publication of the proceedings. Financial assistance received from Directorate of Horticulture, Shimla; HPMC, Shimla; State Bank of India, Zonal Office, Shimla; Indofil Chemicals Co., Mumbai and other organizations for the symposium is thankfully acknowledged. We express our sincere thanks to all the staff members of Department of Mycology and Plant Pathology for their encouragement and cooperation during the symposium. The editors wish to express their sincere gratitude to Dr. Anil Handa for his help and Sh. K.K. Sharma for his untiring and invaluable assistance in bringing out this book.

R.C. Sharma
J.N. Sharma
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