



Chemistry of Insecticides and Fungicides

3rd Revised
Edition



Sree Ramulu

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To
My Professors
Dr. Parkar F. Pratt
and
Dr. Nathaniel T. Coleman
of
University of California, Riverside
California, U.S.A.

Foreword

Thanks to the introduction of fertiliser-responsive, photo-insensitive, high yielding variety of cereals and other commercial crops, “Management” in agriculture has assumed new dimensions in India. With the provision of assured irrigation facilities, intensity of land use has also been stepped up. To reduce the “risk” element in this high cost and high intensity crop management system, farmers resort to a rigid and intense plant protection schedule. Use of plant protection chemicals has increased tenfold within the past 15 years.

Plant protection chemicals, like any other chemical must be properly chosen and handled to get the maximum benefit and minimum undesirable side effects. Indiscriminate use of the chemicals, has happened in the case of cotton, will lead to a stage when it will be very difficult to control effectively the pests and diseases with the available pesticides. To pick and use the right chemicals, a detailed knowledge on the chemicals now available in the market, will be highly useful. I am happy to record that Dr. U. S. Sree Ramulu, Associate Professor of Soil Science, Tamil Nadu Agricultural University, Coimbatore, has brought out in a concise manner the different properties of pesticides now in use. I am sure this book will be treasured by all those associated with Agricultural Development and Crop Management.

*Tamil Nadu Agricultural University
Coimbatore*

A. Venkataraman
Vice-Chancellor

Preface to the Thrid Edition

This revision of *Chemistry of Insecticides and Fungicides* follows the same general pattern as the original edition. However in this edition, information on production, utilisation of pesticides in India and also list of important references have been uptodated. Additional information on integrated pest control, synthetic pyrethroids, and first aid measures in the event of pesticides poisoning have been added in this edition. Also certain omissions in the earlier edition have been rectified.

In addition to those mentioned in the preface to the first edition, I must mention that I am greatly indebted to my students for their constructive suggestions made for the improvement of this book. Also, my ever sincere gratitude to my Professor Dr. P. F. Pratt and my family for their continued encouragement in this task, and also to Rockefeller Foundation for training the author under specialists in this field in the U.S.A.

Madurai

Sree Ramulu

Preface

Development of pesticides has made tremendous strides in the last three decades and the two world wars as well as the population explosion have also contributed their mite to the development of this field. Though, it is impossible for any author in this field to keep pace with these developments which have been taking place with great momentum, still, attempts have to be made to keep the gaps narrower. It is with this humble view of fulfilling a need that this book have been written. An attempt has been made to present the subject matter in a way that both beginners and expert teachers could use it to their advantage.

The present cover in detail, the Chemistry of Insecticides and Fungicides. Information on their nomenclature, glossary of terms and such other related topics that could help a beginner and an extension worker to comprehend the subject without difficulty have also been added. A list of reference books have been included at the end for further studies in the field.

As the book has been written with a focus on chemistry of insecticides and fungicides, only a limited amount of information on their metabolism has been provided. I am aware of the possibility of a few omissions relating to some recent pesticides, but that could not be avoided due to the unavoidable time lag between the preparation of the manuscript and printing of the book. I wish to be excused for the same.

Many hands and minds have helped me in selecting, organising and presenting the material with clarity and precision. All such help is sincerely and gratefully acknowledged. The contribution of my students of over a decade who have offered many useful comments, is gratefully acknowledged. Dr. G. Rangaswami (former Vice-Chancellor) and Mr. A. Venkataraman, I.A.S. (present Vice-Chancellor, Tamil Nadu Agricultural University and former Director of Agriculture, Tamil Nadu) deserve a special

mention for providing me with the opportunities to work in this field, and also for encouraging me in this effort. Sincere appreciation is also due to the help and advice given by Dr. k.k. Krishnamoorthi, (Dean, Agricultural College and Research Institute, Madurai), Dr. N.G. Perur (Director of Instruction UAS, Bangalore) and Dr. A.L. Mookerjee (Cyanamid Indiatd.)

My grateful thanks are due to Mr. A. Venkataraman, A.S., Vice-Chancellor, Tamil Nadu Agricultural University who has given the valuable foreword to this book.

I owe a deep dept of gratitude on behalf of all the raders and myself to National Book Trust, Delhi for subsidising the cost of book and bringing down the price within the purchasing power of an ordinary student.

Finally, 1 wish to record my appreciation of the patience (which can be understood and appreciated fully only by authors and their families), help and encouragement given by my wife Mrs. Rajamani and children Vasu and Shoba over theyears of writing this book.

Before closing may I request you, readers, to let me Know your suggestions for further improvement and I would assure you that the same will be accepted with gratitude.

Sree Ramulu

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