



Sustainable Entomology in Agriculture:
INNOVATIONS AND PRACTICES



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Sustainable Entomology in Agriculture: Innovations and Practices



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Sustainable Entomology in Agriculture: Innovations and Practices

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Preface

Agriculture, the backbone of human civilization, is at a crossroads. The escalating challenges of climate change, resource depletion, and the imperative to sustain an ever-growing global population necessitate a paradigm shift toward sustainability. This book, "Sustainable Entomology in Agriculture: Innovations and Practices," addresses a critical facet of this shift: the intricate role of entomology in fostering sustainable agricultural practices.

Insects are integral to agricultural ecosystems, serving roles that range from beneficial pollinators to destructive pests. Mastery in the management of these roles is paramount for advancing agricultural sustainability, enhancing crop productivity, and maintaining ecological equilibrium. This book endeavors to synthesize the latest innovations and practical applications in sustainable entomology, providing a robust resource for researchers, practitioners, and policymakers committed to sustainable agricultural futures.

The conception of this book stems from a deep-seated awareness of the symbiotic relationship between agricultural practices and ecosystem health. It seeks to bridge the gap between traditional entomological expertise and contemporary sustainable methodologies. By offering a comprehensive review of cutting-edge research, technological advancements, and practical implementations, this book aspires to inspire and guide the next generation of entomologists and agricultural professionals towards sustainability.

Within these pages, you will find contributions from preeminent experts who delve into topics such as integrated pest management, biological control, insect behavior, and the impacts of climate change on insect populations. Each chapter is meticulously crafted to provide profound insights, underpinned by case studies, practical examples, and innovative strategies.

The creation of this book has been both an intellectually stimulating and a gratifying journey. It stands as a testament to the collaborative spirit and dedication of numerous individuals who are passionate about sustainable agriculture and the pivotal role of entomology. I extend my deepest gratitude to all the contributors, reviewers, and supporters who have brought this book to fruition.

As you embark on this exploration of "Sustainable Entomology in Agriculture: Innovations and Practices," I trust you will find it a wellspring of inspiration, knowledge, and practical guidance. May it serve as an invaluable resource in your endeavors to champion sustainability in agriculture and contribute to a resilient and thriving global ecosystem.

Acknowledgement

The successful completion of this textbook has been made possible by the invaluable support and contributions from many individuals and organizations.

Firstly, we would like to express our deepest gratitude to our families and loved ones. Their unwavering support and encouragement have been the bedrock of this endeavour, allowing us the time and focus needed to bring this book to life. Their patience and understanding have been immeasurably appreciated.

We also extend our heartfelt thanks to our colleagues and peers. Their insightful feedback and constructive criticism were crucial in refining the content and ensuring the book's accuracy and relevance. Their expert opinions and thorough assessments have significantly contributed to this work.

A special mention goes to the contributing authors, whose expertise and dedication have added immense value to this textbook. Their scholarly contributions have enriched the material, providing a broader and deeper perspective on the subjects covered. Their commitment to excellence has been truly inspiring.

We are profoundly grateful to the professionals and organizations in the field of logistics and supply chain management. Their pioneering work and continuous advancements have been foundational to the knowledge presented in this book. Their contributions have significantly shaped our understanding of this dynamic industry.

Our sincere thanks also go to the reviewers who meticulously examined the manuscript and provided constructive feedback. Their suggestions have greatly enhanced the clarity, depth, and educational value of this book.

Finally, we would like to acknowledge the editorial team at Parab Publications for their guidance and professionalism throughout the publishing process. Their dedication to quality and collaborative approach have been pivotal in bringing this book to fruition.

We owe a debt of gratitude to all who have contributed to this project. Your support and collaboration have been instrumental in making this book a reality.

About the Editors



S.V. L. Sunitha hails from village background (Gedellanka), East Godavari (Dist.), Andhra Pradesh. She did her graduation in Agricultural College, Bapatla, ANGRAU with first class distinction. After securing state level 6th rank in M. Sc entrance of ANGRAU, got admitted to Division of Entomology, Agricultural College, Bapatla. She has secured M. Sc gold medal from ANGRAU. Later, she completed her Ph. D from Junagadh Agricultural University, Gujarat. She has qualified ICAR- NET in the year 2021. She has published several research articles in national and international journals and symposium.



Ms. Desavath Gouthami Bai was born in Kurnool, Andhra Pradesh, India. She obtained her B.Sc Agriculture (2018) from Agricultural College, Mahanandi and completed her M.Sc in Department of Entomology (2021) from Agricultural College, Naira Acharya N.G Ranga Agricultural University, Lam Guntur. She worked as Assistant Professor in SBVR Agriculture College, Badvel from 2021 to 2022 during which she was actively involved in teaching UG courses in Agricultural Entomology. She qualified ICAR ASRB NET (2021). Currently, she is pursuing her doctoral degree in the Department of Agricultural Entomology from Kerala Agricultural University, Thrissur, Kerala and was awarded NFST fellowship. She participated in various international and national conference/symposia and presented research papers. She published research articles, review articles, popular articles, book chapters in national and

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Ms. Vidya Madhuri E. is currently pursuing her Ph.D. in Entomology at ICAR-Indian Agricultural Research Institute (IARI), New Delhi. She earned her bachelor's degree in agriculture with first class from Agricultural College, ANGRAU, Bapatla, and completed her master's degree at IARI, New Delhi. Throughout her academic journey, she received the ICAR JRF for her M.Sc. studies and SRF for her Ph.D. She was the top performer in her M.Sc. program, achieving the highest OGPA, and has qualified for the ASRB NET.



Ms. M. Siri Chandana completed her B.Sc. in Horticulture at Sri Konda Laxman Telangana State Horticultural University, Hyderabad. She pursued her M.Sc. in Agricultural Entomology at Kerala Agricultural University, Padannakkad, Kerala focusing her master's research on “Incidence of pepper pollu beetle in major black pepper growing agro ecological units of Kasaragod district”. She participated in various conferences, poster presentation and also published research article, review article and book chapters for her credit.



Ms. Jagadam Sai Rupali is currently a Ph.D. scholar in Entomology at ICAR-Indian Agricultural Research Institute (IARI), New Delhi. She completed her bachelor's degree in agriculture with first class distinction from S.V. Agricultural College, ANGRAU, Tirupati, and her master's degree from IARI, New Delhi. During her academic career, she was awarded the ICAR JRF for her M.Sc. and SRF for her Ph.D. program. She received a gold medal for outstanding performance in her M.Sc.

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