EMERGING CHALLENGES IN AGRICULTURAL ENTOMOLOGY

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Preface

Agricultural entomology is undergoing a period of rapid transformation as global agriculture confronts unprecedented challenges arising from climate change, invasive insect species, pesticide resistance, biodiversity loss, and evolving cropping systems. At the same time, advances in molecular biology, precision agriculture, artificial intelligence, remote sensing, and integrated pest management are reshaping the way insect pests are monitored and managed. These developments demand a multidisciplinary approach that integrates fundamental entomological knowledge with innovative and sustainable solutions.

Emerging Challenges in Agricultural Entomology has been written to provide students, researchers, educators, extension professionals, and practitioners with a comprehensive understanding of the current issues and future directions in agricultural entomology. The book presents recent advances in insect ecology, pest surveillance, host–pest interactions, biological control, insecticide resistance, climate change impacts, digital pest management, and environmentally sustainable crop protection strategies. Emphasis is placed on translating scientific knowledge into practical approaches that enhance agricultural productivity while safeguarding environmental and human health.

We hope this book serves as a valuable academic resource and inspires readers to develop innovative, resilient, and sustainable pest management strategies to address the evolving challenges facing global agriculture.

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